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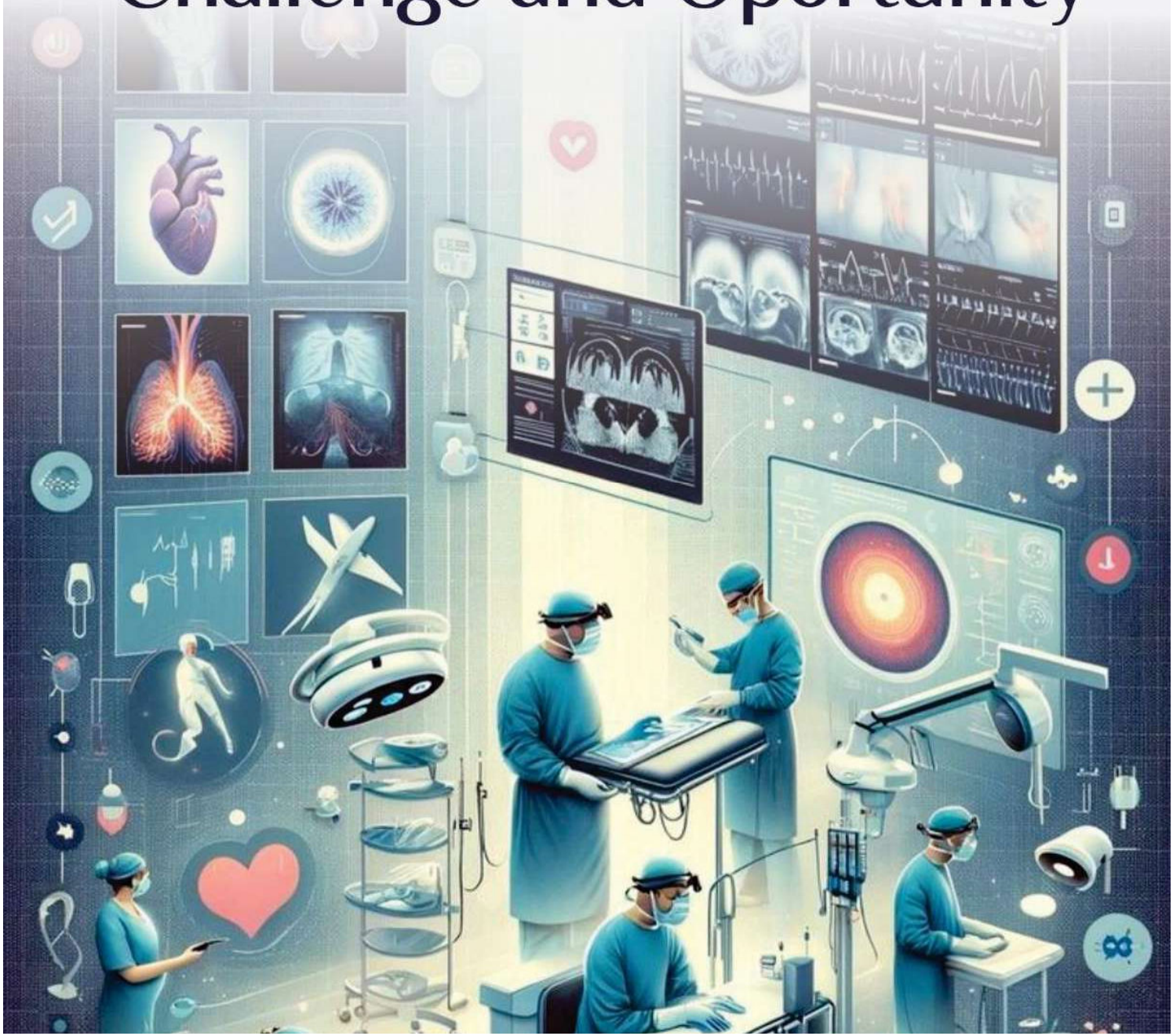

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ACHIEVING THROUGH HEALTH, INNOVATION AND TECHNOLOGY; CHALLENGE AND OPORTUNITY

PT. Pustaka Saga Jawadwipa
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ACHIEVING THROUGH HEALTH, INNOVATION AND TECHNOLOGY; CHALLENGE AND OPORTUNITY

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FOREWORD

This book explores the close relationship between technological innovation and advances in health. This book examines various global challenges facing the health sector, such as the increasing need for more efficient services, complex diseases, and limited resources. On the other hand, this book also highlights the extraordinary opportunities offered by modern technologies, including artificial intelligence, big data, the Internet of Medical Things (IoMT), and genomic technologies, in transforming the way health services are designed, managed and accessed by society.

Featuring multidisciplinary insights from health experts, technology scientists, and policymakers, this book presents innovative case studies and practical solutions to address health access disparities, improve quality of life, and promote the inclusivity of services. Readers are invited to understand how technology can be a strategic tool in realizing a sustainable health system amidst the challenges of the times. This book is an important source of inspiration and reference for health practitioners, researchers, technology innovators, and policy makers committed to global health development.

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Research Article

The Effect of Dual Role Conflict of Female Employees On Work Productivity at Nashrul Ummah Islamic Hospital of Lamongan

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ABSTRACT

Employee productivity is a critical determinant of organizational success, contributing significantly to operational efficiency, financial gains, and competitive advantage. Hence, it is imperative for management to actively monitor and foster employee productivity through strategies such as training, motivation enhancement, and optimizing the work environment. This study investigates the impact of dual role conflict on productivity within Nashrul Ummah Islamic Hospital. Employing a quantitative approach with a correlational analytic design, the research focused on female employees, with a purposive sample of 135 participants holding dual roles. Data collection utilized questionnaires, and analysis was conducted using the Spearman rank correlation test. Results revealed that a substantial majority of respondents (88.1%) perceived their dual roles positively, correlating with high work productivity in 85.2% of cases. The Spearman rank correlation demonstrated a significant relationship between dual roles and work productivity ($p=0.000$, $rs=0.879$). These findings underscore the necessity for Nashrul Ummah Islamic Hospital to implement flexible work policies tailored to female employees balancing dual roles.

Keywords

Dual Role Conflict, Work Productivity, Employees, Hospital

INTRODUCTION

Employee work productivity is crucial and demands careful consideration. The challenge of low work productivity often stems from diminished work morale. Some employees misuse working hours by engaging in tasks that do not align with organizational objectives, influenced by factors such as laziness or even misconduct during work hours (Swandono, 2016).

Based on an initial survey conducted by researchers among female employees in the service unit at Nashrul Ummah Islamic Hospital of Lamongan using a questionnaire in March 2024, 60% of respondents were reported to exhibit lower productivity levels. Key indicators of this low productivity include work outcomes, efficiency, and morale. Regarding work outcomes, some employees expressed dissatisfaction with their productivity levels, citing difficulties in meeting hospital-imposed workloads and targets,

as well as challenges in achieving optimal results. Furthermore, employees indicated a sense of boredom with their tasks, affecting their work enthusiasm. Additionally, inefficiencies were observed among employees, who struggled to maintain productivity levels while completing their tasks effectively. Internal factors including dual roles, knowledge, attitude skills and work ethics, motivation, ability, age, and work experience, influence employee work productivity. External factors include education and training, company performance, promotion, and work allowances Yusuf (2015).

In Indonesia, women who have dual roles, who have children, and are workers tend to have more limited time. Time-sharing sometimes leads to inter-role conflict, where married and working women have to perform two different roles that require them to do both well.

The results of Simanjuntak and Rodhiyah's (2018) research on married female employees show that most employees have a dual role of a mother is relatively high and has a significant (partial) effect on work stress and work discipline with a low correlation (-0.189).

Dual roles do not always go well and balanced. Work productivity can decrease due to the imbalance of the two roles. Work productivity shows promising results in quantity and production quality, but timeliness is still lacking (Indrawati and Pradhanati, 2019). However, some female workers have dual roles and still do their work well to complete their tasks (Febrianti and Rizqi, 2022). Employee productivity can increase company profits, provide the best customer service, and create a positive work environment for employees (Iskandar, 2018).

The purpose of this research is to identify the dual role conflict of female employees at the Nashrul Ummah Lamongan Islamic Hospital, identify the work productivity of female employees at the Nashrul Ummah Lamongan Islamic Hospital and analyze the influence of dual role conflict on the work productivity of employees at the Nashrul Ummah Lamongan Islamic Hospital.

METHOD

This study employed a quantitative approach with a correlational analytic design. The cross-sectional design is characterized by measuring or observing variables at a single point in time (Nursalam, 2016). The population consisted of female employees at Nashrul Ummah Islamic Hospital who had children, totalling 135 respondents who met the inclusion criteria. Data collection utilized a questionnaire validated with a score of 0.575 and tested for reliability with a Cronbach's alpha coefficient of 0.872. Data analysis was conducted using the Spearman rank correlation test with a significance level set at 0.05.

RESULTS

1. Characteristics of respondents

This data represents the characteristics of respondents including age, occupation, latest education and number of children.

Table 1 Characteristic of Respondents

Age (years old)	Frequency	Percentage (%)
20-30	35	25.9%
31 – 40	61	45.2%
41 – 50	38	28.1 %
51 – 60		
Lainnya	1	0.7 %

Total	135	100%
Job	Frequency	Percentage (%)
Healthcare workers	100	74.1 %
Non-Healthcare workers	35	25.9 %
Total	135	100%
Education	Frequency	Percentage (%)
Higher Education	112	83 %
Senior High School	23	17 %
Total	135	100%
Number of children	Frequency	Percentage (%)
2	62	54,1 %
1	73	45,9 %
Total	135	100%

Based on the table provided, the age distribution reveals that nearly half (45.2%) of respondents at Nashrul Ummah Islamic Hospital are aged between 31 and 40 years old, with a small minority (0.7%) falling within the 51-60 years age bracket. Regarding occupational characteristics, the majority (74.1%) of respondents are healthcare workers, while a significant minority (25.9%) are non-healthcare workers. In terms of educational background, a large proportion (83%) of respondents completed their education up to senior high school (SMA), with a smaller percentage (17%) having attained higher education qualifications. Regarding the number of children, the majority (54.1%) of respondents have two children, while nearly half (45.9%) have only one child.

2. Female employee dual role conflict

Table 2. Distribution of dual role conflict of Female employees at Nashrul Ummah Islamic Hospital

Dual role	**Frequency**	**Percentage (%)**
High	119	88.1
Moderate	16	11.9
Low	0	0
Total	135	100

Based on Table 2. above, it can be explained that of 135 employees, most (88.1%) of the frequency of dual roles was high, and a small proportion (11.9%) was moderate.

3. Employee Work Productivity

Table 3. Distribution of Work Productivity at Nashrul Ummah Islamic Hospital Lamongan

Dual role	n	%
High	115	85,2 %

Moderate	20	14,8 %
Low	0	0 %
Total	135	100 %

Based on Table 3 above, it could be explained that of the 135 employees, almost all respondents (85.2%) had high work productivity, and a small proportion (14.8%) of respondents' work productivity was moderate.

4. The Effect of Dual Role Conflict of Female Employees on Work Productivity at Nashrul Ummah Islamic Hospital Lamongan

Table 4. The Effect of Dual Role Conflict of Female Employees on Work Productivity at Nashrul Ummah Islamic Hospital

No	Dual Role	Work Productivity						Total	
		High		Moderate		Low			
		f	%	f	%	f	%	f	%
1.	High	115	85.2	4	3,0	0	0	119	88.1
2.	Moderate	0	0	16	11.9	0	0	16	11.9
3.	Low	0	0	0	0	0	0	0	0
	Total	**115**	**85.2**	**20**	**14.8**	**0**	**0**	**135**	**100**
Correlation coefficient = 0,879									
Sign. (p) = 0,000									

Based on the cross table presented, it is evident that out of 135 employees, the majority rated their dual roles as high, comprising 119 employees (88.1%), with corresponding high work productivity observed in 115 employees (85.2%). A smaller proportion rated their dual roles as moderate, totalling 16 employees (11.9%), with corresponding work productivity also reported as moderate in these cases. Notably, there were no employees reporting low work productivity.

The Spearman rank test results indicate a robust positive relationship (rs = 0.879, p = 0.00) between the dual role conflict variable and employee work productivity. This suggests that increased dual role conflict is associated with higher work productivity among employees.

DISCUSSION

Female Employees' Dual Role Conflict

Based on the results of the study, it was revealed that almost all (88.1%) employees experienced high dual role conflict, while a small proportion (11.9%) experienced moderate dual role conflict. The high number of employees who experience dual role conflict can be caused by the demands of work that must be completed quickly; on the other hand, they also have household affairs to do. As a result, they feel burdened and have difficulty balancing work and personal life.

In the office environment, they are required to be professional. However, sometimes, conditions at home also interfere with their focus at work. Things like this can

cause conflict within an individual (Hastuti, 2024). The number of children may influence dual role conflict among Nahsul Ummah Islamic Hospital employees. Table 1 shows that most employees have two children, and only a few have one child. The more children, the higher the dual role conflict compared to those with one child.

According to Muslimah (2018), the more children you have, the higher the dual role conflict. Mothers who work outside the home will significantly impact work productivity through various mechanisms such as increased household responsibilities, stress, and the need for effective time management.

Based on the characteristics of respondents, it showed that 14% of employees who were still breastfeeding and 72.5% of the age of employees' children were classified as children who were in a range of child development aged 3-6 years, at this age attention and guidance from parents and people around them is needed.

Employee Work Productivity

Based on the results of Table 3, it was found that all employees' work productivity is classified as high (85.2%), and a small proportion was classified as moderate (14.8%). This showed that the level of employee work productivity at Nahsul Ummah Islamic Hospital was reasonably good. The high level of employee work productivity was driven by the ability of qualified employees to complete their work well, employees produce quality work, and by the target, employees have high morale and enthusiasm in completing their work, employees always try to develop themselves and improve their abilities, and employees work with high quality and efficiency so that they can complete work quickly and precisely.

An important factor that also determines labor productivity was individual health conditions. Factors that have the potential to cause low work productivity include health, work environment, and psychological conditions. Psychological conditions can be influenced by one's position in the family, impacting the responsibilities that accumulate or the dual roles that must be carried out (Mahawati et al., 2022).

Another factor that can affect work productivity is age. Table 1 showed that most employees are 31-40 years old, while a small proportion are 51-60. Employees who are still easy on the job can do everything quickly and precisely, which is agreed with the opinion (Rismayadi, 2015) where the age factor in employees needs to be considered. This is intended to avoid low productivity among the employees concerned.

The age level is very influential on productivity due to the physical abilities of the workforce. Workers aged 31-40 are physically more robust than those aged 51-60. The higher the age of the workforce, the more work productivity will decrease. Older workers tend to have lower productivity. This is because, in old age, physical strength or energy will tend to decrease (Hartoko, 2019). Young age reflects a muscular physique that can work fast so that the resulting output increases and vice versa. Age dramatically affects the physical ability of labor. At a young age, the resulting production is large (Daniel, 2020). Old age decreases productivity. The age of workers who are in productive age (15-60 years) has a positive relationship with labor productivity. This means that if the age of labor is in the productive category, its work productivity will increase. This is because laborers have high creativity in their work at the productive age level. After all, it is

supported by better knowledge and insight and is highly responsible for the assigned tasks (Suyono and Hermawan, 2013).

The Effect of Dual Role Conflict of Female Employees on Work Productivity at Nashrul Ummah Islamic Hospital

Based on Table 4, the two variables were tested for significance using the Spearman rank test with a p-value of 0.000 <0.05, which means that H1 was accepted, meaning that there is an effect of dual role conflict on employee work productivity with a strength level of 0.879. The coefficient number in the above results was positive, or the relationship between the two variables is unidirectional, so it can be interpreted that if the dual role conflict increases, employee work productivity increases.

The results of research conducted by Karomah (2019), based on hypothesis testing (H1), have proven the performance of married female employees influences that dual role conflict. The results of testing the dual role conflict variable were obtained at 9.259 with a significant probability of 0.000. Based on these results, t count 9.259> t table 1.98 or p < 0.05 (0.000 < 0.05), then H0 is rejected, and Ha is accepted, it can be concluded that dual role conflict affects the performance of married female employees at PT Sukorintex. Conflicts occur because the time used to fulfill one role cannot be used to fulfill another.

This is supported by the results of research by Komariyah et al. (2021), based on bootstrapping testing with SmartPLS 3.29, the effect of dual roles (work-family conflict) on the performance of female employees obtained a T statistic value of 2.710> from T table (1.960) and P values (0.007) < sig (0.05). It can be concluded that dual roles (work-family conflict) significantly influence female employees' performance.

The impact of dual roles on women varies and is not always negative. Some women can balance work and family well and succeed in both fields. It is crucial that adequate system support, such as family-friendly work policies, affordable childcare services, and an open attitude from spouses and families, can help women manage their dual roles more effectively and minimize their negative impact (Malang, 2024).
With a sound support system, individuals can integrate their roles well and increase work productivity.

CONCLUSION

Based on the results of research and discussion, it can be concluded that almost all female employees have high dual role conflict, almost all female employees have high work productivity, and there was an influence of women's dual role conflict on employee productivity at Nashrul Ummah Islamic Hospital.

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Research Article

The Relationship of Family Support with Quality of Life in Patients with Diabetes Mellitus at Lamongan Health Center

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ABSTRACT

Background: Diabetes mellitus is a health issue which can decrease the quality of life of the sufferers. An attempt to improve the patient's quality of life is to involve the role of the family during self-care management.

Objectives: The aim of the study is to determine the relationship between family support and self-care management and quality of life in patients with diabetes mellitus at the Lamongan Health Center.

Methods: This was a correlational analytic study using a cross sectional approach on 109 patients with diabetes mellitus in the Chronic Disease Management Program (PROLANIS) who were recruited using consecutive sampling technique. The research data were obtained using family support questionnaire, Summary of Diabetes Self Care Activities questionnaire and WHO QOL-BREF questionnaire, then analyzed using the Spearman test ($\alpha \leq 0.05$).

Result: The results of this study indicated 58.7% of patients had good family support, 52.3% had good self-care management and 36.7% had fair quality of life. The statistical test results indicated that there was a relationship between family support and quality of life in patients with diabetes mellitus ($p=0.000$), and there was a relationship between self-care management and quality of life in patients with diabetes mellitus ($p=0.000$).

Conclusion: A favorable family support will improve the patient's ability in self-care management. This will improve the quality of life in patients with diabetes mellitus. Therefore, it is expected that health workers can focus on education to improve family support for patients with diabetes mellitus and self-care management so that the quality of life of patients improves.

Keywords

Diabetes-mellitus, family-support, self-care-management, quality-of-life.

INTRODUCTION

Diabetes mellitus is a global health problem and a disease that can reduce the quality of life of patients. Quality of life issues are an important aspect in diabetes mellitus to predict how well people with diabetes mellitus can control their disease and maintain long-term health. Poor quality of life for people with diabetes mellitus results in decreased self-care, worsening the situation over time (Nisa & Kurniawati, 2022). Poor quality of life indicates that the ability to perform physical activities begins to decrease and even disappears (Erniantin et al., 2018).

Diabetes mellitus treatment will be successful if its implementation is based on the patients ability to initiate and perform self-care actions independently. In carrying out self-care actions independently, family support is needed so that these actions become good habits that will significantly reduce morbidity and mortality rates in affecting productivity and quality of life (Siregar et al., 2022).

Data from the International Diabetes Federation (IDF) in (2019), states that there are 463 million people in the world suffering from diabetes mellitus and is expected to increase every year. According to the Basic Health Research (Riskesdas) (2018), the prevalence of diabetes mellitus in Indonesia is 1.017.290 patients, while data on diabetes mellitus in East Java in 2022 there were 863.686 cases (Dinkes Jatim, 2022). The difference is that in Lamongan, the incidence of diabetes mellitus at the First Level Health Facility (FKTP) in 33 Health Center throughout Lamongan Regency is 22.580 cases per year (Dinkes Lamongan, 2021). Based on the results of an initial survey at the Lamongan Health Center, there were 1.391 patients with diabetes mellitus in 2021 and an increase to 1.412 patients in 2022. The results of interviews with 5 patients with diabetes mellitus in the Chronic Disease Management Program (PROLANIS) activities of the Lamongan Health Center obtained data that there were 4 patients with poor quality of life and 1 patient with sufficient quality of life. So patients with diabetes mellitus at the Lamongan Health Center experience a poor quality of life. Based on the data above, it can be concluded that the prevalence of diabetes mellitus patients has increased from year to year.

The increasing incidence of diabetes mellitus is not matched by an increase in the quality of life of patients. According to Tamornpark et al., (2022), of 967 people with diabetes mellitus, the majority were categorized as having low to moderate quality of life, with a percentage of 90.1%. According to research by Nisa & Kurniawati (2022), of 163 people with diabetes mellitus at the Pulomerak Health Center in Cilegon City, most had a poor quality of life with a percentage of 74.2%. According to Rumi & Salsabila (2023), of 526 patients with diabetes mellitus at Torabelo Regional General Hospital, Central Sulawesi, the quality of life of patients with diabetes mellitus in the poor category had a frequency of 88%, and for the good category it was 12%. Based on the results of research by Ferawati et al., (2020), in 30 patients with diabetes mellitus, 7 patients (23%) had a good quality of life, 6 patients (20%) had a fair quality of life, and 17 patients (56.7%) had a poor quality of life. Some of the above studies can be concluded that the quality of life of patients with diabetes mellitus mostly has a poor quality of life.

Quality of life is an individual perception of their position in life both seen from the cultural context and the value system where they live and live which has to do with their life goals, expectations, standards and focus on life. Quality of life includes several

indicators, including the domains of physical health, psychological, social and environmental relationships (Ariyanto et al., 2020). Quality of life is measured by identifying the severity of physical symptoms or complaints experienced by patients such as general condition, physical ability and energy in carrying out daily activities, dependence on drugs and medical aids, mobility, pain and discomfort, sleep and rest, and work capacity (Rumawas, 2021).

Some of the things that need to be identified from psychology are assessments of body image and appearance, negative or positive feelings, self-esteem, ability to think or learn, memory and concentration. In the aspect of social relationships, it is necessary to identify how individuals interact with other individuals where these interactions will affect or change individual behavior such as personal relationships, social support, and sexual activity. And the environmental aspect is measured by identifying assessments of the adequacy of financial resources, freedom, physical safety and security, accessibility and quality of health and social care services, home environment, opportunities to obtain new information and skills, participation and opportunities for enjoyable activities, physical environmental conditions (pollution/noise/traffic/climate) (Rumawas, 2021).

The quality of life of people with diabetes mellitus can be influenced by several factors such as knowledge, gender, length of illness, age, complications, and family support (Abedini et al., 2020). Patients knowledge about diabetes mellitus is good, will increase their ability to handle their daily illness. The better patients understand about their disease, the more they understand how they should change their behavior (Mulyani & Patimah, 2023). Gender also affects a person quality of life, especially women tend to have a worse quality of life than men (Istianah, 2020). Length of illness also affects a person quality of life. The longer a person with diabetes mellitus is diagnosed, the worse their quality of life (Rahma, 2019). Age also affects a person quality of life. Patients with diabetes mellitus often occur in the age range of 46-55 years because with increasing age, there tends to be a decrease in hormonal function and also the physiology of the body, especially in metabolic processes, resulting in a decrease in quality of life (Yurisa & Susanti, 2024). Complications also affect a person quality of life, complications have a tendency to decrease the quality of life of people with diabetes mellitus (Ferawati et al., 2020).

Of the several factors that affect quality of life, family support is a factor that is quite influential in improving the quality of life of people with diabetes mellitus. The existence of family support will arouse the enthusiasm of patients to always try to achieve their recovery. Good family support will help improve the patients psychological condition and make the patients feel comfortable. This will motivate patients in treatment and disease management (Mulyani & Patimah, 2023). According to research by Vitaliati et al., (2023), shows that patients with diabetes mellitus who have good family support every day will have a better quality of life. Therefore, it is necessary to have a family that is able to motivate and support patients to carry out diabetes mellitus treatment.

Some indicators of family support include informational, emotional, appreciative, and instrumental support. Information support is an explanation of the situation related to the problems faced by individuals, support is provided in the form of advice, suggestions and discussions. Emotional support is related to behaviors that encourage individual feelings of comfort such as empathy, attention and care so that individuals feel loved and cared for in their lives. Appreciation support is a support system for individuals

by providing positive support that exists in the individual. Instrumental support is a source of help provided directly by the family such as material assistance and daily facilities (Nurhayati et al., 2021).

Efforts to improve the quality of life of people with diabetes mellitus are with good family support. However, before determining the planning action, it is necessary to identify the relationship between family support for people with diabetes mellitus which has an impact on their quality of life. So the study aimed to identify the relationship between family support and quality of life.

METHOD

This research design uses correlation analytics with a cross sectional approach. The study aimed to identify the relationship between family support and quality of life. The research was conducted at the Lamongan Health Center in March 2024. In this study, the independent variable is family support while the dependent variable is quality of life. The population in this study were all PROLANIS members diagnosed with diabetes mellitus at the Lamongan Health Center as many as 150 patients. The sample in the study amounted to 109 patients through consecutive sampling technique. The inclusion criteria in this study were PROLANIS members diagnosed with diabetes mellitus, patients who lived at home or separately with their families, patients who could read and write well, and agreed to informed consent. The exclusion criteria were patients with diabetes mellitus who experienced psychological disorders, sensory disorders and unstable conditions. The instruments used consisted of general data questionnaires, family support questionnaires, and quality of life questionnaires (WHOQOL-BREF) in patients with diabetes mellitus.

The family support questionnaire contained 20 questions with several indicators, consisting of 16 positive questions and 4 negative questions, with the answer options yes, sometimes and no. There are 5 items of information support indicators (no 1-5), 5 items of emotional support indicators (no 6-10), 4 items of appreciation support indicators (no 11-14) and 6 items of instrumental support indicators (no 15-20). The assessment of this questionnaire uses the total score of all answers (Rochma, 2023). The WHOQOL-BREF questionnaire is a summary of the WHOQOL-100 instrument which consists of 26 questions covering 4 domains, namely the physical, psychological, social relations and environmental health domains. There are two question items that measure general quality of life perceptions that are not counted in the assessment. Each question is given a score of 1-5. Of the 4 domains, this measurement tool does not have a combined score of all domains but the assessment is in the form of scores for each domain (raw scores) which are transformed on a scale of 0-100 (transformed scores). Then the total transformed scores of all domains are divided by the number of domains (Resmiya, 2019). Data were analyzed using Statistical Product and Service Solutions (SPSS) 25.0 for windows with a data distribution test, namely the normality test using Kolmogorov Smirnov (>50), the results showed that the p value = 0.000 (<0.05), so the data distribution was not normal. So the choice of test used in this study is the spearman test with a significant level of 0.000 (<0.05). This research has passed the ethical test with number 065/EC/KEPK-SI/04/2024.

RESULTS

Table 1 Frequency Distribution of Characteristics of Diabetes Mellitus Patients at Lamongan Health Center

Characteristics	Category	Frequency	Percentage
Age	36-45 years old	4	3.7
	46-55 years old	24	22.0
	56-65 years old	56	51.4
	>65 years old	25	22.9
	Total	109	100.0
	Average	60.75	
Gender	Male	41	37.6
	Female	68	62.4
	Total	109	100.0
Education	Elementary School	59	54.1
	Junior High School	15	13.8
	Senior High School	22	20.2
	College	5	4.6
	No School	8	7.3
	Total	109	100.0
Occupation	Farmer	17	15.6
	Housewife	48	44.0
	Private Employee	13	11.9
	Self-Employed	14	12.8
	Civil Servant	4	3.7
	Other	13	11.9
	Total	109	100.0
Duration of diabetes mellitus	<5 years	49	45.0
	5-10 years	55	50.5
	>10 years	5	4.6
	Total	109	100.0
	Average	4.88	
Other disease complications	Yes	69	63.3
	No	40	36.7
	Total	109	100.0
Living with family	Yes	99	90.8
	No	10	9.2
	Total	109	100.0

Based on table 1, it can be seen that of the 109 patients with diabetes mellitus at the Lamongan Health Center, more than half were aged 56-65 years, 56 patients (51.4%), for gender it can be seen that more than half were female, 68 patients (62.4%), for education it can be seen that more than half had elementary school education, 59 patients (54.1%), For occupation, it can be seen that almost some work as housewives totaling 48 patients (44.0%), for the length of time suffering from DM, it can be seen that most have suffered from DM for 5-10 years totaling 55 patients (50.5%), for other disease complications, it can be seen that more than some have other disease complications totaling 69 patients (63.3%), and for living with family, it can be seen that almost all live with family totaling 99 patients (90.8%).

Table 2 Categories of Family Support for Diabetes Mellitus Patients at Lamongan Health Center

Family Support	Frequency	Percentage
Less (0-13)	23	21.1
Fair (14-26)	22	20.2
Good (27-40)	64	58.7
Total	109	100.0

Based on table 2, it can be explained that out of 109 patients with diabetes mellitus at the Lamongan Health Center, it was found that more than half had good family support in the amount of 64 patients (58.7%), a small proportion had less family support in the amount of 23 patients (21.1%) and a small proportion of patients with diabetes mellitus also had fair family support, namely 22 patients (20.2%).

Table 3 Family Support for Diabetes Mellitus Patients at Lamongan Health Center Based on Indicators

Indicator	Average (Mean)	Minimum	Maximum
Information Support	66.61	0	100
Emotional Support	71.65	20	100
Appreciation Support	65.83	13	100
Instrumental Support	70.41	25	100

Based on table 3, it can be explained that out of 109 people with diabetes mellitus at the Lamongan Health Center, the indicator that has the highest average value is emotional support with a score of 71.65 and the lowest indicator is award support with a score of 65.83.

Table 4 Categories of Quality of Life in Patients with Diabetes Mellitus at Lamongan Health Center

Quality Of Life	Frequency	Percentage
Less (0-25)	21	19.3
Fair (26-50)	40	36.7
Good (51-75)	35	32.1
Very Good (76-100)	13	11.9
Total	109	100.0

Based on table 4, it can be explained that of the 109 patients with diabetes mellitus at the Lamongan Health Center, the results showed that almost some had a fair quality of life of 40 patients (36.7%), almost some also had a good quality of life of 35 patients (32.1%), and a small proportion had a less quality of life of 21 patients (19.3%), and a small proportion of patients with diabetes mellitus who had a very good quality of life of 13 patients (11.9%).

Table 5 Distribution of Quality of Life Indicators in Diabetes Mellitus Patients at Lamongan Health Center

Indicator	Average (Mean)	Minimum	Maximum
Physical Health	56.51	31	89
Psychological	62.51	47	93
Social Relationship	61.71	33	100
Environment	59.50	35	100

Based on table 5, it can be explained that out of 109 people with diabetes mellitus at the Lamongan Health Center, the indicator that has the highest average value is psychological with a score of 62.51 and the lowest indicator is physical health with a score of 56.51.

Table 6 Cross Table of the Relationship between Family Support and Quality of Life in Patients with Diabetes Mellitus at Lamongan Health Center

Family Support	Quality Of Life								Total	
	Less		Fair		Good		Very Good			
	N	%	N	%	N	%	N	%	N	%
Less	21	19.3	1	0.9	1	0.9	0	0.0	23	21.1
Fair	0	0.0	22	20.2	0	0.0	0	0.0	22	20.2
Good	0	0.0	17	15.6	34	31.2	13	11.9	64	58.7
Total	21	19.3	40	36.7	35	32.1	13	11.9	109	100.0
Uji *Spearman* p=0,000 rs=0,742										

Based on table 6, it can be explained that of the 109 patients with diabetes mellitus at the Lamongan Health Center, almost half had family support and a good quality of life of 34 patients (31.2%). Then a small proportion of people with diabetes mellitus who have family support and a poor quality of life are 21 patients (19.3%), and a small proportion also have family support and a sufficient quality of life of 22 patients (20.2%). Based on the results of the *Spearman's rho* statistical test, which means that H0 is rejected, the value of p = 0.000 (p <0.05) is obtained, meaning that there is a significant relationship between family support and quality of life in patients with diabetes mellitus with a significant level where the correlation coefficient value (rs) = 0.742, which means that the level of correlation strength between the two variables is strong with a positive correlation direction.

DISCUSSION

The results of the study of 109 patients with diabetes mellitus at the Lamongan Health Center found that more than half had good family support in the amount of 64 patients (58.7%). This illustrates that family support for patients with diabetes mellitus at the Lamongan Health Center is good because people with diabetes mellitus have families and families always provide good support during treatment and patients are always cared for and cared for by family members.

In this study, the indicator that has the highest average value is emotional support which includes support that is realized in the form of affection, trust, attention and listening and being listened to. Patients are open to their families about what the sufferer

feels regarding the disease, thus affecting the emotional support that will be received from the family. In addition, health facility agencies, namely health center, provide education, information, and family motivation regarding the importance of emotional support for people with diabetes mellitus. The indicator that has the lowest average value is appreciation support which includes support in the form of providing support or motivation, recognition, appreciation, and attention. In addition, there are other indicators that affect family support, namely information support which includes providing disease information to sufferers, and instrumental support which includes direct assistance from people who are relied on such as materials, energy and facilities.

In this study, 99 patients with diabetes mellitus who lived with their families and 10 patients who did not live with their families. Patients who do not live with their families due to the separation of family members in certain matters. Patients will tend to be more lazy to control their disease compared to patients who live with their families. Patients will have a more positive attitude to learning about diabetes mellitus, if the family provides support and participates in health education about diabetes mellitus. Conversely, patients will have a negative attitude if there is rejection of the patient and without support from the family while undergoing treatment.

The family is the closest person who plays a very important role in providing support to people with diabetes mellitus (Nugraheni et al., 2024). Family support is a form of assistance provided in the form of attitudes and actions and family acceptance of family members who are supportive, ready to provide help and assistance if needed to provide physical and psychological comfort when someone is sick (Pujiwati et al., 2023; Muzhaffarah et al., 2024).

The high level of family support is influenced by family practice factors. Family practice is a way of how families provide support that is usually given to sick families, so that it will affect sufferers in implementing their health programs (Amelia et al., 2019). This is in line with the research of Silaban et al., (2022), where patients with diabetes mellitus who get positive family support are more compliant in controlling their disease, than patients who get negative family support.

According to research by Zovancha & Wijayanti (2021), family support in this study consists of 4 indicators including information, emotional, appreciation, and instrumental support. Family support is very helpful for people with diabetes mellitus to be able to increase confidence in their ability to perform self-care actions. The sense of comfort that grows in people with diabetes mellitus is due to informational, emotional, appreciative, and instrumental support from the family. Therefore, family support is a strong indicator that can have a positive impact on people with diabetes mellitus.

The dimensions of family support play an important role in supporting the successful management of diabetes mellitus. In this study, the indicator that plays the most role in family support is emotional support. This is in line with the research of Hisni et al., (2019), stating that emotional support is a dimension that is easily obtained in the family. Emotional support will make people with diabetes mellitus to always be vigilant and control emotions towards existing complications and can reduce feelings of inferiority towards the conditions of physical limitations experienced. Emotional support involves expressions of empathy, concern, encouragement, personal warmth, love or emotional assistance. Emotional support provided by the family to patients can improve family

recovery and morale. With emotional support, patients feel cared for and understood by their families.

Based on facts and theories, researchers argue that family is an important component for a person survival, especially people with diabetes mellitus. The involvement of families and people with diabetes mellitus is very important because families can provide both material and non-material support that can have an impact on the health of sufferers. In emotional support, patients get support in the form of support that is realized in the form of affection, trust, attention and listening and being listened to.

The results of the study of 109 patients with diabetes mellitus at the Lamongan Health Center found that almost some had sufficient quality of life with a total of 40 patients (36.7%). This illustrates that the quality of life of patients with diabetes mellitus at the Lamongan Health Center can be sufficient because patients are sufficient in understanding the disease, the importance of family support, and self-care for their health conditions so that patients can control their disease.

In this study, the indicator that has the highest average value is psychological which includes an assessment of body image and appearance, negative or positive feelings, self-esteem, ability to think or learn, memory and concentration. The indicator with the lowest mean score is physical health, which includes an assessment of general condition, health, physical ability and energy or energy possessed in carrying out daily activities, dependence on drugs and medical aids, mobility, pain and discomfort, sleep and rest, and work capacity.

Quality of life is an individual's perception of their position in life, the cultural context, the value system in which they are located and their relationship to life goals, expectations, standards and others. Quality of life includes physical health, psychological, social relationships and the environment (Sani et al., 2023). The physical health domain is the domain that best shows the quality of life of people with diabetes mellitus. The activities of people with diabetes mellitus can be hampered because their physical strength decreases. The psychological domain is an important indicator in assessing the quality of life of people with diabetes mellitus. Diabetes mellitus can cause fear in sufferers because it has a long treatment and cannot be cured so that sufferers have negative feelings such as anxiety, despair, and depression due to their illness.

The aspect of social relationships relates to how individuals interact with other individuals where these interactions will affect individual behavior. Social relationships consist of personal relationships, social support, and sexual activity. Good relationships with all people will make feelings and thoughts calmer, so that it will affect the quality of life. The environment can affect the quality of life because individuals have the belief that they are not alone, they have people who love them, provide attention and motivation so that they do not give up easily in living their lives. The environmental domain shows the freedom, security, safety, and social health of patients in their environment.

Aspects that can affect quality of life are the existence of quality of life domains that are continuously sustainable in diabetes mellitus care. In this study, the most dominant indicator is the psychological indicator. Patients who experience diabetes mellitus are mostly aged 50-60 years. Where at this age the average elderly person already has a fairly mature mind, so that it can affect the elderly coping mechanism (Umam et al., 2020). According to research by Marsitha et al., (2023), the psychological domain includes body

image and appearance, negative feelings, positive feelings, self-esteem, thinking, learning, memory and concentration as well as religion/spirituality and personal beliefs.

Based on the facts and theories, researchers argue that quality of life is the most important component. Quality of life can be reflected in how good the lifestyle is and how high a person level of peace is. Quality of life is one of the important factors that can affect a person health condition. The quality of life possessed by people with diabetes mellitus is very important to see how they manage their disease and maintain their health in the long term. In this study, the indicator that plays an important role in quality of life is psychological. So people with diabetes mellitus need to get holistic care that is as important as mental well-being and quality of life.

Based on the research results of the two variables of family support and quality of life in patients with diabetes mellitus at the Lamongan Health Center, there is a significant relationship between family support and quality of life in patients with diabetes mellitus at the Lamongan Health Center with a strong relationship strength. From the results of this study it can be seen that the better a person family support, the better his quality of life. Vice versa, the less family support one has, the less the quality of life.

According to research conducted by Vitaliati et al., (2023), the level of quality of life is influenced by family support. The better family support, the better the quality of life. And the less family support, the worse the quality of life. Family support for people with diabetes mellitus is very helpful to increase their confidence in taking the right treatment, so that it can affect their quality of life in enjoying their old age. With family support, people with diabetes mellitus feel more comfortable and appreciated, so people with diabetes mellitus who get family support tend to be more compliant with the treatment program.

Research conducted by Aryanto et al., (2024), there is a relationship between family support and the quality of life of people with diabetes mellitus. With family support, people with diabetes mellitus feel more valued and cared for, especially patients who have complications, of course, are more likely to need attention from the family regarding the management needs of diabetes mellitus to prevent the worsening of the complications suffered. Providing maximum family support can help maintain and improve the quality of life of people with diabetes mellitus.

The results of research by Wahyudin & Siagian (2022) showed a relationship between family support and the quality of life of people with diabetes mellitus. Support from the family is closely related to patient compliance with treatment, so that it will affect their quality of life. Patients with diabetes mellitus who are in a harmonious family environment will be able to create a feeling of security and comfort so that it will foster motivation to carry out self-care.

It can be concluded that there is a relationship between family support and quality of life in patients with diabetes mellitus at the Lamongan Health Center with a strong relationship strength. Based on several studies that are in line with the results of this study, it proves that one of the factors that affect quality of life is family support. The family is the closest individual to people with diabetes mellitus, so the role of the family affects the success of diabetes mellitus management undertaken by patients in improving quality of life.

CONCLUSION

Based on the results of research and discussion, it can be concluded that patients with diabetes mellitus at the Lamongan Health Center more than half have family support in the good category and almost half have quality of life in the moderate category. The results of the analysis with the *Spearman* test showed that there was a significant relationship between family support and quality of life in patients with diabetes mellitus at the Lamongan Health Center with a strong correlation strength and positive correlation direction.

It is hoped that the health center can add the frequency of activities held in PROLANIS activities and increase education or motivation about family support to patients with diabetes mellitus in an effort to improve the quality of life of patients to be better.

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Research Article

The Causes of Pending Claim of Healthcare and Social Security Agency Insurance (BPJS Kesehatan) For Inpatients at Muhammadiyah Babat General Hospital

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ABSTRACT

Hospitals engage in partnerships with the Healthcare and Social Security Agency Insurance (*BPJS Kesehatan*), yet encounter challenges such as unresolved claims that pose financial risks. This study aims to identify the factors contributing to pending *BPJS Kesehatan* claims for hospitalized patients. Employing a descriptive quantitative approach, the research examined 80 inpatient claim files marked as pending. Data collection involved observational and documentation methods, and analysis utilized a checklist observation table. Findings revealed that the primary cause of pending claims was incomplete administrative verification of inpatient services in 53 files (66%). Additional issues included discrepancies in membership verification in 16 files (20%) and health service verification in 4 files (5%). This study underscores discrepancies in claim verification processes relative to the 2014 Technical Guidelines, emphasizing the need for improved medical record management at Muhammadiyah Babat General Hospital. Enhanced communication among healthcare providers involved in medical record filing is crucial to prevent future errors in diagnosis and documentation confirmation.

Keywords: Pending claims, administration, hospitalization

INTRODUCTION

In 2014, Indonesia began implementing the National Health Insurance System based on the National Social Security System Law. The National Health Insurance System (JKN) is managed by a Social Security Organizing Agency (Kusumawati, 2020). The Healthcare and Social Security Agency (*BPJS Kesehatan*) is an official legal entity that guarantees the implementation of social health insurance for all Indonesians so that the social security system can be appropriately implemented.

Hospitals have obligations, as stated in Government Regulation No.47 of 2021, concerning the Implementation of the Hospital Field, one of which is to create, implement, and maintain health service quality standards in hospitals as a reference in serving

patients. The implementation of medical records can influence hospital service quality standards. Implementing medical records includes admitting patients, recording medical service activities, managing medical record data, storing medical records, reporting data, and health financing services. Health financing services in the medical record work unit are a process of fulfilling the requirements for submitting claim files to *BPJS Kesehatan* (Riako, 2022).

BPJS claims are submission of treatment costs for *BPJS* participant patients by the Hospital and billed to *BPJS Kesehatan* every month (Hindun, 2023). Hospitals establish partners with *BPJS* for the financing system; in its implementation, there are still problems, one of which is pending claims. The problem of pending claims occurs due to several factors, including incomplete requirements or incomplete medical resumes, coding or coding errors to determine the primary diagnosis, so the *BPJS* verifier must re-submit the claim document first to the verifier at the hospital or the doctor in charge of the patient to request document completeness (Pratama, 2023). According to Triatmaja (2022), pending BPJS claim files can result in delayed payments from *BPJS* to hospitals, thereby negatively impacting the hospital's finances. Therefore, hospitals that manage their JKN claims effectively are expected to achieve 100% payment receipt, meaning that all billed claims can be settled in the subsequent payment period (Tarigan, 2022).

In the technical guidelines for claim verification in 2014, the requirements submitted to *BPJS Kesehatan* will go through a verification process and need to follow three aspects of verification. The verification aspects include administrative verification of membership, administrative verification of services, and verification of health services. For patient claim files that are not under the three aspects of verification, *BPJS Kesehatan* will return the claim file.

The health service payment system at Muhammadiyah Babat General Hospital experiences monthly pending claims in submitting used types of outpatient and inpatient claims. So, a review of the claim file is needed again. Based on the data for *BPJS Kesehatan* claims submitted for inpatient patients at Muhammadiyah Babat General Hospital, there were 361 claim files that experienced pending status or were returned by *BPJS Kesehatan* due to failing verification for the period from June to November 2023. This represents a portion of the total 2,706 claims submitted.

The impact of pending claims that arise is very influential on the hospital's financial planning, coder, and medical departments. This study aims to determine the causes of pending *BPJS Kesehatan* claims for inpatients at Muhammadiyah Babat General Hospital, so it is necessary to analyze the factors that cause pending *BPJS Kesehatan* claims for inpatients.

METHOD

The research methodology adopted in this study is characterized as quantitatively descriptive. The investigation took place from January 2024 to July 2024 within the Medical Record Unit of Muhammadiyah Babat General Hospital. The study population comprised all inpatient files that encountered pending claims during January-February 2024, totaling 80 files, selected through saturated sampling where all population members were included as samples. The primary variable examined in this research

pertains to the pending claim files of inpatients at Muhammadiyah Babat General Hospital.

RESULTS

1. Identification of Pending Claim Files Based on Administrative Verification Aspects of Participation

This research reviewed the administrative verification aspects of membership based on the 2014 Technical Guidelines for Claims Verification. Administrative membership verification was the suitability of claim files between Participant Eligibility Letters (SEP) data and medical resume-supporting file data. The study results were 80 pending claim files for inpatients studied using observation guidelines, namely checklists based on membership administration. The analysis results of the administrative verification aspects of membership were categorized into the overall identification of the causes of pending claims based on the administrative verification aspects of membership with appropriate and inappropriate conditions.

Table 1 Frequency Distribution of Suitability of BPJS Kesehatan Pending Claim Files for Inpatients Based on Aspects of Verification of Membership Administration

No	Aspects of Verification of Membership Administration	Frequency (F)	Percentage (%)
1	Appropriate	64	80
2	Inappropriate	16	20
	Total	80	100

Source: Primary Data from Muhammadiyah Babat General Hospital 2024

Based on the categorization resulted in Table 1, the inpatient claim files that experience pending claims regarding administrative verification of membership still had discrepancies in their aspects. The checklist resulted from the verification of membership administration cause a mismatch between SEP data and medical resume supporting file data due to differences in inputting the Doctor in Charge of the Patient name. As a result of observation, it was known that almost all claim files, according to the administrative verification aspect of membership, are in appropriate with the number of 64 files (80%), and a small portion of the claim files are inappropriate, namely 16 files (20%). In the administrative verification of membership, the suitability of SEP data with supporting file data for medical resumes was almost entirely appropriate.

2. Identification of Pending Claim Files Based on Service Administration Verification Aspects

This study reviewed aspects of service administration verification based on the 2014 Technical Guidelines for Claims Verification. Aspects of service administration verification in the form of completeness of files, which included individual patient sheets, details of nursing unit costs, results of supporting examinations, SEP, medical resumes, Hospitalization Orders (SPRI), and other supporting evidence such as surgery reports.

Table 2 Frequency Distribution of Factors Causing Pending *BPJS Kesehatan* Claims for Inpatients Based on the Service Administration Verification Aspect

No	Aspects of Service Administration Verification	Inpatient Pending Claim File				Total	
		Complete		Incomplete			
		F	%	F	%	F	%
1.	Patient Individual Sheet	75	94	5	6	80	100
2.	Nursing Unit Fee Schedule	70	87	10	13	80	100
3.	Supporting/Examination Result	41	51	39	49	80	100
4.	Participant Eligibility Letter (SEP)	80	100	0	0	80	100
5.	Medical Resume	61	76	19	24	80	100
6.	Inpatient Order (SPRI)	80	100	0	0	80	100
7.	Proof of surgery (if any) n = 13	13	100	0	0	13	100

Source: Primary Data from Muhammadiyah Babat General Hospital 2024

Table 2 shows that inpatient claim files that experience pending claims from the aspect of service administration verification are incomplete in several types of required forms. The incompleteness of the patient's sheet, as many as 5 files (6%), was caused by the lack of inputting the primary and secondary diagnoses on the patient's sheets. Incomplete details of nursing unit cost as many as 10 files (13%); the incompleteness was related to the hospital tariff and billing that was not correctly entered. Namely, there was an ECHO examination, but not yet in the billing. Incomplete supporting/examination resulted in as many as 39 files (49%) were caused by not attaching supporting evidence or examination results, radiology, and laboratory examination results. The incompleteness of medical resumes, as many as 19 files (24%), was caused by the absence of records of physical examinations and supporting examinations that were still empty.

The results of the analysis of the service administration verification aspects in Table 2 could be categorized into the overall causes of pending claims based on service administration with complete and incomplete conditions.

Table 3 Frequency Distribution of Completeness of *BPJS Kesehatan* Pending Claim Files for Inpatients Based on the Service Administration Verification Aspect

No	Aspects of Service Administration Verification	Frequency (F)	Percentage (%)
1	Complete	27	34
2	Incomplete	53	66
Total		80	100

Source: Primary Data from Muhammadiyah Babat General Hospital 2024

Based on the categorization resulted in Table 3, most of the inpatient claim files, according to the administrative verification aspect, are incomplete, with 53 files (66%) and almost partially complete files, namely 27 (34%). In the administrative

verification of services, the completeness of the requirements for the type of form in the inpatient claim file was almost partially complete.

3. Identification of Pending Claim Files Based on Aspects of Health Service Administration Verification

This study reviewed aspects of health service verification factors based on the 2014 Technical Guidelines for Claims Verification. Verification of Health Services in the form of suitability of claim files with the accuracy of diagnosis coding by ICD 10 and the suitability of outpatient and inpatient admissions on the same day billed for one episode of care. The study results were 80 inpatient claim files studied using observation guidelines, namely the health service administration verification checklist. The health service verification aspect results were categorized into the overall cause of pending claims based on health services with appropriate and inappropriate conditions.

Table 4 Frequency Distribution of Suitability of *BPJS Kesehatan* Pending Claim Files for Inpatients Based on Health Service Verification Aspects

No	Aspects of Health Service Verification	Frequency (F)	Percentage (%)
1	Appropriate	76	95
2	Inappropriate	4	5
	Total	80	100

Source: Primary Data from Muhammadiyah Babat General Hospital 2024

Based on the categorization resulted in Table 4, inpatient claim files that experience pending claims in terms of health service verification aspects, there were discrepancies in their aspects. Discrepancies in diagnosis and action based on the ICD 10 code were 4 files (5%). As a result of observation, it was known that a small proportion of inpatient claim files according to the aspect of verification of health services were inappropriate with the number of 4 files (5%), and almost all files were appropriate with the number of 4 files (95%). It could be concluded that in the aspect of verification of health services, the suitability of claim files with the accuracy of diagnosis coding by ICD 10 and the suitability of outpatient and inpatient admissions on the same day billed for one episode of care was almost entirely appropriate.

DISCUSSION

1. Causes of Pending Claims Based on Aspects of Membership Administration Verification

The analysis results regarding the causes of pending claims for *BPJS Kesehatan* claims for inpatients according to the administrative verification aspect of participation showed a mismatch condition of 16 files (20%). The cause of the discrepancy was due to differences between the SEP data and the medical resume supporting files.

The observation of the suitability of membership administration shows that the SEP data and the supporting data of the medical resume experience discrepancies because the name of the DPJP entered in the SEP data and the medical resume are different. The data in the SEP must be the same as the data in the supporting files. Lack of communication between medical record staff and other health workers

regarding data filling in the SEP can cause differences between data in the SEP and supporting files.

The role of communication between medical record personnel and other health workers, namely doctors and nurses, is crucial as a means that can facilitate carrying out their roles and functions properly, where medical record personnel and doctors can convey directions or problems, especially regarding the completeness of filling out medical record files (Soraya, 2021).

SEP data with supporting data for medical resumes should have harmonized data content according to the facts of services provided to patients. Data entry into the INA-CBG application must be considered and reconciled according to the existing supporting files to harmonize all data. Therefore, communication between medical record personnel and other health workers regarding the suitability and completeness of medical record files must be considered so that they can provide better service in the future.

2. Causes of Pending Claims Based on the Service Administration Verification Aspect

The results of the analysis of the causes of pending *BPJS Kesehatan* claims for inpatients according to the administrative verification aspect of the service prove that the incomplete conditions in the inpatient claim file were 53 files (66%) out of 80 samples. The observations in the checklist for the completeness of the administration of inpatient services found that the cause of pending claims was because the type of form required was incomplete or the contents of the form were not under the services provided.

Based on the types of inpatient service requirement forms, which include individual patient sheets, details of nursing unit costs, results of supporting examinations, SEP, medical resumes, Hospitalization Orders (SPRI), and other supporting evidence such as surgery reports, there are several types of incomplete inpatient service requirement forms. The causes of incompleteness include the patient's sheet because the diagnosis entered was not under the medical resume. The patient's sheet should include the primary and secondary diagnoses under the medical resume, but the form should not include a secondary diagnosis. The incompleteness of the patient's sheet was caused by the workload of the coder or claims officer due to the large number of files that must be coded. The large workload of claims officers could make officers less careful so that there were errors in entering diagnoses not under the medical resume.

The incompleteness of the nursing unit cost breakdown sheet because it did not indicate the use of a medical device that should be billed according to where the patient gets the medical device service. Patients got ECHO examination services, abdominal ultrasound, radiology examinations, and laboratory examinations, including Complete Blood and Blood Urea Nitrogen (BUN); there was evidence of the results of the examination, but not yet listed on the nursing unit cost breakdown sheet.

The incompleteness of supporting/ examination results was caused by not attaching supporting evidence of the enforcement of a diagnosis or examination results in the form of laboratory and radiology examinations. This was under what was conveyed in research (Dewi, 2023) that the incompleteness of medical support files was due to human error factors; sometimes, officers forget to print the results of

examination actions or had printed but not attached to the patient's medical support file. The way to handle incomplete medical support files at Muhammadiyah Babat General Hospital was to reprint the results of medical support examinations, both laboratory and radiology examinations.

The incompleteness of the medical resume, which includes a diagnosis and action and was signed by the DPJP, was caused by the incomplete writing of the indication of the patient being treated and a summary of the results of the physical and supporting examinations. This is under what was conveyed in the study (Kusumawati, 2020) that incomplete medical resumes are another cause of pending claims. The verification process requires complete data in the medical resume that supports the diagnosis of primary and secondary diagnoses, namely anamnesis, physical examination and vital signs, laboratory tests, and radiology tests. All of these must match the diagnosis on the medical resume.

If a diagnosis was not accompanied by an appropriate examination or without examination results, the file will be pending and returned to the hospital for confirmation. This happens because the DPJP was still unable to complete the medical resume comprehensively; the cause of the DPJP being unable to fill in a complete medical resume was limited time while the number of patients handled is large. Other factors cause incomplete medical resumes due to the lack of awareness and understanding of doctors, nurses, and medical staff in filling out medical record documents, so they often ignored items that should be filled in.

This finding aligns with the research by Erawantini (2022), which indicates that incomplete documentation is often due to a lack of awareness among doctors regarding the importance of thorough medical record documentation and the indiscipline of the responsible physicians. The completeness of patient medical records is the responsibility of each doctor.

3. Causes of Pending Claims Based on Health Service Verification Aspects

The results of the analysis of the causes of pending *BPJS Kesehatan* claims for inpatients according to the aspect of verification of health services prove that there are 4 files (5%) out of 80 samples. The observations in the checklist show that the cause of pending claims was related to the suitability of diagnosis coding based on ICD 10.

The research results on the causes of pending claims on the provision of diagnosis and action codes based on ICD 10 found discrepancies between hospital coders and *BPJS Kesehatan* verifiers who had differences in providing diagnosis and action codes. If the hospital coder already feels correct in providing diagnosis and action codes, it only needs to confirm with the *BPJS Kesehatan* verifier the exact reason for giving the code.

Diagnosis coding error isa choosing a code that does not match the condition that should be. These errors can be referred to as health service Upcoding events. The incidence of Upcoding health services can cause several impacts on *BPJS Kesehatan*, including increasing claim costs, increasing the burden of health service costs borne by *BPJS Kesehatan*, and mismatching statistical data with case descriptions in the field (Sariunita, 2023).

The factors causing pending claims for *BPJS Kesehatan* inpatients at Muhammadiyah Babat General Hospital were not purely due to coder errors but due to differences in perception of diagnosis codes in the claim file between the hospital's

internal verifier and the BPJS Kesehatan verifier. In addition, the lack of supporting data as diagnosis enforcement also affected the diagnosis code's accuracy, resulting in pending claims.

This is consistent with the research by Nabila (2020), which indicates that pending claims often result from perceptual discrepancies between hospital coders and *BPJS* verifiers. Therefore, regular meetings are necessary, as aligning perceptions among coders can facilitate the resolution of pending claim issues. The more effective the communication, the more efficient the work produced.

CONCLUSION

Based on the research findings, it can be concluded that the causes of pending *BPJS Kesehatan* claims for inpatient patients are as follows: According to administrative membership verification, discrepancies between the input of the primary doctor's name (DPJP) in the SEP data and the supporting medical record resume lead to pending claims. According to administrative service verification, pending claims result from insufficient input of the primary and secondary diagnoses, inaccuracies in billing entries, missing supporting documents or test results, and the absence of physical examination and supporting examination notes in the medical resume. According to service verification, pending claims are due to some coding discrepancies with ICD-10.

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Research Article

Analysis of The Five Moment Hand Hygiene Compliance Picture of Nurses in Hospitals

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ABSTRACT

Compliance with Five Moment Hand Hygiene is one of the efforts to prevent infection carried out by nurses, this is very important for nurses to prevent the spread of infection from nurses to health workers and other patients. But in fact, in hospitals, there are still many nurses who are lacking in doing five moment hand hygiene. The purpose of this study is to analyze the overview of *five moment hand hygiene* compliance for nurses in hospitals. The research design used is descriptive analysis with a quantitative approach. The population is 96 nurses, using *the total* sampling technique, as many as 96 nurses who are active and working in the hospital. The data of this study was taken using an observation sheet that referred to the SOP from WHO. The results showed that 92 (95.8%) almost all nurses were obedient in *five moment hand hygiene* with the highest moment indicator, namely when the nurse came into contact with the patient's body fluids and environment, while the lowest moment indicator was before contact with the patient *and* 65 (67.7%). The results of the research are expected to be used as a reference, source of information and reference material for further research so that it is further developed to improve the quality of nursing services in the field of infection prevention and control in the future

Keywords
Hand washing, five moment hand hygiene, SPO Hand Wash

INTRODUCTION

The quality standards of hospital health services will always be related to the structure, process, and outcome of the hospital service system. Hospital health service quality standards can also be assessed from the level of utilization of service facilities by the community, service quality, and hospital efficiency. Nosocomial infections are common around the world with the highest incidence in poor and developing countries because infectious diseases are still the main cause (Athifah Amelia et al., 2020).

In carrying out the nursing action process, there are several aspects that need to be considered, including the level of hand hygiene to support the healing process and improve the quality of service. In fact, in hospitals there are still many nurses who do not care about handwashing compliance, causing many nosocomial infections to occur. Research by *Center for Disease Control And Prevention* (CDC) and others found that 60% of doctors and nurses failed to wash their hands at the recommended time at the time of contact with patients and performing procedures. (Pakaya et al., 2022). Studies in the United States show that the compliance rate of

nurses washing hands is around 50% and in Australia around 65% where this figure has the potential to cause infection events in patients (Idawati & Mirdahni, 2021).

METHOD

The method in this study is to use a quantitative approach with an analytical descriptive research design that aims to determine the *compliance of five moment hand hygiene* nurses This study uses *a total sampling* technique, namely all nurses who work with a total of 96 nurses using observation sheet instruments. In this study, 1 single variable was used, namely *the compliance of five moment hand hygiene* of nurses using a descriptive test.

RESULTS

General Data

Table 1. The characteristics of nurses

Characteristics Responden	n	%
Gender		
Man	42	33,8%
Woman	54	56,3%
Total	**96**	**100 %**
Age		
25 – 30 Years	54	33,8%
31 – 35 years old	17	56,3%
36 – 40 Years	9	9,4%
41 - 45 Years	10	10,4%
46 – 50 Years	6	6,3%
Total	**96**	**100 %**
Education		
D3	27	28,1%
D4	1	1,0%
S1	68	70,8%
Total	**96**	**100 %**

Based on table 1 which states the data on respondent characteristics by gender obtained from a total of 96 respondents, it is known that most of the respondents are female (56.3%) and 54 respondents, and a small number are male (33.8%). In terms of age characteristics, most of the respondents were 25 to 30 years old as many as 54 (56.3%), and the age of nurses with the lowest frequency was 6 (6.3%) with an age range of 46 to 50 years. This study also found that most of the respondents had an education level at the S1 level of (70.8%) or 68 respondents, and almost some of them were at the D3 level of (28.1%) or 27 respondents, while a small part of only 1 respondent had an education level at the D4 level of 1.0%.

Special Data

Table 2. Distribution of Researcher Observation Data Regarding Compliance Overview *Five Moment Hand Hygiene* Nurse.

No	Compliance *Five Moment Hand Hygiene*	Frequency	Percentage
1	Non-Compliance	4	4,2 %
2	Obedient	92	95,8 %
	Total	**96**	**100 %**

Based on table 2, the results were obtained that almost all nurses were compliant in *five moment hand hygiene* as many as 92 (95.8%) nurses and a small number of nurses did not comply with *five moment hand hygiene* as many as 4 (4.2%) nurses.

Table 3. Distribution of *Five Moment Hand Hygiene Compliance Indicators*

No	***Indicator Five Moment Hygiene***	**Done**		**Not Done**		**Total**	
		N	%	N	%	N	%
1	Before coming into contact with the patient.	75	78,1%	21	21,9%	96	100%
2	Before performing aseptic actions	86	89,6%	10	10,4%	96	100%
3	After contact with the patient's body fluids	92	95,8%	4	4,2%	96	100%
4	After contact with the patient	90	93,8%	6	6,3%	96	100%
5	After contact with the patient's environment	92	95,8%	4	4,2%	96	100%

Table 3 shows that almost all nurses have the highest *five-moment hand hygiene* compliance rate, which is when nurses come into contact with body fluids and the patient's environment as many as 95.8% or 92 respondents. The observation results also showed that almost all nurses carried out *Five Moment Hygiene* with a hidden indicator at the time before contact with the patient, which was 78.1% or 75 respondents

DISCUSSION

Table 2 shows that almost all nurses are obedient to five *moments of hand hygiene* with the highest moment indicator, namely when the nurse is in contact with body fluids and the patient's environment, while the moment indicator is deliberately not done at the moment before contact with the patient.

This statement is in line with Situmorang & Widiyarti (2024) that the level of compliance *five moment hand hygiene* nurses at Bandung Adventist Hospital are at a high level. Research Nugroho et al. (2022) also shows that nurses behave well in applying *five moment hand hygiene.* Compliance is the basic capital of a person behaving (Paudi, 2020).

On the indicator of the lowest moment of nurses in doing *five moment hand hygiene* that is, before contact with the patient. This is in line with the research conducted Dinda Agustin (2020) which stated in previous studies the compliance rate *five moment hand hygiene* The lowest is at the moment before contact with the patient. Lack of Nurse Compliance in Doing *hand hygiene* caused because it has not yet cultivated *hand hygiene* Before contact with the patient for the reason that the nurse considers the risk small because most of the non-invasive measures carried out only replace the IV. More and more often not doing *hand hygiene moments* One then the risk of contamination to patients will increase (Marfu & Sofia, 2018).

Compliance *with five-moment hand hygiene* by nurses is essential to maintain hygiene and prevent the spread of infections in the healthcare environment. With 89 out of 96 nurses adhering to this practice, it shows a high level of compliance, making *hand hygiene* practice a good way to maintain the health of patients and their work environment. However, better compliance is still needed to ensure maximum protection against infection. Additional steps can be taken to support non-compliant nurses in understanding the importance of this practice and encourage them to participate more actively.

CONCLUSION

Almost all nurses are obedient in five *moments of hand hygiene* as evidenced by the highest indicators, namely at the moment after contact with the patient's body fluids and after contact with the patient's body environment.

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Research Article

Factors Affecting Chronic Energy Deficiency in Pregnant Women

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ABSTRACT
Chronic energy deficiency is a nutritional problem experienced by pregnant women. The normal value of LILA measurement in pregnant women is >23.5 cm, but in fact there are still many LILA values found in pregnant women below <23.5 cm. This poses a risk of nutritional deficiencies such as macro and micronutrients that are manifested in the status (SEVERITY) and anemia. The purpose of the study was to determine the factors that influence chronic energy deficiency in pregnant women.
The research design used descriptive analytic with cross sectional approach on 31 pregnant women who were taken with Quota sampling. This research was conducted at the Glagah Health Center, Lamongan Regency on March 18, 2024. Data were collected using a questionnaire sheet and direct LILA measurement, then analyzed using the Spearman test with α ≤0.05.
The results showed that the factors of consumption patterns, income, parity, and pregnancy spacing were proven to affect the incidence of Chronic Energy Deficiency (CED) in pregnant women. It is hoped that the results of this study can be used as a reference and used as health education in the wider community, especially for pregnant women.
Keywords
Chronic energy deficiency, pregnant women, CED factors, nutritional status.

INTRODUCTION

Chronic Energy Deficiency (CED) is a nutritional problem experienced by pregnant women characterized by low energy reserves in the body that occur over a long period of time. CED can lead to maternal health problems with signs or symptoms including weakness. One of the measurement tools to determine good nutrition in pregnant women is through the measurement of Upper Arm Circumference (LILA). The normal value of LILA measurement in pregnant women is >23.5 cm, but in fact there are still many LILA values found in pregnant women below <23.5 cm, this raises the risk of nutritional deficiencies both macro and micro nutrients which are manifested in the status of chronic energy deficiency (CED) and iron deficiency anemia.

According to the Indonesian Ministry of Health (2018), the World Health Organization (WHO) reports that the prevalence of anemia and CED in pregnancy globally is 32% - 73%. The results of the Nutrition Status Monitoring report conducted by the Ministry of Health of the Republic of Indonesia in 2018 show that Indonesia has a national

target for pregnant women with Chronic Energy Deficiency (CED) is 5% and the target for pregnant women without CED is 95% but in fact the prevalence of risk of CED incidence in 2017 was 14.8%, increasing in 2018 by 17.3%. Based on the source of routine report data in 2020 collected from 34 provinces, it shows that out of 4,656,382 pregnant women whose LILA was measured, it is known that around 451,350 pregnant women have LILA < 23.5 cm (experiencing the risk of SEVERE). From this calculation, it can be concluded that the percentage of pregnant women at risk of CED in 2020 is 9.7%, while the 2020 target is 16% (Ministry of Health, 2020). Based on the data source of the 2022 performance report, it is known that there are 283,833 pregnant women with LILA < 23.5 cm (at risk of SEVERITY) out of 3,249,503 pregnant women measured LILA, so it is known that pregnant women in Indonesia with the risk of SEVERITY are 8.7% as of February 4, 2022 (Kemenkes RI, 2022). Data from the East Java provincial health office of pregnant women suffering from SEZ in 2018 is 19.6%, and data obtained from BPS Lamongan Regency in 2018 there were 1743 pregnant women suffering from CED. In 2023 there were 506 out of 3948 (12.8%) pregnant women with CED in the first trimester, 387 out of 3481 (11.1%) in the second trimester and 415 out of 3517 (11.7%) in the third trimester (Dinkes Lamongan, 2018).

Based on preliminary studies on November 22, 2023 at the Glagah Health Center, Lamongan Regency, it was found that data on pregnant women who experienced chronic energy deficiency problems in 2021, namely out of 512 pregnant women examined, 62 (12.1%) experienced CED, in 2022, namely out of 520 pregnant women examined, 67 (12.8%) experienced CED, and there was an increase in 2023 in January to November, 458 pregnant women were examined, 77 (16.8%) experienced CED . It can be concluded that the increase in pregnant women with SEVERE in Glagah Health Center in the last three years with an average of 4.7. These results do not rule out the possibility of continuing to grow if not handled.

The increase in the incidence of chronic energy deficiency in pregnant women is often caused by several things, namely maternal age, education, consumption patterns, parity, pregnancy spacing, infectious diseases and income. Maternal age at the time of pregnancy greatly affects nutritional fulfillment. Women who become pregnant at an early age or close to menopause will increase the occurrence of CED, this is in line with what Ernawati (2018) stated that a significant impact of young marriage is that young mothers do not know or understand pregnancy problems, mothers do not understand nutritional needs for pregnant women. This condition can cause children who are born to be malnourished, namely babies born with low body weight (BBLR). Efforts made in improving the nutrition of pregnant women with CED are by providing additional food, providing additional food, especially for vulnerable groups, is one of the supplementation strategies in overcoming nutritional problems. In the context of providing healthy food and accelerating nutritional improvement in the scope of the implementation of the Healthy Living Community Movement (Germas), supplementary feeding is an effort that can be carried out in line with other Germas activities (Kemenkes RI, 2017). The percentage of pregnant women with SEZ who receive supplementary food is one of the 6 (six) activity performance indicators (IKK) for community nutrition development that must be achieved in the Ministry of Health's 2015-2019 Strategic Plan (Renstra) (Directorate of Nutrition, 2015).

METHOD

The design of this research is descriptive analytic using a cross-sectional approach. The sampling technique employed is non-probability sampling with quota sampling, involving a total of 31 pregnant women at the Glagah Community Health Center in Lamongan Regency. This study was conducted in March 2024.

RESULTS

1. Factors Influencing Chronic Energy Deficiency in Pregnant Women:

Table 1. Pregnant Women Based on Consumption Patterns at Glagah Health Center, Glagah District, Lamongan Regency in 2024.

No.	Consumption Pattern	Frequency	Presentation (%)
1.	Very poor	4	12.9
2.	Poor	7	22.6
3.	Fair	13	41.9
4.	Good	7	22.6
	Total	31	100.0

Based on table 1 above, it can be seen that of the 31 pregnant women at the Glagah Health Center, almost 13 (41.9%) of the majority of pregnant women have adequate consumption patterns and a small portion of 4 (12.9%) of the majority of pregnant women have very poor consumption patterns.

Table 2. Pregnant Women Reviewed Based on Income at Glagah Community Health Center, Glagah District, Lamongan Regency, 2024.

No.	Income	Frequency	Presentation (%)
1.	Low	20	64.5
2.	Lower middle	11	35.5
	Total	31	100.0

Based on Table 2 above, it can be observed that out of 31 pregnant women at Glagah Community Health Center, the majority of 20 (54.8%) have low monthly incomes, and nearly 11 (35.5%) have lower middle incomes.

Table 3. Pregnant Women Reviewed Based on Number of Children at Glagah Community Health Center, Glagah District, Lamongan Regency, 2024.

No.	Number of children	Frequency	Presentation (%)
1.	Nulipara	5	16.1
2.	Primipara	10	32.3
3.	Multipara	15	48.4
4.	Grandemultipara	1	3.2
	Total	31	100.0

Based on Table 3 above, it can be observed that out of 31 pregnant women at Glagah Community Health Center, nearly half, 15 (48.4%), are multiparous (having multiple children), and a small portion, 1 (3.2%), are grandmultiparous (having many children).

Tabel 4. Pregnant Women Reviewed Based on Pregnancy Spacing at Glagah Community Health Center, Glagah District, Lamongan Regency, 2024.

No.	Pregency spacing	Frequency	Presentation (%)
1.	< 2 Tahun	6	19.4
2.	2 - 5 Tahun	20	64.5
3.	> 5 Tahun	5	16.1
	Total	31	100.0

Based on Table 4 above, it can be observed that out of 31 pregnant women at Glagah Community Health Center, the majority, 20 (64.5%), have a pregnancy spacing of 2-5 years, while a small portion, 5 (16.1%) pregnant women, have a pregnancy spacing of more than 5 years.

Table 5. Pregnant Women Based on Age at Glagah Health Center, Glagah District, Lamongan Regency in 2024.

No.	Age	Frequency	Presentation (%)
1.	Low Risk	29	93.5
2.	High Risk	2	6.5
	Total	31	100.0

Based on table 5 above, it can be seen that out of 31 pregnant women at Glagah Health Center, almost all 29 (93.5%) have a low risk age and a small portion of 2 (6.5%) pregnant women have a high risk age.

Table 6. Pregnant Women Based on Education at Glagah Health Center, Glagah District, Lamongan Regency in 2024.

No.	Education	Frequency	Presentation (%)
1.	Primary Education	2	6.5
2.	Secondary Education	15	48.4
3.	Higher Education	14	45.2
	Total	31	100.0

Based on table 6 above, it can be seen that out of 31 pregnant women at Glagah Health Center, almost 15 (48.4%) have secondary education, and a small portion of 2 (6.5%) pregnant women have primary education.

2. lncidence of CED in pregnant women

Table 7. Pregnant Women Based on LILA at Glagah Health Center, Glagah District, Lamongan Regency in 2024.

No	Upper Arm Circumference	Frequency	Persentation (%)
1.	CED < 23,5 CM	17	54.8
2.	Non CED ≥ 23,5 CM	14	45.2
	Total	31	100.0

Based on table 7 above, it can be seen that out of 31 pregnant women at Glagah Health Center, the majority, 17 (54.8%), have MUAC <23.5 cm, categorized as maternal malnutrition (CED).

3. The Influence of Dietary Consumption Patterns on the Incidence of Chronic Energy Deficiency (CED) in Pregnant Women at Glagah Health Center

Table 8. Distribution of the Influence of Dietary Consumption Patterns on the Incidence of Chronic Energy Deficiency (CED) in Pregnant Women at Glagah Health Center, Glagah District, Lamongan Regency, 2024.

The incidence of Chronic Energy Deficiency (CED) in pregnant women							
Consumption Pattern	KEK		Non KEK		Total		p *value*
	N	%	n	%	N	%	
Very Less	4	100	0	0	4	100	0,000
Less	6	85.7	1	14.3	7	100	
Fair	6	46.2	7	53.8	13	100	
Good	1	14.3	6	85.7	7	100	
Total	17	54,8	14	45.0	31	100	

Based on table 8, it is found that pregnant women at Glagah Health Center showed a cross-tabulation result indicating that those with very poor dietary consumption patterns were entirely 100% affected by Chronic Energy Deficiency (CED). The correlation analysis using Spearman's correlation coefficient yielded a correlation coefficient of 0.595, indicating a strong correlation. With a p-value of 0.000 (< 0.05), it can be concluded that there is a significant influence of dietary consumption patterns on the incidence of chronic energy deficiency among pregnant women in the Glagah Health Center area.

4. The influence of income factors on the incidence of Chronic Energy Deficiency (CED) among pregnant women at Glagah Health Center

Table 9. Distribution of the Influence of Income Factor on the Incidence of Chronic Energy Deficiency (CED) in Pregnant Women at Glagah Health Center, Glagah District, Lamongan Regency, 2024.

The incidence of Chronic Energy Deficiency (KEK) in pregnant women							
Income	KEK		Tidak KEK		Total		p *value*
	n	%	n	%	n	%	
Low	14	70.0	6	30.0	20	100	0.022
Lower Middle	3	27,3	8	72.7	11	100	
Total	17	54.8	14	45.2	31	100	

Based on table 9, it is found that pregnant women at Glagah Health Center showed a cross-tabulation result indicating that a majority of those with low income, 70.0%, experienced Chronic Energy Deficiency (CED), while nearly 30.0% did not. The correlation analysis using Spearman's correlation coefficient yielded a correlation coefficient of 0.411, indicating a moderate level of correlation. With a p-value of 0.022 (< 0.05), it can be concluded that there is a significant influence of income on the incidence of chronic energy deficiency among pregnant women in the Glagah Health Center area.

5. The influence of parity (number of pregnancies) on the incidence of Chronic Energy Deficiency (CED) among pregnant women at Glagah Health Center

   Table 10. Distribution of the Influence of Parity Factor on the Incidence of Chronic Energy Deficiency (CED) in Pregnant Women at Glagah Health Center, Glagah District, Lamongan Regency, 2024.

The incidence of Chronic Energy Deficiency (CED) in pregnant women							
Number of children	KEK		Non KEK		Total		p *value*
	n	%	n	%	N	%	
Nulipara	4	80.0	1	20.0	5	100	0,041
Primipara	0	0	10	100	10	100	
Multipara	12	80.0	3	20.0	15	100	
Grandepara	1	100	0	0	1	100	
Total	17	54.8	14	45.2	31	100	

Based on table 10, it is found that pregnant women at Glagah Health Center showed a cross-tabulation result indicating that nearly 80.0% of multiparous women experienced Chronic Energy Deficiency (CED), while a small portion, 20.0%, did not. The correlation analysis using Spearman's correlation coefficient yielded a correlation coefficient of -0.369, indicating a moderate negative correlation. With a p-value of 0.041 (< 0.05), it can be concluded that there is a significant influence of parity (number of children) on the incidence of chronic energy deficiency among pregnant women in the Glagah Health Center area.

6. The influence of birth spacing on the incidence of Chronic Energy Deficiency (CED) among pregnant women at Glagah Health Center

   Table 11. Distribution of the Influence of Birth Spacing Factor on the Incidence of Chronic Energy Deficiency (CED) in Pregnant Women at Glagah Health Center, Glagah District, Lamongan Regency, 2024.

The incidence of Chronic Energy Deficiency (CED) in pregnant women							
Pregnancy spacing	KEK		Non KEK		Total		p *value*
	n	%	n	%	N	%	
<2 Years	4	66.7	2	33.3	6	100	0,040
2 – 5 years	13	65.0	7	35.0	20	100	
>5 years	0	0.0	5	100	5	100	
Total	17	54.8	14	45.2	31	100	

Based on table 11, it is found that pregnant women at Glagah Health Center showed a cross-tabulation result indicating that a majority, 65.0%, of those with birth spacing of 2-5 years experienced Chronic Energy Deficiency (CED), while nearly 35.0% did not. The correlation analysis using Spearman's correlation coefficient yielded a correlation coefficient of 0.371, indicating a moderate level of correlation. With a p-value of 0.040 (< 0.05), it can be concluded that there is a significant influence of birth spacing on the incidence of chronic energy deficiency among pregnant women in the Glagah Health Center area.

7. The influence of gestational age on the incidence of Chronic Energy Deficiency (CED)

Table 12. Distribution of the Influence of Gestational Age Factor on the Incidence of Chronic Energy Deficiency (CED) in Pregnant Women at Glagah Health Center, Glagah District, Lamongan Regency, 2024.

The incidence of Chronic Energy Deficiency (CED) in pregnant women							
Age	KEK		Non KEK		Total		p *value*
	n	%	n	%	N	%	
Low Risk	15	51.7	14	48.3	29	100	0,197
High Risk	2	100	0	0.0	2	100	
Total	17	54.8	14	45.2	31	100	

Based on table 12, it is found that pregnant women at Glagah Health Center showed a cross-tabulation result indicating that a majority, 51.7%, of those with low-risk gestational age experienced Chronic Energy Deficiency (CED), while nearly 48.3% did not. The correlation analysis using Spearman's correlation coefficient yielded a correlation coefficient of 0.238, indicating a very weak level of correlation. With a p-value of 0.197 (> 0.05), it can be concluded that there is no significant influence of gestational age on the incidence of chronic energy deficiency among pregnant women in the Glagah Health Center area.

8. The influence of education level on the incidence of Chronic Energy Deficiency (CED) among pregnant women at Glagah Health Center.

Table 13. Distribution of the Influence of Education Level on the Incidence of Chronic Energy Deficiency (CED) in Pregnant Women at Glagah Health Center, Glagah District, Lamongan Regency, 2024.

The incidence of Chronic Energy Deficiency (CED) in pregnant women							
Education	KEK		Non KEK		Total		p *value*
	n	%	n	%	n	%	
Primary Education	1	50.0	1	50.0	2	100	
Secondary Education	10	66.7	5	33.3	15	100	0,303
Higher Education	6	42. 9	8	57.1	14	45.2	
Total	17	54.8	14	45.2	31	100	

Based on table 13, it is found that pregnant women at Glagah Health Center showed a cross-tabulation result indicating that a majority, 66.7%, of those with secondary education experienced Chronic Energy Deficiency (CED), while a minority, 33.3%, did not. The correlation analysis using Spearman's correlation coefficient yielded a correlation coefficient of 0.191, indicating a very weak level of correlation. With a p-value of 0.303 (> 0.05), it can be concluded that there is no significant influence of education level on the incidence of chronic energy deficiency among pregnant women in the Glagah Health Center area.

DISCUSSION

1. The Influence of Dietary Consumption Patterns on the Incidence of Chronic Energy Deficiency (CED) in Pregnant Women at Glagah Community Health Center

Based on the data from table 1, this research indicates that the majority of dietary consumption patterns among pregnant women at Glagah Community Health Center are categorized as adequate based on the Food Pattern Score calculation. Furthermore, according to the results of the cross-tabulation test, it was found that

pregnant women with very poor dietary consumption patterns all experienced Chronic Energy Deficiency (CED). This is supported by the correlation analysis, which concludes that there is an influence of dietary consumption patterns on the occurrence of chronic energy deficiency among pregnant women in the Glagah Community Health Center area.

In line with the theory that states consumption pattern is the arrangement of types and quantities of food consumed by individuals or groups at a specific time, societal consumption patterns can indicate levels of diversity. Consumption pattern comprises various information that provides an overview of the types and quantities of food consumed daily by an individual, representing a characteristic of a specific societal group influenced by habits, preferences, culture, religion, economy, natural environment, and other factors. Consumption patterns can be categorized into three groups: staple foods, main dishes, and vegetables and fruits (Mijayanti, 2020).

2. The Influence of Income Factors on the Incidence of Chronic Energy Deficiency (CED) in Pregnant Women at Glagah Community Health Center

Based on the data from table 2, this research indicates that the majority of income levels among pregnant women at Glagah Community Health Center are categorized as low. Furthermore, according to the results of the cross-tabulation test, it was found that pregnant women with low incomes mostly experience Chronic Energy Deficiency (CED), while a small minority do not. This is further supported by the analysis results, which lead to the conclusion that there is an influence of income on the occurrence of chronic energy deficiency among pregnant women in the Glagah Community Health Center area. Income is a determining factor in the quality and quantity of food consumed. Increasing income leads to higher total expenditures, including spending on food (Surasih, 2020). Mothers with higher economic status do not experience Chronic Energy Deficiency (CED). This is because economically advantaged mothers prioritize ensuring their family's needs are met, particularly in terms of food quality. They are also more likely to follow health recommendations to consume nutritious foods and drink milk twice daily, thus meeting the nutritional needs during pregnancy. The economic status of a family determines the types of food purchased. Higher income means better food fulfillment. Even if a family has low income, adequate knowledge of nutritious foods can balance food input with body needs (Najoan, 2021). In this study, most respondents had low incomes, with the majority experiencing CED.

3. The Influence of Parity Factors on the Incidence of Chronic Energy Deficiency (CED) in Pregnant Women at Glagah Community Health Center

Based on the data from table 3, this research indicates that the majority of pregnant mothers at Glagah Community Health Center fall into the multipara category, meaning they have had multiple pregnancies. Furthermore, based on the results of the cross-tabulation test, it was found that most pregnant mothers with multipara status mostly experience Chronic Energy Deficiency (CED), with only a small minority not experiencing KEK. This is supported by the analysis results, which lead to the conclusion that there is an influence of the number of children (parity) on the occurrence of chronic energy deficiency among pregnant women in the Glagah Community Health Center area.

Parity is the status of a woman in relation to the number of children who have been born. Parity included in the high risk factors in pregnancy is grandemultipara, where this can lead to conditions that affect the optimization of the mother and fetus in the

pregnancy at hand. It can be concluded that parity that is not more than 4 is not at risk of interference. The number of parities or the number of children born by a mother will affect the physical condition and nutritional status of the mother. Mothers with many parities will need a lot of nutrition to restore the body's condition after childbirth (Kartikasari, 2021). The influence of parity on chronic energy deficiency in pregnant women arises because as the family size increases, so does the demand that needs to be met, such as the ability to purchase nutritious food. Pregnant women who have given birth to more than 2 children (multipara) often experience frequent pregnancies and deliveries, leading to increased living demands, especially in terms of nutritional needs. These mothers may find it difficult to prioritize their own health amidst household responsibilities and the necessity to share meals with family members, while pregnant women require additional nutrition.

It is hoped that primiparous mothers can improve their knowledge of maternal nutrition by participating in prenatal classes to prevent the occurrence of chronic energy deficiency during pregnancy.

4. The Influence of Birth Spacing on the Incidence of Chronic Energy Deficiency (CED) in Pregnant Women at Glagah Health Center

Based on the data from Table 4, this study indicates that the majority of pregnant women at Glagah Health Center have a birth spacing of 2-5 years. Furthermore, the cross-tabulation analysis shows that among pregnant women with a birth spacing of 2-5 years, the majority experience Chronic Energy Deficiency (CED), while a small proportion do not. This conclusion is supported by the analytical findings, which suggest that there is an influence of birth spacing on the occurrence of Chronic Energy Deficiency (CED) in pregnant women in the Glagah Health Center area.

A closely spaced pregnancy (<2 years) will lead to low quality of the fetus or child and also harm the mother's health. A short interval between births prevents the mother from restoring her own body, as she needs sufficient energy to recover after childbirth. Moreover, she may still be breastfeeding and must meet her nutritional needs during lactation, requiring additional daily calories to sustain her nutrition and breast milk production. Another pregnancy during this time will cause nutritional issues for both the mother and the fetus or baby.

Repeated pregnancies in a short period drain fats, proteins, glucose, vitamins, minerals, and folic acid, leading to decreased ATP causing a decline in the body's metabolic processes. The body then undergoes catabolism processes, depleting its food reserves and causing energy deficiency (Handayani, 2020).

Based on research observations, pregnant women with closely spaced pregnancies face significantly higher risks due to the substantial energy demands for both the mother and the fetus, as well as meeting the nutritional needs of the breastfeeding baby. This naturally depletes a lot of energy from the mother, and inadequate food intake during pregnancy can significantly contribute to the risk of nutritional deficiencies.

5. The Influence of Age Factors on the Incidence of Chronic Energy Deficiency (CED) in Pregnant Women at Glagah Health Center

Based on the data from Table 5, the results of this study indicate that almost all pregnant women at Glagah Health Center are in the low-risk age category. Furthermore, the cross-tabulation analysis shows that among pregnant women with low-risk pregnancy ages, a significant portion experience Chronic Energy Deficiency

(CED), while a small proportion do not. This conclusion is supported by the analytical findings, which suggest that age does not influence the occurrence of Chronic Energy Deficiency (CED) in pregnant women in the Glagah Health Center area.

This research aligns with Pitriana et al. (2019) in their study titled "Factors Associated with Chronic Energy Deficiency (CED) in Pregnant Women in the Work Area of Rowosari Public Health Center, Semarang," which concludes that maternal age is not correlated with the occurrence of Chronic Energy Deficiency (CED). This is primarily because most respondents fall within the age range of 20-35 years, which is considered optimal for pregnancy, indicating no age-related association with CED in their study (Novitasari et al., 2019a).

According to theory, maternal age does impact the occurrence of CED. Very young mothers require substantial energy for their own growth, potentially leading to inadequate nutrition for the fetus. Conversely, older mothers may experience reduced energy levels, requiring more energy for daily activities. However, in reality, CED can also occur in reproductive-aged pregnant women (20-34 years). This suggests that CED is influenced not only by age but also by other factors such as education, occupation, income, gestational age, birth spacing, infections, parity, and dietary intake (Lipsiyana et al., 2020).

The researchers' assumption is that maternal age is not associated with the occurrence of CED because the productive age range of 20 to 35 years is optimal for pregnancy. By meeting the increased nutritional needs during pregnancy, the risk of Chronic Energy Deficiency can be minimized. Pregnant women require additional nutrients for fetal growth and their own physical changes during pregnancy. Therefore, focusing on nutritional supplementation and health education during pregnancy is crucial in mitigating the risk of CED, regardless of maternal age.

6. The Influence of Education on the Incidence of Chronic Energy Deficiency (CED) in Pregnant Women at Glagah Health Center

Based on the data in table 6, this research indicates that a significant portion of pregnant women at Glagah Health Center have a secondary education. Furthermore, based on the cross-tabulation analysis (crosstab), it was found that the majority of pregnant women with secondary education experience Chronic Energy Deficiency (CED), while only a small minority do not. This conclusion is further supported by the analysis, which suggests that there is no significant influence of education on the incidence of chronic energy deficiency among pregnant women in the Glagah Health Center area.

Education level is all efforts undertaken to influence individuals, groups, or communities so that they fulfill the expectations of education practitioners (Soekidjo, N. 2013). Even individuals with lower educational attainment are not necessarily less capable of preparing nutritionally adequate meals compared to those with higher education levels. Despite lower educational levels, if a person diligently listens to and learns about nutrition information, their nutritional knowledge could potentially be better (Syafiq, 2022). The assumption from this research indicating that there is no relationship between education and the occurrence of Chronic Energy Deficiency (CED) in pregnant women is because many with lower education levels still obtain health information for pregnant women from other sources. This finding aligns with previous research by Melati (2020), which shows that maternal education does not significantly impact the occurrence of Chronic Energy Deficiency (CED) in practice, as understanding about nutrition is often gained through experience, parental teachings,

and social interactions with other families. Therefore, it is recommended that pregnant women attend health education sessions on maternal nutrition to understand proper nutrient intake during pregnancy and reduce the occurrence of Chronic Energy Deficiency (CED) in pregnant women (Pomalingo et al., 2018). Based on observations by researchers in today's digital age where all information is easily accessible via smartphones, and good parenting during childhood can also influence parenting styles in meeting nutritional needs, education does not significantly affect the occurrence of Chronic Energy Deficiency (CED) in pregnant women.

CONCLUSION

Based on the results of research and discussion, it can be concluded that the results showed that the factors of consumption patterns, income, parity, and spacing of pregnancies were proven to affect the incidence of Chronic Energy Deficiency (CED) in pregnant women while the factors of age and education proved to have no effect on the incidence of Chronic Energy Deficiency (CED) in pregnant women.

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a. It is hoped that this research will allow the nursing profession to develop into a more respected field among other professions. The results can serve as input on the factors influencing chronic energy deficiency in pregnant women.
b. For future researchers, the results of this study can serve as a source of information regarding the factors influencing chronic energy deficiency.

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Research Article

The Relationship between Length of Illness and Self-Care Management in Patients with hypertension at Lamongan Health Center

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ABSTRACT

Background: Length of illness can influence self-care management in patients with hypertension, which can impact the patient's condition.

Objectives: The purpose of the study is to analyze the relationship between length of illness and self-care management in patients with hypertension at the Lamongan Health Center.

Methods: This study was a correlation analytic with a cross sectional design selected using consecutive sampling in 109 hypertensive patients at the Elderly and Chronic Disease Management Program (PROLANIS). The research data were collected using the Hypertension Self-Management Behavior Questionnaire (HSMBQ), and length of illness questionnaire. The data were analyzed using Pearson's test ($\alpha \leq 0.05$).

Result: The statistical test results showed that there was a relationship between length of illness and self-care management (p=0.000) with a very strong correlation (r=0.801). The length of illness in the long catagory (>10 years) was 38,5% and the level of self-care management in the poor category was 42.2%.

Conclusion: Patients with hypertension who have a long history of illness will have better experience in disease management so that they have high confidence in disease management. This will improve self-care management. It is expected that the Health Center can step up efforts to educate people with hypertension because many of them are still lacking in self-care management.

Keywords

Hypertension , Lenght of illness , *Self-care Management* .

INTRODUCTION

Many problems often occur in hypertensive patients, including low willingness to do self-care management. Hypertension can be controlled by doing good disease management. In addition, the length of hypertension suffered also affects how a person's self-care management of the disease. Someone who has experience in managing hypertension will have good confidence or efficacy (Okatiranti *et al.*, 2017).

According to WHO (2019), the incidence of hypertension in the world is 972 million (26%) adults in the world. And it is estimated to increase every year. In Indonesia according to RISKESDAS (2018), the number of hypertension cases was 63,309,620 people and East Java Province was ranked sixth with a prevalence of hypertension of 36.32% (Kemenkes RI, 2019). According to the Lamongan District Health Office Report (2021), hypertension data in 2020 was reported to be 306,719 residents. Based on the results of an initial survey at the Lamongan Health Center, it was found that hypertension was the second most common case at the Lamongan Health Center with a total of 2,195 patients in 2022. The results of interviews with 5 patients with hypertension were 4 patients with poor self-care management and 1 patient with good self-care management.

According to Kemenkes RI (2019), hypertension cases in Indonesia that can control their blood pressure are only one-fifth of the total sufferers. Meanwhile, according to Ademe *et al* (2019), it shows that on average out of 309 hypertensive patients in Ethiopia hypertensive patients have poor self-care. Research conducted by Pae *et al.*, (2023), out of 26 respondents, 16 people (61.54%) had poor self-care management. From some of these studies, it shows that people with hypertension still have poor self-care management skills. Whereas self-care management is the key to success for someone to control their disease well.

Self-care management is an activity carried out by individuals to meet their life needs in maintaining health. According to Simanullang (2019), there are 5 components of self-care management for hypertensive patients, namely: Self-regulation, self-integrity, blood pressure monitoring, interaction with other medical personnel, compliance with recommended provisions.

According to Rozani (2020), the factors that cause poor self-care management in patients with hypertension are as follows: Age, gender, education, occupation, marital status knowledge, family support, social support, economic status, length of illness, and self-efficacy. Increasing age of a person's response to situations that threaten health will increase understanding, making it possible to make stronger efforts to prevent disease (Nurhidayati *et al*., 2018). Men enjoy their lifestyle more, such as smoking and uncontrolled food consumption. In women, as in old age, it is influenced by menopause which causes changes in the hormone estrogen (Purwono *et al*., 2020). According to Isnaini & Lestari (2018), women have better self-care behavior than male patients. Women have more knowledge about the disease than men, therefore they may be better able to adapt food for a sodium-restricted diet because they are responsible for preparing meals.

Education and knowledge increase a person's understanding in improving self-care. High knowledge and education will provide motivation to do self-care (Idu, Maria Bahagia *et al.*, 2022). A person who has a stable job and economic conditions can access health services and have lifestyle changes. According to Dasgupta, A., Sembiah, S., Paul, B., Ghosh,

A., Biswas, B., & Mallick (2018), a person who is single or lives alone at home withblow trust can worsen his self-care. Social support has influences related to the social environment, spiritual beliefs and family functioning. Support from family members can be a motivation to carry out activities in the prevention of their disease (Idu, Maria Bahagia et al., 2022).

The length of illness suffered has an effect on self-management. The results of research conducted by Listiana et al (2020), state that respondents who experience hypertension for more than 1 year have experienced saturation so that it will make respondents lazy and negligent to carry out treatment and good health behavior. A total of 15 people suffering from hypertension for more than 1 year, there were 3 people with high compliance.

Poor self-care in hypertensive patients can exacerbate the disease by triggering complications. Low levels of care will also affect the effectiveness of treatment and will have an impact on their quality of life (Wardhani et al., 2019). Complications that can occur if hypertension is not properly managed such as, hypertensive crisis, peripheral arterial disease, dissecting aortic aneurysm, coronary heart disease, angina, myocardial infarction, heart failure, renal failure, arrhythmia, transient ischemic attack, stroke, retinopathy, hypertensive encephalopathy can even cause sudden death (Akbar, A. A., Merdekawati, D., & Lisa, 2022).

The magnitude of the impact caused by poor self-care management, so several efforts can be made to improve self-care management skills. Before improving self-care management skills, people with hypertension need to identify the length of illness. In addition, an analysis is also needed to see the correlation between the variable length of illness and self-care management. Previous research has also not been found that identifies the length of illness with self-care management. This study aims to determine the relationship between disease duration and self-care management in patients with hypertension at the Lamongan Health Center.

METHOD

This research design uses correlation analytics with a cross sectional approach. This study aims to determine the relationship between disease duration and self-care management in patients with hypertension at the Lamongan Health Center. The research was conducted in March 2024. The independent variables of this study were length of illness with levels ≤5 years, 6-10 years, and >10 years. The dependent variable in this study is self-care management with the level of management less, enough, and good. The population of this study were 150 hypertensive patients consisting of 50 hypertensive patients who participated in the Chronic Disease Management Program (PROLANIS) and 100 hypertensive patients who checked themselves at the Lamongan Puskesmas Elderly Clinic per week. The research sample was obtained as many as 109 hypertensive patients with cosecutive sampling technique. Inclusion criteria in this study include patients diagnosed with hypertension at the Lamongan Health Center either at PROLANIS or at the Elderly Poly, can communicate well and clearly, and are willing to become respondents and sign informed consent and exclusion criteria are hypertensive patients with mental or psychological disorders, respondents with impaired senses and hearing.

The research instrument regarding the length of illness used a general data questionnaire. The self-care management research instrument used the HSMBQ

questionnaire consisting of 40 questions compiled by Akhter in 2010. These questions were categorized into never, rarely, sometimes, and always. The total of 40 questions consisted of 13 favorable questions regarding self-integrity (numbers 1-13), 9 favorable questions regarding self-regulation (numbers 14-22), 9 favorable questions regarding interaction with health professionals (numbers 23-31), 4 favorable questions regarding blood pressure monitoring (numbers 32-35), and 5 favorable questions regarding compliance with recommended rules (numbers 36-40). Test the validity and reliability of the HSMBQ questionnaire with a CVI value of 0.8-1.0 reliable value of r=0.91 (Simanullang, 2019). Data were analyzed using the Pearson test through SPSS for windows 26.0 with a significance level of p=0.000. This research has obtained ethical clearance with number 063/EC/KEPK-S1/04/2024.

RESULTS

Table 3.1 Frequency Distribution of Characteristics of Hypertension Patients at Puskesmas Lamongan.

Characteristics	Category	Frequency	%
Age	45-54 years old	22	20.2
	55-64 years old	54	49.5
	65-74 years old	27	24.8
	75-84 years old	6	5.5
	Total	109	100
	Average	60.80	
Gender	Man	36	33.0
	Woman	73	67.0
	Total	109	100
Education	Elementary school	17	15.6
	Junior High School	37	33.9
	Senior High School	47	43.1
	College	8	7.3
	Total	109	100
Work	Farmer	21	19.3
	Houswife	44	40.4
	Private employees	19	17.4
	Self-employed	22	20.2
	Civil servants	3	2.8
	Total	109	100
Long Suffering	≤5 Years	28	25.7
	6-10 Years	39	35.8
	>10 Years	42	38.5
	Total	109	100
	Average	9.89	
Complications	Complications	73	43.1
	No Complications	36	56.9
	Total	109	100
Blood Pressure Classification	Stage 1 140-159 mmHg/90-99 mmHg	47	43.1
	Stage 2 ≥ 160 mmHg/100-109 mmHg	62	56.9
	Total	109	100
	Systolic Mean	159.22	
	Diastolic Mean	97.99	

Based on Table 3.1, it can be seen that hypertension patients are almost partly aged 55 64 years with a total of 54 patients (49.5%), for gender more than half of the patients are female with 73 respondents (67.0%), for education almost patients have a high school education with a total of 47 patients (43.1%). In the occupation table, almost half of the patients worked as housewives, 44 respondents (40.4%), for the length of the disease, almost half of the patients suffered from hypertension> 10 years with a total of 42 patients (38.5%) with an average of 9.89 years, for complications, more than half of the patients experienced complications with a total of 73 patients (67.0%). In the blood pressure table, more than half of the patients had blood pressure ≥160 mmHg, 62 patients (56.9%).

Table 3.2 Frequency Distribution of Patients Based on Duration of Hypertension Patients at Lamongan Health Center.

Duration of Illness	Frequency (n)	%
Short ≤5 Years	28	25.7
Medium 6-10 Years	39	35.8
Length >10 Years	42	38.5
Total	109	100.0

Based on table 3.2, it can be explained that hypertension sufferers almost partly suffer from hypertension with a long duration of > 10 years, 42 people (38.5%).

Table 3.3 Frequency Distribution of Patients Based on Self-Care Management Hypertension Patients at Lamongan Health Center.

Management Self care	Frequency (n)	%
Less (40-80)	46	42.2
Fair (81-120)	37	33.9
Good (121-160)	26	23.9
Total	109	100.0

Based on table 3.3, it can be explained that almost half of hypertensive patients have poor self-care management, 46 people (42.2).

Table 3.4 Distribution of Self-Care Management Indicators in Hypertension Patients at Lamongan Health Center.

Indicator Management Self care	Average score	Min-Max
Self Integrity	59.68	25-96.15
Self Regulation	49.13	25-100
Interaction with Health Workers	51.12	25-100
Monitoring Blood pressure	58.02	25-100
Obedience to Rule	77.06	25-100

Based on table 3.4, it can be explained that the highest indicator is compliance with a score of 77.06% and the lowest indicator is self-regulation with a score of 49.13%.

Table 3.5 Cross Table of Relationship between Disease Duration and Self-Care Management in Hypertension Patients at Lamongan Health Center.

Long duration of hypertension	Management Hypertension Self- Care						Total	
	Less		Fair		Good			
	N	%	N	%	N	%	N	%
Short ≤5 Years	27	96.4	1	3.6	0	0.0	28	100.0
Medium 6-10 Years	16	41.0	21	53.8	2	5.1	39	100.0
Lenght >10 years	3	7.1	15	35.7	24	57.1	42	100.0
Total	46	42,2	37	33,9	26	23,9	109	100,0
Uji *Pearson* p: 0,000 rs= 0,801								

Based on table 3.5, it was found that hypertensive patients with a short length of disease ≤5 years had poor self-care management with a total of 27 (96.4%). Respondents with a long disease duration of > 10 years have good self-care management with a total of 24 respondents (57.1%). Based on the results of the Pearson test and analyzed using the SPSS 26.0 program, the results show that the p value = 0.000 (r) = 0.801, so H0 is rejected, meaning that there is a relationship between length of illness and self-care management in hypertensive patients at the Lamongan Health Center with a very strong level of relationship with a positive correlation direction.

DISCUSSION

This study shows that of the 109 patients with hypertension at the Lamongan Health Center, almost partly suffer from hypertension with a long duration more than 10 years and have lived with this disease for an average of 9.89 years. A person over 60 years of age, 50-60% have blood pressure greater than or equal to 140/90 mmHg. This is the effect of cell degeneration that occurs in people who are getting older (Rizal, *et al.*, 2019). Duration of hypertension is the time from a person diagnosed with hypertension. The cause of long suffering from hypertension is of course how quickly a person develops hypertension. The more factors that cause hypertension in a person, it is possible to get hypertension faster (Gama et al., 2015 in Simon & Alfiah, 2022).

Some people with hypertension who have suffered longer or >10 years can manage self-care management better than new patients because they have experienced the risk factors of hypertension They know the signs and symptoms and have used anti-hypertensive drugs (Isnaini & Lestari, 2018). Research conducted by Tursina et al (2022), the longer a person has experience with a disease in this case hypertension, the more he understands the important points of disease management.

From some of the above studies it can be concluded that the duration of the disease is one of the factors that affect a person's self-care management. The longer a person suffers from hypertension, the better they will do self-care management. This is because a person is accustomed to doing good disease control and also the longer they suffer, the more knowledge they will gain. After the person has experienced applying what is done in his daily life and he feels the benefits, he finally does something positive on his self-care management that does support health. Because of this, the person chooses to perform self-care management on their illness.

The results of the study explained that of the 109 hypertensive patients at the Lamongan Health Center, almost half of the self-care management was in the deficient category with 46 respondents (42.2%). Research conducted by Khoirunissa *et al* (2023),

at the Ragunan Village Health Center hypertension self-care compliance more than half of the respondents were non-compliant as many as 51 respondents (54.3%). The same research was also conducted by Ayuningjati & Rosyid (2024), finding that more than half of hypertensive patients at the Pajang Surakarta Health Center had poor self-care management as many as 98 (65.3%). From some of the above studies, it can be found that the lack of self-care management is due to a lack of willingness to carry out activities to manage the disease.

Self-care-management according to Mahfud et al., (2019), is a person's ability to carry out self-care activities to maintain life, improve, and maintain one's health and well-being. The purpose of self-care-management is to make individuals more effectively and efficiently manage health status in the long term, especially for individuals suffering from chronic diseases such as hypertension (Simanullang, 2019). According to Rozani (2020), factors that influence self-care management in people with hypertension include: Age, gender, education, knowledge, self-efficacy, lenght of illness, marital status, family support, social support, employment status and economic status.

According to Simanullang (2019), self-care management in this study consists of 5 indicators including: Self-integrity, self-regulation, interaction with other health workers, blood pressure monitoring, and compliance with recommended rules. The highest indicator in this study is compliance with the rules with an average score of 77.06% with the highest question point being taking anti-hypertensive drugs according to dosage, more than half of the patients (67.9%) are regular in taking medication. This is supported by research conducted by Hidayat, I. R. A., & Hastuti (2016), getting the highest score of 79.5% on the component of compliance with recommended rules. The lowest indicator in this study was self-regulation with an average of 49.13% and the lowest question point was controlling the signs and symptoms of blood pressure more than half of the respondents (56.0%) did not control the signs and symptoms.

Self-care management is very influential on hypertension, so as not to cause serious complications, hypertension must be controlled in various ways such as carrying out correct treatment management and implementing healthy living behaviors (Rani & Ananto, 2018). Patients with hypertension who have good self-care management can be caused by a high awareness in managing their hypertension.

Based on the results of the study, there is a significant relationship between length of illness and hypertension self-care management with a very strong relationship strength with a positive correlation direction. The longer a person suffers from the disease, the better the self-care management will be and vice versa. From the results of the study it can be seen that respondents who suffer from hypertension >10 years have good self-care management and respondents who suffer from hypertension ≤5 have poor self-care management. According to research conducted by Isnaini & Lestari (2018), a positive relationship was found between years of hypertension and self-care. They stated that people with a longer time with hypertension may have more learning opportunities. A positive relationship was found between years of hypertension and self-care. They stated that people with a longer time affected by hypertension may have more learning opportunities.

Based on the above research, it proves that one of the factors that influence self-care management is the length of illness. If someone has been diagnosed with hypertension for longer, they will have a lot of experience and knowledge so that they can

carry out self-care management more optimally. They will know the signs and symptoms and how to control themselves and use antihypertensive drugs correctly and accordingly. Because with a longer duration of hypertension, patients get used to the things they have done such as doing activities, limiting salt, taking antihypertensive drugs, avoiding cigarettes and alcohol, and diligently checking themselves to health services.

CONCLUSION

Patients with hypertension at the Lamongan Health Center almost partly have a length of disease (>10 years). Hypertensive patients at the Lamongan Health Center almost partly have self-care management in the poor category. There is a significant relationship between length of illness and self-care management in patients with hypertension at the Lamongan Health Center with a very strong correlation with a positive correlation direction. It is hoped that the Puskesmas can intensify education about self-care management in patients with hypertension at the Lamongan Health Center. As well as optimizing the PROLANIS program to educate patients to carry out good self-care management.

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Research Article

The Implementation of Occupational Safety and Health at Nashrul Ummah Islamic Hospital of Lamongan

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ABSTRACT

Occupational safety and health is a gradual and continuous process to prevent accidents and occupational diseases in the hospital environment as a whole. One of the problems is the decline in hand washing compliance and the use of personal protective eqiupment (PPE), increasing the risk of transmission. The purpose of this study is to analyze the implementation of occupational safety and health risk management in the inpatient unit based on the Minister of Health Regulation No. 66 of 2016. This study used a qualitative method with observation, interviews and documentation as data collection methods. The population were all officers involved in occupational safety and health management. The informants in this study there are fourth were the supervisory committee, the person in charge of occupational safety and health, the head of the general hospitalization, and the executive nurses. The results of the study revealed that the risk management process at Nashrul Ummah Islamic Hospital was in accordance with the Minister of Health Regulation No. 66 of 2016, including preparation and context determination, identification of potential hazards, risk analysis, risk evaluation, risk control, communication and consultation, monitoring, and review. However, potential hazards are still identified, such as patient falls, slips, infections, mental stress, needlesticks, and electric shock. Nasrul Ummah Islamic Hospital has demonstrated a solid commitment to managing occupational safety and health risks. It continues to periodically identify potential hazards to ensure all hazards are identified and addressed appropriately.

Keywords: Risk Management, Occupational Health and Safety, Hospital

INTRODUCTION

Hospital Safety and Safety Risk Management is a gradual and continuous process to prevent accidents and occupational diseases comprehensively in the hospital environment (Permenkes 2016). Based on an initial survey conducted by researchers at Nashrul Ummah Islamic Hospital, it is obtained that in 2022 there was a decrease in hand hygiene compliance rates from January to March 2022, meanwhile, the use of personal protective equipment (PPE) has increased every month, which was in accordance with the target achievement of 90%. However, the Nashrul Ummah Islamic Hospital has also not been able to achieve the national standard target of 100% based on Permenkes No.30 of 2022. In 2023, there was inconsistency in hand hygiene compliance rates; the hand

hygiene compliance rate decreased in January and was always above the 90% target achievement in accordance with the achievements of Nashrul Ummah Lamongan Hospital. In February - June 2023, compliance with the use of PPE was lowest in January and increased until March but decreased again. A decrease in handwashing compliance and the use of personal protective equipment can increase the risk of infection and disease at the individual level, such as the risk of developing infectious or contagious diseases that can affect individual productivity and well-being.

Regarding this issue, hospital occupational safety and health management system is required to prevent the risk of infection and contracting diseases, reduce the occurrence of work accidents, and create an effective management system to increase patient trust and satisfaction. Nashrul Ummah Islamic Hospital is planning to configure the hospital occupational safety and health management system issue. Nashrul Ummah Islamic Hospital also strives for how hospital occupational safety and health exists, in which related to employee occupational health, work environment, external environment, calibration, Infection Control Risk Assessment (ICRA) and Pre-Construction Risk Assessment (PCRA).

Based on the description above, the researchers conducted research which is in accordance with the research objective, namely to determine the implementation of Minister of Health Regulation no. 66 of 2016 concerning Implementation of Occupational Safety and Health Management in the Inpatient Unit of the Islamic Nashrul Ummah Hospital.

METHOD

This research employed a descriptive qualitative approach. The study population comprised all personnel involved in the management of occupational safety and health at the Nashrul Ummah Lamongan Islamic Hospital's inpatient department. There were four informants there included members of the Occupational Safety and Health Advisory Committee, the person in charge of occupational safety and health, the head of general hospitalization, and the executive nurse.

The variables investigated in this study encompassed various aspects of hospital occupational safety and health management, including preparation and context determination, identification of potential hazards, risk analysis, risk evaluation, risk control, communication and consultation, and monitoring and review. Data collection methods included observation, interviews, and documentation.

RESULT

1. Preparation and Determination of the Hospital Occupational Safety and Health Context in the Inpatient Unit at Nashrul Ummah Islamic Hospital

Based on the results of the interview, it was explained that the roles and responsibilities of occupational safety and health depended on the type of service. The Chairperson of the occupational safety and health advisory committee was the Hospital Director, who was responsible for regulating and ensuring the implementation of the hospital occupational safety and health guidelines, as well as determining job descriptions in accordance with the hospital's organizational structure. To determine the scope of occupational safety and health risk management was based on the type of service provided to identify associated risks.

In determining all activities, processes, functions, projects, products, services, and assets in the workplace, various sources of information and methods were used, such as

quality reports, safety reports, and reporting systems. Steps were outlined to identify risks in various work environments, including understanding and identifying critical units, determining the purpose and location of risks, collecting data, and assessing risks. In determining the method and time of implementation, risk management evaluation was carried out monthly, calibration of medical devices was conducted once a year, and evaluation was performed monthly.

2. Identification of Potential Hazards of the Hospital Occupational Safety and Health in Inpatient Unit at Nashrul Ummah Islamic Hospital

Based on the data obtained, it was explained that during the observation period, an incident could potentially cause psychosocial risk such as the mental stress of nurses due to moving units. To prevent and reduce this risk, rubber was installed in a sloping place to reduce the risk of slipping. When a near miss or adverse event occurred, the patient safety team reported it and analyzed it to determine the next course of action. If the incident did not cause death and had a low-risk level, the report was forwarded to the hospital facilities management.

Steps to prevent included washing hands first, then wearing a mask as personal safety. Actions taken by the hospital included addressing the person affected by the infection, then implementing hand washing compliance, use of PPE, and sterilizing the equipment. When these risks occurred, adaptation time was provided for individuals who experienced mental stress due to changes in work situations, such as workplace transfers. Actions to prevent and reduce the risk included reporting the incident to the hospital authorities.

3. Risk Factors of Hospital Occupational Safety and Health in the Inpatient Unit at Nashrul Ummah Islamic Hospital

The analysis of hospital occupational safety and health risk factors for the inpatient unit at Nashrul Ummah Islamic Hospital involved analyzing recorded data, such as the use of medical gas and water. Risk management was carried out by imposing restrictions on the use of medical gas, such as setting a level 10 limit on the central gas cylinder to prevent running out of gas and implementing Standard Operating Procedures. Risk analysis considered various factors, such as probability and frequency of occurrence.

SFP was used to determine the level of risk. Risks were grouped into categories based on colors, such as blue, green, yellow, orange, and red, which represented priority levels. The main focus was on high-severity risks, particularly in terms of the use of PPE for workers. Each unit had its own SFP standards; for example, in radiology, high radiation exposure values were the main focus. Priority actions included checking and improving the proper use of PPE, setting up rooms that complied with safety standards, and ensuring that the working environment complied with applicable regulations.

4. Risk Evaluation of Hospital Occupational Safety and Health in the Inpatient Unit at Nashrul Ummah Islamic Hospital

Risk evaluation at Nashrul Ummah Islamic Hospital used quality standards, where compliance with the use of PPE was supervised mainly once a month, especially in the third week, with the occupational health and safety unit, environmental health unit, infection prevention and control unit, and patient safety management system internal supervision unit. Risk control was carried out using standard operating procedures as a preventive measure that had to be followed. The results of a risk evaluation could also

lead to a decision to conduct further analysis to better understand the risk or even reconsider the objectives. Thus, risks that had a high impact and frequency received greater priority for handling.

5. Risk Control of Hospital Occupational Safety and Health in the Inpatient Unit at Nashrul Ummah Islamic Hospital

The results of this study explained the hospital occupational safety and health risk control of the inpatient unit at Nashrul Ummah Islamic Hospital. Damaged medical devices, if not replaced, risked harming the hospital, so these items needed to be eliminated. Regular maintenance of these tools was conducted to ensure they remained in workable condition. This often involved working with vendors or parties who understood the technicalities of the equipment. Risk management consisted of risk control and risk financing.

6. Communication and Consultation of Hospital Occupational Safety and Health in the Inpatient Unit at Nashrul Ummah Islamic Hospital

The results of this study explained that for communication with internal contributors, problems found during supervision or roving activities were discussed and then reported in a meeting with the general department. Additionally, a large forum with the committee was held every two months. This indicated that there was structured and regular communication between the OHS team and related parties in the organization.

Communication with external contributors was conducted through reports submitted directly to the Manpower Office, which included activities, chemicals used, and risky materials. Regular meetings with external contributors occurred infrequently, depending on specific events, and there were specialized forums. Communication with external contributors mainly occurred incidentally when specific cases, such as hygiene issues related to third-party vendors, arose. Additionally, specialized forums were held in meetings with the general department. This process ran internally within the organization, section, or unit, and externally aimed at external stakeholders.

7. Monitoring and Review of Hospital Occupational Safety and Health in the Inpatient Unit at Nashrul Ummah Islamic Hospital

The monitoring process was carried out once a month, especially in the third week. Based on the results of the documentation of integrated risk management guidelines, it was explained that monitoring was a routine monitoring of the actual performance of the risk management process compared to the plan that would be produced. The implementation of monitoring was carried out with two approaches: continuous monitoring by work implementers and separate monitoring by the Government's Internal Supervisory Apparatus. This evaluation also included an assessment of the available budget and infrastructure.

This evaluation was conducted to assess the effectiveness of the controls that had been implemented and to determine the necessary follow-up actions. The results of the evaluation were conveyed through reports to management, particularly to the director. Follow-up steps were then taken based on the evaluation report. Evaluations were not conducted regularly or systematically but depended on incoming reports and the level of risk arising from actual situations in the field. However, evaluations were conducted at least once every six months. The evaluation was carried out with two approaches: continuous monitoring by the work implementer and separate monitoring by the

Government's Internal Supervisory Apparatus.

DISCUSSION

1. Preparation/Determination of Hospital Occupational Safety and Health Context in the Inpatient Unit at Nashrul Ummah Islamic Hospital

In Permenkes No. 66 of 2016 concerning Hospital Occupational Safety and Health, preparation is carried out by determining the context of parameters (both internal and external parameters) that will be taken in risk management activities. It can be stated that the implementation of hospital occupational safety and health at Nashrul Ummah Islamic Hospital including the preparation and determination was in accordance with Permenkes No. 66 of 2016.

The determination and responsibility for implementing activities have been carried out with a clear and organized structure. Risk management has been done well, such as risk classification, identification by type of service, and comprehensive scope. Regarding the determination of all activities, processes, functions, projects, products, services and assets in the workplace, Nashrul Ummah Islamic Hospital used various sources of information and methods, such as quality reports, safety reports and reporting systems to determine all activities, processes, functions, projects, products, services and assets in the workplace. Next, a structured risk mapping was conducted and described one by one. Furthermore, regarding the method and timing of the implementation of risk management evaluation, it was carried out every month, calibration of medical devices was carried out every year, and evaluation was also carried out every month. This is in line with the results of research by Djatnika et al. (2019), it was found that the appointment of the person in charge of risk management in the work unit is a form of extension of the hospital's Risk Management's person in charge to carry out risk management activities in the minor units within the hospital. The Head of the Pharmacy Installation is the risk holder in his installation. The Head of the Pharmacy Installation coordinates with three coordinators, namely the Outpatient Coordinator, the Inpatient Coordinator and the Logistics Coordinator in carrying out his duties.

Maghfira et al. (2019) also explained that in determining activities, RSUD Tugurejo Semarang utilized internal reports such as quality indicator reports, health records, and Patient Safety Incident reports and also paid attention to input coming from stakeholders in the Pharmaceutical Installation such as doctors, patients and hospital leaders. Similar research was also conducted by Maringka et al. (2019); the hospital had carried out supervision, namely by inspecting infrastructure facilities, which was carried out every month. For the maintenance of medical devices by calibrating equipment, which was carried out every 1 (one) year. The implementation of work safety evaluations that had been carried out by the hospital, namely providing PPE in the form of gloves, masks, fire extinguishers completed with SOPs for use, evacuation routes and gathering points for emergencies.

Based on the decision of the Director of Nashrul Ummah Islamic Hospital Number: 3834-1/SK/Dir/V/2022, it could be explained that the job descriptions and responsibilities are Hospital Owner, Director, Deputy Director of Medical Services, Deputy Director of Support Services, Deputy Director of Finance, Deputy Director of General Affairs, Head of Medical and Support Services, Head of Nursing, Head of Human Resources, Head of Secretariat, Installation, Quality, Safety and Risk Management Committee, Occupational Health and Safety Team, Internal Supervisory Unit, Infection Prevention and Control Committee and All staff members who have personal

responsibility in terms of implementation.

The scope of hospital risk management includes patients and families, visitors, medical staff, other health personnel working in the hospital, hospital facilities and environment, and hospital business. The steps taken to identify risks in various work environments include understanding and identifying critical units, determining risk objectives and locations, collecting data, and assessing risks.

2. Identification of Potential Hazards of Hospital Occupational Safety and Health in the Inpatient Unit at Nashrul Ummah Islamic Hospital

According to Permenkes No. 66/2016, the identification of potential hazards is the first step in health risk management in the workplace. At this stage, potential health hazards that could be exposed to workers, patients, caregivers, and visitors were identified. These hazards included physical, chemical, biological, ergonomic, psychosocial, mechanical, electrical, and waste hazards. Observations were needed of the process and nodes of production activities, raw materials used, materials or goods produced, including by-products of the production process, and waste formed in the production process to find these risk factors.

As a result of this stage, potential health hazards to which workers, patients, caregivers, and visitors could be exposed were identified. To find these risk factors, observation of the process and nodes of production activities, raw materials used, materials or goods produced, including by-products of the production process, and waste formed in the production process was required. There had been incidents of patients falling, slipping, or tripping on invisible barriers at Nashrul Ummah Islamic Hospital. To prevent and reduce these risks, rubber was installed in sloping places to reduce the risk of slipping.

This is in line with the results of research conducted by Huda Firmansyah et al. (2022) at the Surabaya Islamic Hospital A. Yani, which found risks ranging from falling, tripping, slipping, electric shock, breaking into security systems, and noise risks. From the description above, it could be concluded that Nashrul Ummah Islamic Hospital had shown a solid commitment to identifying and controlling potential hazards in the workplace and was in accordance with Permenkes No. 66 of 2016. The efforts that had been made could minimize OHS risks for workers, patients, caregivers, and visitors. Additionally, Nashrul Ummah Islamic Hospital needed to continue periodically identifying potential hazards to ensure that all hazards were identified and addressed appropriately.

3. Risk Analysis of Hospital Occupational Safety and Health in the Inpatient Unit at Nashrul Ummah Islamic Hospital

According to Permenkes No. 66 of 2016, risk is the probability or possibility of a potential hazard becoming real, determined by the frequency and duration of exposure, work activities, and efforts to prevent and control exposure levels. Risk analysis aims to evaluate the magnitude of health risks to workers. The initial study is intended to provide an overview of all existing risks, followed by arranging these risks in order of priority. Significant risks that can cause harm are given priority.

Risk analysis is carried out by considering the probability and frequency of incidents. Risk prevention is implemented by applying safety standards, such as using fire extinguishers and forming special hospital disaster prevention teams. In arranging the risk order at Nashrul Ummah Islamic Hospital, a grading system based on Severity, Frequency, and Probability (SFP) was used. This method determined the level of risk, categorized by color codes like blue, green, yellow, orange, and red, representing different

priority levels. The main focus in arranging the risk order at Nashrul Ummah Islamic Hospital was on the safety of patients and workers, prioritizing risks based on the SFP values. Each unit has different SFP standards, reflecting their primary focus on specific risks. For example, high radiation exposure risk was the top priority in the radiology department.

Based on the Director's decision at Nashrul Ummah Islamic Hospital Number: 3834-1/SK/Dir/V/2022, the risk identification data and the evaluation of the adequacy of the existing internal control system are explained. The level of probability of clinical and non-clinical risks and the impact magnitude, if the risk occurs, are assessed. The risk score is calculated using the formula probability x impact. This helps determine the risk level, which can be categorized into very low, low, medium, high, or very high risks. These results are then entered into the risk analysis form to prioritize the risks, resulting in a risk map. This aligns with research by Maghfira et al. (2019), where risk analysis at Tugurejo Hospital of Semarang used risk grading matrix tools to score the risk's impact and probability, determining the risk's severity. The analysis considered last year's reports, such as the Patient Safety Incident eports.

Nashrul Ummah Islamic Hospital is committed to implementing Permenkes No. 66 of 2016 concerning hospital occupational safety and health risk management. Prioritizing risks based on SFP, using risk maps, and utilizing incident report data are appropriate steps to ensure patient and worker safety in the hospital.

4. Risk Evaluation of Hospital Occupational Safety and Health in the Inpatient Unit at Nashrul Ummah Islamic Hospital

According to Permenkes No. 66 of 2016, risk evaluation involves comparing the risk levels calculated during the risk analysis stage with the standard criteria. The previous risk levels are compared with the established standards in this stage. Additionally, the effectiveness of the control methods applied to eliminate or minimize risks is reassessed to determine if they work as expected. This task also involves decision-making on implementing risk management methods to achieve an acceptable risk level. The program includes routine monitoring, informal work behavior, health assessments, workplace inspections, and personal safety actions.

In line with Permenkes No. 66 of 2016, the risk evaluation program at Nashrul Ummah Islamic Hospital included several vital activities such as monthly rounds and observations, annual health check-ups, and work environment measurements. The risk evaluation results in the risk management program at the hospital encompass three main programs: zero accident reporting, HIV/AIDS reporting, and Quality Standards. Nashrul Ummah has implemented a comprehensive and structured risk assessment program by the Ministry of Health Regulation Number 66 of 2016.

Based on the Director's decision at Nashrul Ummah Islamic Hospital Lamongan Number: 3834-1/SK/Dir/V/2022, the risk evaluation process involves comparing risk levels with established criteria. The evaluation resulted in prioritizing risks and listing the risks to be addressed, considering the risk scores calculated using the formula: (Frequency x Impact) x controllability score (C).

According to Maghfira et al. (2019), risk evaluation is conducted to prioritize the risks that will be treated. The selection of risks is based on the results of the analysis from the previous stage. Risks with the highest severity levels and controllable will be included in the quality indicators of the installation and reported and monitored monthly. In contrast, other risks considered tolerable will be reviewed at the end of the year after

treatment for evaluation by management. For example, risks with low and medium severity levels are not included in those monitored and reported routinely due to resource limitations.

5. Risk Control of Hospital Occupational Safety and Health in the Inpatient Unit at Nashrul Ummah Islamic Hospital

The principle of risk control, according to Permenkes No. 66 of 2016, includes five hierarchies: Elimination, Substitution, Engineering Controls, Administrative Controls, and Personal Protective Equipment (PPE), summarized as follows:

Steps to eliminate hazards at Nashrul Ummah Islamic Hospital included supervision, checking for stuffy rooms, eliminating hazards through Standard Operating Procedures and replacing damaged medical equipment. Substitution at Nashrul Ummah Islamic Hospital involved replacing risky resources with new ones and utilizing advanced technology to improve service quality and efficiency for staff and patients. Engineering controls at Nashrul Ummah Islamic Hospital included maximizing ventilation and windows in available areas, ensuring the use of safe and efficient equipment, and performing routine maintenance to keep equipment in good working condition. Administrative controls involved the use of signage, reporting, SOP creation, policy making, and investigations. At Nashrul Ummah Islamic Hospital, the use of PPE was crucial for maintaining workplace safety and health. Initially, only gloves were used, but then masks were added according to increased specific risks.

This aligns with the research by Maringka et al. (2019), where hospitals conducted monthly facility checks and annual calibration of medical equipment. Safety equipment training and supervision by the hospital provided PPE such as gloves, masks, complete fire extinguishers with SOP usage, evacuation routes, and assembly points for emergencies.

Nashrul Ummah Islamic Hospital has shown a solid commitment to managing occupational safety and health risks through repeated risk-handling processes and appropriate risk control hierarchies in accordance with Permenkes No. 66 of 2026. These efforts minimize risks and ensure the safety of patients, workers, and visitors at the hospital.

6. Communication and Consultation of Hospital Occupational Health and Safety in the Inpatient Unit at Nashrul Ummah Islamic Hospital

According to Permenkes No. 66 of 2016, communication and consultation are important considerations at every step and stage of the risk management process. Communication and consultation involve two-way dialogue among parties involved in risk management, focusing on activity development. Effective internal and external communication is essential for decision-making assurance.

The implementation of Permenkes No. 66 of 2016 at Nashrul Ummah Islamic Hospital involved internal communication through regular meetings specifically for the occupational safety and health unit, where issues encountered during supervision or rounds are discussed. The occupational safety and health unit also had a monthly discussion table in the second week involving the entire team. Additionally, they held large forums with the occupational health and safety committee every third months. external communication with contributors involved quarterly reports submitted directly to the Department of Labor, covering activities, chemicals used, and risky materials.

This aligns with the research by Maghfira (2019), where internal communication in

the overall risk management process involved formal monthly meetings between the Head of the Pharmacy Installation and the three coordinators. Risk management consultations were conducted during year-end evaluation meetings. External communication between the Pharmacy Installation and hospital risk management officials involved evaluation meetings and routine reports.

Based on the Director's decision at Nashrul Ummah Islamic Hospital Number: 3834-1/SK/Dir/V/2022, risk communication is generally understood as an interactive process of exchanging information and opinions involving multiple messages about risks and their management. This process occured internally within the organization, department, or unit and externally with stakeholders. Forms of communication and consultation included regular meetings, incidental meetings, seminars/socialization/workshops, and risk management forums. The regular meetings and forums at Nashrul Ummah Islamic Hospital demonstrated the hospital's commitment to enhancing occupational health and safety. These activities helped identify potential hazards, planned preventive and controled actions, and rose awareness throughout the organization.

Nashrul Ummah Islamic Hospital efforts to enhance occupational health and safety should be consistently maintained. Besides the forms mentioned above, communication and consultation could be conducted through electronic media. The implementation of communication and consultation was the responsibility of the Risk Owner. Effective risk communication is a critical factor in successful occupational health and safety management in hospitals. Nashrul Ummah Islamic Hospital has shown commitment to effective risk communication with various parties, both internal and external, in accordance with Permenkes No. 66 of 20616. Nashrul Ummah Islamic Hospital's efforts to improve risk communication were commendable and can serve as an example for other hospitals.

7. Monitoring and Review of Hospital Occupational Health and Safety in the Inpatient Unit at Nashrul Ummah Islamic Hospital

According to Permenkes No. 66 of 2016, monitoring during risk control is necessary to identify potential changes. These changes need to be reviewed and subsequently improved. Essentially, monitoring and review are essential to ensure the optimal implementation of the entire risk management process.

The implementation of Permenkes No. 66 of 2016 at Nashrul Ummah Islamic Hospital involved a particular team or committee responsible for managing and supervising the entire risk management process, consisting of various parties such as occupational health and safety, environmental health, health facilities management, and infection prevention and control. Monitoring was conducted monthly, particularly in the third week. During the monitoring process, they supervised the entire hospital to ensure risk aspects are well monitored. Periodic reviews were conducted on available human resources, budgets, and infrastructure. Reviews were performed on cases and investigations, with results reported. Monitoring risk management at Nashrul Ummah Islamic Hospital complies with Permenkes No. 66 of 2016. Therefore, Nashrul Ummah Islamic Hospital needs to continuously improve its occupational safety and health risk management program to ensure the program's effectiveness and sustainability.

This aligns with the research by Maghfira Djatnika et al. (2019), where monitoring at Tugurejo Hospital of Semarang provided learning processes and input for the continuity of risk management, as well as identifying new risks to be included in the following risk list. The Head of Installation conducted monitoring through meetings and

field observations and an annual review of listed risks was performed at the beginning of the year.

Based on the Director's decision at Nashrul Ummah Islamic Hospital Number: 3834-1/SK/Dir/V/2022, monitoring and review are carried out using two approaches: ongoing monitoring by job executors and separate monitoring by the Government Internal Supervisory Apparatus (APIP). Evaluations are conducted at least every six months.

From the description above, the periodic review of human resources, budgets, and infrastructure in risk management at Nashrul Ummah Islamic Hospital complied with Permenkes No. 66 of 2016. Therefore, Nashrul Ummah Islamic Hospital needs to continue evaluating and improving the review program in risk management to ensure the program's effectiveness and sustainability.

CONCLUSION

Based on research and discussion and objectives regarding the Implementation of Permenkes No.66 of 2016 concerning the Implementation of Occupational Safety and Health Management in the Inpatient Unit of Nashrul Ummah Islamic Hospital, it can be concluded that the risk management process at Nashrul Ummah Islamic Hospital was in accordance with the Minister of Health Regulation No. 66 of 2016 which included preparation and determination of context, identification of potential hazards, risk analysis, risk evaluation, risk control, communication and consultation, monitoring and review.

Hopefully, the results of this study will become a reference and also a comparison, especially in further research on occupational safety and health risk management. For hospitals, it should be taken into consideration that the research institution recruits employees who are experts in the field of occupational safety and health.

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Research Article

Formulation and Stability Test Foot Spray Extract Kelor Leaf (*Moringa oleifera* L.)

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ABSTRACT
Background: Foot odor is a problem that causes many people to lack self-confidence. One ingredient to treat foot odor is Kelor (moringa oleifera) which has antibacterial activity. Moringa leaf are formulated into a foot spray to produce an innovative foot odor remover that is healthy, practical and effective. The aim of this research was to determine the effect of varying concentrations of Moringa leaf extract on control formula (0%), formula 1 (2%), formula 2 (4%), formula 3 (8%). Methods: This research used an experimental method, where Moringa leaf extract was screened Thin Layer Chromatography (TLC). Results: TLC verified the presence of flavonoids by identifying the compound quercetin, the resulting RF value was 0.94, proves that Moringa leaf extract contains the compound quercetin as an antibacterial. in the control formula the preparation is clear in color and has a strong menthol aroma. The more concentration of Moringa leaf extract added, the stronger the yellow color and the less menthol aroma. The Ph test value, spray spreadability and specific gravity are within the specified range. There is no difference in formula in the organoleptic test in the stability test, there are differences in pH value and specific gravity but it is still very stable. Conclusion: Variations in the concentration of Moringa leaf extract affect the organoleptic properties and physical stability, pH and specific gravity, but do not affect the spray spreadability.

Keywords
Foot spray, Moringa leaf extract, Physical stability

INTRODUCTION

Foot odor is a problem that really disturbs your appearance, causing many people to lose self-confidence. Feet that are often closed and exposed to high temperatures can trigger foot odor. Foot odor can occur due to excessive secretion of apocrine sweat glands. Apocrine glands are sweat glands found in the human body, one of which is in the feet. Excess sweat glands can cause smelly feet because the skin becomes wet and can mix with bacteria. One of the bacteria that causes smelly feet is

Staphylococcus epidermidis (Risnayanti & Dalimunthe, 2022).

Research data conducted by Vernanda et al., (2023) stated that Staphylococcus epidermidis plays an 86.5% role in causing foot odor. There is no geographic predilection, although summer or hot climates can exacerbate the disease. Poor personal hygiene can also be a trigger for smelly feet (Setiawan & Suling, 2018).

Efforts to prevent foot odor from occurring are usually done by washing your feet using anti-bacterial soap or by applying loose powder. However, this method is less effective, so there is a need for innovation in cleaning that is healthy, more practical and effective. Foot spray is one solution. Foot spray is a liquid that eliminates unpleasant odors on the soles of the feet with alcohol as the basic ingredient which is used to kill microorganisms without a water rinsing process. The active ingredient contains alcohol as an antibacterial because it has the highest effectiveness against bacteria. Excessive use of alcohol and chemicals can cause health effects and irritate the skin (Sirait, 2021). Therefore, its use needs to be reduced by adding active ingredients from natural ingredients that can act as antibacterials, such as the Moringa oliefera plant.

Moringa oliefera leaf extract has antibacterial activity because Moringa oliefera leaves contain alkaloids, saponins, tannins and flavonoids. (Najihudin et al., 2023). Research conducted by Ervianingsih et al., (2019), measuring the average diameter of the inhibitory zone of Moringa oleifera leaf extract on the growth of Staphylococcus epidermidis bacteria at a concentration of 2% - 8% has been proven to inhibit bacteria by 9.3 mm-14. mm with the control sample, namely clindamycin, which has an inhibition zone of 30.11 mm.

Based on the literature study that has been carried out, the researcher wants to develop and formulate a cosmetic preparation of Moringa oliefera leaves as an active substance in a foot spray preparation.

METHOD

This type of research is experimental, research data is presented descriptively to see the effect of differences in concentrations of Moringa oleifera leaf extract on the physical characteristics and stability of foot spray preparations. The sample used in this research was Moringa oleifera leaves purchased from PT. Palapa Muda Perkasa taken from Bogor Gardens. The independent variable in this study was Moringa oleifera leaf extract with concentrations of 0%, 2%, 4% and 8%. The dependent variable in this research is the identification of the quercetin compound and the physical characteristics of the antibacterial foot spray of Moringa oleifera leaves including organoleptics, pH, spray spreadability, specific gravity and stability in real time.

Tools and Materials

The tools utilized were analytical balance (Shimadzu ATX224), rotary evaporator (RV 10 Digital -10), pH meter (iutron pH-201), oven (menmert model: 30-1060), silica gel plate GF254, pycnometer, hot plate. The ingredients were Moringa leaf extract, 96% alcohol (Megah Kimia, Indonesia), Glycerin (Fajar Kimia, Indonesia), Tween 80 (Fajar Kimia, Indonesia), Menthol, n-butanol, ethyl acetate, and Aquadest.

Ekstraction

Moringa leaf extract (Moringa oleifera L.) is made using the maceration method. 500 grams of simplicia powder was added with 96% ethanol solvent until all samples were submerged. Stirring was done three times and the solvent was replaced every 24 hours. The results of the maceration are filtered and then concentrated until a thick extract is obtained.

Thin layer chromatography test (TLC)

Identification of secondary metabolites using the TLC test was carried out by spotting standard quercetin and ethanol extract of Moringa leaves on a GF254 silica gel plate. Eluted using the eluent n-butanol: ethyl acetate: water (4: 1: 5). The spots on the plate were observed visually, then the spots were re-observed under UV light at a wavelength of 366 nm. The TLC plate was then sprayed using 5% AlCl3 reagent to observe the color change on the spots. The spots were re-observed visually, as well as under UV light at a wavelength of 366 nm.

The formulation of Moringa oleifera extract Foot Spray

Table 1 The Formulation of Foot Spray with Concentration of Moringa Oleifera

Ingredients	Control (-)	F1 (%)	F2 (%)	F3 (%)
Moringa leaf extract	0	2	4	8
Glycerin	10	10	10	10
Alcohol 96%	5	5	5	5
Mentol	0,5	0,5	0,5	0,5
Tween 80	4,3	4,3	4,3	4,3
Aquades	Ad 100	Ad 100	Ad 100	Ad 100

Moringa leaf extract (Moringa oleifera) is dissolved sufficiently in 96% alcohol. After the Moringa oleifera leaf extract has dissolved, 0.5 g of menthol is added and homogenized until homogeneous. Then, 10 ml of glycerin was added and homogenized until mixed. Next, solubilizing agents were added, namely Tween 80 and distilled water. Observation of the solubility of Moringa oleifera leaf extract in the spray solution was carried out visually (farhamzah, 2020).

Evaluation of Moringa oleifera extract Foot Spray

1. Organoleptic Test

The organoleptic test is carried out by observing the color, texture and aroma of the antibacterial foot spray preparation (Wijayanti, 2022).

2. pH Test

The pH test was carried out using a pH meter which had previously been calibrated using a standard buffer of pH 4.00. pH measurements are carried out by dipping the electrode in the preparation solution. Observe until the pH meter shows a stable number (Ramadhani & Listiyanti, 2021).

3. Spray Spreadability Test

The test method is to spray the preparation on mica plastic at a distance of 10 cm. Next, the spray diameter is measured using a measuring ruler. The parameter used is a spray power diameter of 5-7 cm (Wijayanti, 2022).

4. Specific Gravity Test

The specific gravity test is carried out by weighing a dry and clean pycnometer, the sample is inserted into the pycnometer. The empty pycnometer, containing the sample and containing water, is weighed, the weighing results are recorded and then the specific weight is calculated (Amananti & Riyanta, 2020).

RESULTS

1. Results of the TLC Test

Table 1.Results of the TLC Test for Identification of Quercetin Compounds

Sample	Result	
	Rf	hRf
Pure Quercetin	0,95	95
Moringa leaf extract	0,94	94

2. Organoleptic Test

The results of the physical evaluation of the Moringa leaf extract foot spray preparation can be seen in **Table 3** and **Figure 1**.

Figure 1. Results of organoleptic test

Table 2. Results of Organoleptic, Physical Evaluation

Parameters	F0	F1	F2	F3
Color	Bening	Kuning	Kuning pekat	Kuning pekat
Odor	Mentol (++++)	mentol (+++)	mentol (++)	Mentol (+)
Texture	Liquid	Liquid	Liquid	Liquid

Note:

++++ **:** the very strong smell of mentol

+++ : the moderat smell of mentol

++ : the strong smell of mentol

+ : the poor smell of mentol

3. Physical Evaluation

Table 4. The Results of the Physical Evaluation of pH, Spreadability, and specific gravity

Parameters	F0	F1	F2	F3
pH Test	6.41	5.66	4.79	4.73
Spray Spreadability Test	6.8 cm	5.96 cm	6.81 cm	6.3 cm
Specific Gravity Test	0.9000	0.9137	0.9167	0.9919

4. Real Time Physical Stability Test

Table 5. hasil uji stabilitas fisik real time

Parameters	F0		F1		F2		F3	
	Before	After	Before	After	Before	After	Before	After
pH Test	6.41	6.36	5.67	5.86	4.78	4.83	4.73	4.74
Spray Spreadability Test	6.08 cm	5.82 cm	5.96 cm	6.66 cm	6.81 cm	5.96 cm	6.57 cm	6.47 cm
Specific Gravity Test	0.9000	0.9935	0.9137	1.0171	0.9167	1.0222	0.9919	1.0275

DISCUSSION

Moringa leaf extract was obtained using the meseration method. The reason for using the maceration method is because flavonoids cannot withstand the heating process, therefore cold methods such as maceration are used (Wijaya et al, 2018). The extraction results obtained by the maceration method were calculated using the percent yield parameter. The result of soaking the thick extract of Moringa leaves is 33.5%. Based on the Indonesian Herbal Pharmacopoeia, a good yield has a value of more than 9.2% (Farmakope Herbal Indonesia, 2017). The yield of the thick Moringa leaf extract can be said to be good because it has a value of more than 9.2%. The higher the soaking value indicates that the weight of the extract produced is greater and the compounds bound in the sample are also higher (Wijaya et al., 2022).

Identification of TLC spots under a 366 nm UV lamp causes the plate to fluoresce and the sample will appear dark in color. The fluorescence indicator on the TLC plate interacts with the UV lamp to cause spots to appear under the 366 nm UV lamp. Visible light fluorescence is the emission of light emitted by these components when electrons are excited from a basic energy level to a higher energy level, then return to their original state while releasing energy. (Sopiah et al., 2019). The appearance of 5% AlCl spots is used so that the flavonoid compound content on the TLC plate can be identified by giving it a yellow color. Positive results for the presence of flavonoid compounds according to Wagner and Bladt stated that flavonoids can fluoresce and give yellow, brown, green or blue colors (Mu'awwanah Dan & Ulfah, 2017). The results of observations of quercetin spots and ethanol extract showed almost the same Rf value, namely quercetin was 0.95 and Moringa leaf extract was 0.94. The Rf value is within the standard range for flavonoid compounds, 0.5-0.99, so it can be concluded that the compounds contained in the ethanol extract have characteristics similar to the comparison quercetin. The Rf value data proves that the ethanol extract of Moringa leaves contains the compound quercetin which functions as an antibacterial in foot

spray preparations which is useful for eliminating foot odor. Based on the comparison of Rf with the standard compound, the points obtained on all trajectories are analyzed and the Rf value is compared with the standard. If the Rf value of a pure compound matches the Rf value of any extract, this indicates similar characteristics to the extract. In addition, the Rf value is influenced by several factors such as the depth of the mobile phase, the nature of the TLC plate, and solvent parameters (Sierra-Campos et al., 2020).

In this study, the organoleptic results showed that F0 was clear white, while F1, F2 and F3 were yellow to dark yellow. Apart from its clear and attractive color, its solubility is also quite high and it has a liquid texture. The color of F0 looks clear white and does not produce the typical aroma of Moringa leaves compared to F1, F2 and F3, because F0 does not contain Moringa leaf extract which functions as an active substance. Meanwhile, F1, F2, and F3 have a strong, distinctive aroma of Moringa leaves which is caused by the lipoxidase enzyme content in Moringa leaves (Cahyaningati & Sulistiyati, 2020). The higher the concentration of Moringa leaf extract, the stronger the distinctive aroma of Moringa leaves and the more intense the color. The results of the organolepic stability test on observation days 0, 7, 14, 21 and 28 did not change, both in color, aroma and texture.

Furthermore, evaluating and determining the pH of foot spray of Moringa leaf extract which is sprayed on the feet is expected to be in the range of 4-6.5 because it is a pH of a topical preparation specifically for the feet (Fitzner et al., 2023). Topical preparations with a pH that is too acidic will cause sensitive and red skin, whereas if it is too alkaline it will cause eczema and cracked skin. Therefore, a certain pH is needed to prevent skin damage due to inappropriate pH values. In this regard, the chemical structure and pH of Moringa leaf extract are acidic so that it can lower the pH of the preparation. Moringa leaf extract is acidic because Moringa leaf extract contains flavonoid compounds, where flavonoid compounds are acidic (Rikadyanti et al., 2021). Evaluating the stability of the pH test using the real time method, namely on day 0 to day 28, shows that there is a change in the pH value but it is still relatively stable.

The third test is the spray power test of the foot spray preparation. Spray power testing is carried out with the aim of determining the spray quality when applying the preparation. The wider the spot area produced, the better the foot spray preparation produced (Amelia Tricamila et al., 2024). The larger the diameter of the spray given, the wider the ability of the active substance to spread or come into direct contact with the skin (Afida et al., 2023). Data on the average spray diameter of the preparation is in the range 5.91-6.81. The diameter of the spray is not influenced by the concentration of the thick Moringa leaf extract, but is influenced by the texture of the preparation, the distance and pressure of the spray, and also the spray bottle used. If the texture of the preparation is more liquid, the ability to spread will be wider. It is known that after storage for 28 days, there was no significant difference in spray diameter. This is because the preparation remains stable during the storage period.

The final test is the specific gravity test of the foot spray preparation. The specific gravity of the extract is related to the components of the compounds contained (Andi et al., 2023). The higher the mass fraction contained, the greater the specific

gravity, because the mass fraction contains long chain molecules with many unsaturated bonds or many oxygen groups due to oxidation reactions. Based on the specific gravity values obtained, it can be concluded that FO, F1, F2, and F3 meet the specific gravity test requirements because a good foot spray preparation approaches the specific gravity of water, namely 1.00 (Ansel, 1989). There is a difference in specific gravity because Moringa leaf extract has easily soluble particles so that F1 has a smaller specific gravity, namely 1.0171 and F3 has a larger specific gravity, namely 1.0275. The difference in specific gravity of each preparation is influenced by the composition of the formula. Factors that can influence specific gravity are temperature, volume of substance, data collection process, and viscosity of the substance (Irwani et al., 2023).

CONCLUSION

It was concluded that Moringa leaf extract using 96% ethanol solvent through the maceration method contains flavonoid compounds which function as antibacterials and can be used as a foot spray formulation. The results of the characteristic evaluation showed that the organoleptic test, pH test, specific gravity test were influenced by the addition of the concentration of thick Moringa leaf extract. There was no influence on the spray power test by adding the concentration of thick moringa leaf extract.

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Research Article

The Effect of Animated Video Education on The Level of Knowledge of Preventing Sexual Harassment in Adolescents at State Junior High School 4 Lamongan

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ABSTRACT

Background : Sexual harassment can be experienced by both girls and boys no matter their age and can occur at school, or in public spaces. The impact of adolescent sexual harassment includes lack of confidence in school, exhibiting disrespectful behavior, and lack of participation.

Objective : The purpose of this study was to determine the effect of educational video animation on the level of knowledge of preventing sexual harassment in adolescents at SMP Negeri 4 Lamongan

Methods : The research design used a pre experimental with a one group pre test post test approach. The population size was 187 respondents, the sample taken was 83 respondents who were taken by cluster random sampling technique. Data was collected using a knowledge questionnaire sheet. The independent variable in this study is animated video education, while the dependent variable in this study is the level of knowledge of sexual harassment prevention

Results : Based on the results of the study, it shows that before being given animated video education, most of the 40 (48.2%) respondents experienced a lack of knowledge level. Then after being given animated video education, most of the 65 (78.3%) respondents experienced an increase in the good category. Data analyzed using the Wilcoxon test obtained $p = 0.000$ where $p < 0.05$, so there is an effect of animated video education on the prevention of sexual harassment in adolescents at SMP Negeri 4 Lamongan in 2024

Conclusion : Community nurses can use animated videos as one of the health education media to increase knowledge of preventing sexual harassment in adolescents..

Keywords

Animated Video , Prevention of Sexual Harassment, Teenager

INTRODUCTION

Sexual harassment is on the rise and a major problem in many countries. Sexual harassment can be experienced by both women and men no matter their age and can occur in schools, communities or public spaces. (Gandeswari, Husodo and Shaluhiyah, 2020). Sexual harassment is an act that is shown visually, verbally, and non-verbally. Sodomy, incest, catcalling, rape, and molestation are some forms of sexual harassment. (Sartika et al., 2022).

In a recent Australian study involving adolescents aged 11 to 19 years, 42.5% of boys and 40.0% of girls reported experiencing sexual harassment during the previous academic term (Lei *et al.*, 2020). In 2023, the Ministry of Women's Empowerment and Child Protection (Kemen-PPPA) reported 19,593 cases of violence against children in Indonesia, with 17,347 children as perpetrators and 3,987 children as victims. The most common types of violence were sexual violence (8,585 cases), physical violence (6,621 cases), and psychological violence (6,068 cases). (Pemberdayaan and Anak, 2023). So far, data collected by the Lamongan Women's Empowerment and Child Protection Office (DPPPA) shows 28 cases of child abuse and 22 cases of violence against women throughout 2023.

Based on the results of the preliminary survey by conducting interviews with 10 students at SMP Negeri 4 Lamongan, the researcher found that 7 out of 10 adolescents did not understand the explanation of the forms of sexual harassment. In addition, 3 of the 10 teenagers had experienced sexual harassment in the form of verbal calls, such as making inappropriate calls and making inappropriate sexual gestures..

Risk factors associated with sexual abuse are age and gender, household socioeconomic status, poverty and unemployment, urban or rural environment, caregiver education level, caregiver substance abuse, dysfunctional family, harmful gender norms and gender inequality, and social norms that condone abuse of adolescents and children anak (Anwar *et al.*, 2020). The impact of sexual harassment experienced by both males and females are missing school, thinking of changing schools, decreased concentration, lack of participation in class. In addition, students also experience a decline in the quality of school work, declining grades, losing friends, and not wanting to go to school (Mallista, Soetikno and Risnawaty, 2020).

Efforts can be made to increase adolescent awareness about sexual harassment education and how to prevent sexual harassment. By providing education, it is hoped that adolescents will gain better knowledge about health. researchers are interested in raising the issue with the title "The Effect of Animation Video Education on the Level of Knowledge of Prevention of Sexual Harassment in Adolescents at SMP Negeri 4 Lamongan".

METHOD

This study used a type of experimental quantitative research (Preexperimental) with a one group pretest and posttest approach. The time and place of the research was conducted at SMP Negeri 4 Lamongan in February - March 2024.. The population of this study were 8th grade adolescents (A-F) totaling 187 adolescents. A sample is a set of cases selected or drawn from a larger population or set of cases, usually to distill the nature of a larger population or set. (Sugiyono, 2013). The sample used in this study was 83 adolescents. This study uses random or probability samples with the type of Cluster Random Sampling. Cluster Random Sampling is a sampling technique where the selection refers to groups rather than individuals. (Sugiyono, 2013).

Researchers chose a questionnaire with a Likert scale. The Likert scale is used to measure the opinions, attitudes, and perceptions of individuals or groups of individuals towards a social phenomenon or situation. The Likert scale includes an ordinal scale, so researchers use nonparametric statistical tests and the results show that the data distribution is not normal, so researchers use the Wilcoxon test. Wilcoxon is a nonparametric test used to measure the difference between two groups of paired ordinal or interval data that are not normal. (Triwiyanti, Ardina and Maghfira, 2019).

RESULTS

Characteristics of Adolescents

Table 1. Characteristics of adolescents in SMP Negeri 4 Lamongan

No	Characteristic	f	%
Age			
1	13	40	48,2
2	14	43	51,8
Gender			
1	Male	48	57,8
2	Female	35	42,2

Based on the data above, the most common age was 14 years old, 43 adolescents (51.8%). The most common gender was male 48 adolescents (57.8%).

Tabel 2. The level of knowledge of adolescents before and after being given animated video education at SMP Negeri 4 Lamongan.

	f	%
Pre test		
1. Good	10	12
2. Enough	33	39,8
3. Less	40	48,2
Post test 1. Good		
	65	78,3
2. Enough	13	15,7
3. Less	5	6

Based on the data above, it was found that the most pretest knowledge in the poor category was 33 (39.8), the most posttest knowledge in the good category was 65 (78.3).

Table 3 The Effect of Providing Animation Video Education Before and After on the Level of Knowledge of Prevention of Sexual Harassment in Adolescents at SMP Negeri 4

Variable	Animated Video Education		p-Value
	Pretest	Posttest	
Knowladge			

Mean + SD	38,4 + 6,3	50,2 + 5,5	0,000
Range	0,0 - 38,3	40 - 100	

From the results of the analysis of the Effect of Animation Video Education on the Level of Knowledge of Prevention of Sexual Harassment in Adolescents at SMP Negeri 4 Lamongan using the Wilcoxon test shows a p value = 0.000 where the p value is <0.05. So that H1 is accepted, meaning that there is an effect of animated video education on the level of knowledge of preventing sexual harassment in adolescents at SMP Negeri 4 Lamongan.

DISCUSSION

Level of Knowledge in Adolescents Before Receiving Animated Video Education on Prevention of Sexual Harassment

Based on the results of the study, it can be explained that before being given animated video education, knowledge of sexual harassment prevention shows that most adolescents have a level of knowledge in the lower category (48.2%). The lack of knowledge of sexual harassment prevention in adolescents is due to several factors such as adolescents' understanding of the importance of knowing how to prevent and the negative impact of sexual harassment.

Sexual harassment begins with unwelcome sexual advances or sexually suggestive behavior that the recipient perceives as threatening. Unwelcome sexual advances may include verbal or physical inappropriate sexual touching, as well as contravention of personal or professional norms or principles that may cause feelings of fear or insecurity.

This study is in line with the results of Diwenia's research (2022) on the effectiveness of using animated videos on the prevention of sexual abuse in children at Simpang Haru Elementary School, Padang City, which shows that before education using animated videos, children's understanding of sexual abuse prevention is not good. The lack of good understanding of children is caused by the lack of understanding of children about sexual abuse, where when filling out the questionnaire many do not understand. students still don't understand about preventing sexual abuse.

The level of knowledge of adolescents about sexual harassment prevention before receiving the animated video education tends to be low. This is due to several factors, including lack of exposure to accurate information and social stigma that inhibits open discussions about sexuality.

Therefore, educational interventions such as animated videos are essential to increase adolescents' awareness and understanding of sexual harassment prevention. Level of Knowledge in Adolescents After Receiving Animated Video Education on Prevention of Sexual Harassment. Based on the results of the study of 83 respondents, it was found that changes in the level of knowledge after being given animated video education on sexual harassment prevention knowledge showed that most adolescents (78.3%) had a good category of knowledge. Sexual education delivered through animated videos has been proven effective in increasing adolescent knowledge. Animation is able to attract attention and facilitate understanding of complex concepts through clear visualization and easy-to-follow narratives.

This is in line with the statement of Lestari & Kurniasari (2020) by watching animated videos children or adolescents will learn about what they see and hear so that it is easier for them to understand what they see and hear. in his research, that the increase in student knowledge in the learning process after being given video media is classified into a high category. Knowledge becomes increased for students in the experimental group that explains the influence of video media that makes it easier for respondents to remember the information that has been conveyed. According to Adyani et al (2023) published in the journal "Sex

Education", the use of animated videos in sexual education helps adolescents understand complex and sensitive concepts in a more interesting and memorable way. Animated videos have the advantage of improving information retention compared to traditional teaching methods. Children and adolescents who received information through animated videos showed a better understanding of sexual abuse prevention measures and how to report such incidents compared to those who received information through lectures or reading materials alone.

The Effect of Animated Video Education on Sexual Harassment Prevention on Adolescent Knowledge at SMP Negeri 4 Lamongan. Based on the Wilcoxon statistical test which analyzes the effect of animated video education on the level of knowledge of sexual harassment prevention, the p value = 0.000 so that it can be said that there is an effect of animated video education on the level of knowledge of adolescents. Which is evidenced by a change in the category of knowledge level before and after being given animated video education from the category of less knowledge to good category knowledge.

The results of this study are the same as the research of Melina & Shelamita, (2023) with the title "The Effectiveness of Health Education with Audio Visual Media on Adolescent Knowledge About Sexual Harassment at Smk 1 Piri Yogyakarta", the change in knowledge values at the time of the pre-test and posttest was quite high, from the level of good knowledge (11.3%) to (80.0%) there was an increase of (68.7%) from the initial knowledge. This proves that audiovisual media is quite effective and efficient and has an influence on increasing adolescent knowledge in a short period of time, besides that the packaging of interesting material, the way of delivering material and delivery language tailored to the age of adolescents, has an effect on increasing the knowledge of respondents.

Appropriate use of visual and audio media in learning can improve understanding and retention of information. In the context of sexual harassment prevention animated video education, the use of engaging animations can help adolescents understand and remember important information on how to prevent and report sexual harassment. to change behavior, individuals must first have knowledge of the issue and believe that they can take effective preventive action. Education through animated videos can increase adolescents' awareness and knowledge about sexual harassment, which in turn can change their attitudes and behaviors towards prevention (Radanielina 2019).

CONCLUSION

1. The level of knowledge before being given animated video education on sexual harassment prevention knowledge has a level of knowledge in the less category in adolescents at SMP Negeri 4 Lamongan.
2. The level of knowledge in adolescents after being given animated video education on sexual harassment prevention knowledge has a level of knowledge in the good category at SMP Negeri 4 Lamongan.

3. There is an effect of giving animated video education before and after on the level of knowledge of preventing sexual harassment in adolescents at SMP Negeri 4 Lamongan.

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Research Article

Compliance Level of Hypertension Drug Use in Outpatients with *the Pill Count Method*

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ABSTRACT

Hypertension is still a common disease around the world, and even today, cases of hypertension continue to progress over time, increasing in line with the increase in unhealthy lifestyle activities. Hypertension is generally asymptomatic, hence often referred to as the *"silent killer".* Inadequate adherence to hypertension therapy can be an obstacle in achieving controlled blood pressure and can lead to increased costs, hospitalizations, and consequences related to heart disease. This study aims to determine the compliance of drug use in outpatient hypertension patients at the Lamongan Health Center. The research design used is descriptive observational with *purposive sampling* techniques. The data source used is primary data, data collection using *the pill count method.* The sample used was 95 people. Compliance is measured using the *Pill Count method*. The parameters of the Pill Count calculation result are divided into categories of compliance if >80% and non-compliance if <80%. This research was conducted in February-March 2024, The instrument used in this study was in the form of observation sheets from patients with hypertension at the Lamongan Health Center. The results of the study showed that compliance measurement for 1 month was obtained by 85 patients who were compliant (89.47%) and 10 non-compliant patients (10.53%). Based on this data, it can be concluded that hypertension patients in this study can be categorized as "Compliant" in undergoing hypertension treatment. This is because there are prolanis activities every month and public awareness will improve the quality of life by maintaining the health of their bodies.

Keywords
Adherence, Hypertension, *Pill Count*

INTRODUCTION

Hypertension is more common in older populations, but nowadays hypertension is increasingly found in younger individuals (Kadir *et al.*,2016). Chronic hypertension is characterized by a persistent increase in arterial blood pressure that persists after two examinations, with systolic blood pressure showing 140 mmHg or higher and/or diastolic blood pressure showing 90 mmHg or higher (Harhap *et al*., 2019). Heart attacks, strokes and chronic kidney disease are some of the main consequences that can occur as a result of hypertension (Kurtul, Ak *et al*., 2020).

Hypertension has a mortality proportion of 6.7% in all age groups, ranking third in Indonesia, after tuberculosis and stroke (Widyawati *et al*., 2022). Deep *World Health Organization* In 2018, 22% of the global population suffered from hypertension. With 25% of the population affected, Southeast Asia ranks third in the world in terms of

hypertension prevalence (*Who*, 2018). Based on Riskesdas 2018, the prevalence of hypertension in Indonesia reached 34.11% (Ministry of Health of the Republic of Indonesia 2018). In 2018, as many as 2,360,592 people or 22.71% of the population in East Java were diagnosed with hypertension, according to data from the East Java Health Office (Health Office 2018). In 2021, of the 335,813 residents of Lamongan Regency who are considered to have hypertension and are 15 years old or older, males comprise 48.02% of the population and 51.98% females. Of these, 332,084 (or 98.9%) seek medical help (Lamongan Health Office 2021).

Hypertension therapy can involve lifestyle modifications such as a healthy living program, weight loss, regular exercise and not excessive alcohol consumption. *Calcium Channel Blocker* (CCB), *diuretics*, *β-Blocker*, *angiotensin converting enzyme inhibitor* (ACEI) and *angiotensin 11 receptor blocker* (ARB) are antihypertensive drugs (Farrar and Zhang 2015). These five drug groups were chosen as first-stage antihypertensive drugs because they are generally well tolerated, have few unwanted side effects, and can be given alone without worrying about tolerance from time to time (Soraya Putri Orshita Resmi, 2018).

Achieving regular blood pressure, which is associated with greater hospitalization costs and complications of heart disease, can be hampered by low adherence to hypertension treatment. One of them is to lower blood pressure with medication. however, research shows that only 56.07% of East Javanese people regularly take hypertension medication, so the rest do not take medication at all or take medication in an irregular way (Ministry of Health of the Republic of Indonesia 2018). Among the hypertensive population diagnosed with hypertension in 2018, 54.4% regularly took medication, 32.3% did not, and 13.3% did not use antihypertensive medication at all, according to the proportion of medication history and reasons for not taking medication (Ministry of Health of the Republic of Indonesia 2018).

Identification of medication adherence is necessary to be done to improve effectiveness by analyzing what makes patients forget to take their prescriptions, why they don't take them, how they stop taking them without the doctor's knowledge, and how uncomfortable it is to take the medication. Failure to manage blood pressure can occur due to non-compliance with antihypertensive drug therapy (Lali, Lestari, and Heni 2022). Therefore, it is important to conduct an assessment of the patient's compliance with the use of the drug. One of the methods that can be done is the approach of calculating drug residues (*pill count*). Approach *pill count* is done because it is a common method of tracking how many pills a patient has taken (Utaminingrum, W., Pranitasari, R. n.d. 2017). In addition, the *pill count* can provide opportunities for direct interaction between officers and patients when performing calculations. Officers can ask patients directly about their experience with medication or barriers that may affect compliance.

According to WHO data, between half and three-quarters of people do not take antihypertensive medications as prescribed (*WHO,* 2013). In Indonesia, the proportion of treatment history in hypertensive patients based on taking medication in 2018 was 32.3% who had not taken medication regularly and 13.3% who had not taken antihypertensive drugs (Riskesdes 2018). However, in East Java, 56.07% of people still report using drugs regularly, and the rest still do not use drugs (MINISTRY OF HEALTH OF THE REPUBLIC OF INDONESIA 2018). The research was conducted at the Tuntungan Medan Health Center using the *pill count* There was a low level of inconsistency as many as 58% of patients. The level of patient compliance was 45.65% compliant and 54.35% non-compliant, respectively, in another study conducted at the East Surabaya Health Center using the *pill count*. These results are according to the research (see A.I.F 2019)

which stated that in the Lamongan Health Center there are still 57.5% of hypertensive patients with low compliance in consuming for a long time. Based on this description, it is necessary to evaluate the compliance level of the use of hypertension drugs in outpatients with the *Pill Count* at the Lamongan Health Center.

METHOD

The research was carried out in a *cross-sectional prospective observational* manner which took place at the Lamongan Health Center in February – March 2024. The population in this study is all hypertension patients at the Lamongan Health Center in February – March 2024. Data collection was carried out using *the purposive sampling method* with observation sheets. Compliance is measured by the provision that if it is said to be non-compliant (obtaining a figure of < 80% of the ratio of the number of drugs taken to the number of drugs that must be minimized x 100%) and is said to be compliant (obtaining a figure of > 80%).

RESULT

This study was conducted on hypertension patients treated at the Lamongan Health Center for the period February-March 2024 with a total sample of 95 obtained the following results.

Table 1. Results of patient characteristics based on gender, age, education, occupation, type of therapy.

Characteristic	N	%
Gender		
Man	22	23
Woman	73	77
Total	**95**	**100**
Age		
36 – 45	2	2,1
46 – 55	4	4,3
55 – 65	53	55,8
> 65	36	37,8
Total	**95**	**100**
Education		
No School	2	2
SD	34	35,9
JUNIOR	32	33,6
SMA	17	18
College	10	10,5
Total	**95**	**100**
Work		
Not Working	2	2,1
Private	12	12,6
Farmer	8	8,5
Self employed	3	3,1
Civil Servant/Pension	12	12,6
Merchant	3	3,1
IRT	55	58
Total	**95**	**100**

Types of Therapy		
Monotherapy	72	75,7
Combination	23	24,3
Total	**95**	**100**

The results of the analysis of patient characteristics based on gender were more common in 73 women (77%). The results of patient characteristics based on age were obtained with the highest results with an age range of 55-65 of 53 people (55.8%). The results of patient characteristics based on education were obtained by hypertensive patients with elementary school investigation history of 34 people (35.9%). The results of patient characteristics based on occupation were obtained by IRT patients as many as 55 people (58%). The results of patient characteristics based on the type of monotherapy therapy were obtained by 72 people (75.7%). The results of patient characteristics can be seen in Table 1.

Table 2. Patient Characteristics Based on the Name of the Hypertension Drug Consumed

Name of Hypertension Medication Consumed	**Compliance Level**			
	Obedient		**Non-Compliance**	
	N	**%**	**N**	**%**
Monotherapy	66	69,4	6	6,3
Amlodipine 5mg	32	33,7	4	4,2
Amlodipine 10mg	26	27,3	1	1,05
Lisinopril 5mg	4	4,2	0	0
Bisoprololl 2.5mg	1	1,05	1	1,05
Captropil 2mg	2	2,1	0	0
Combination	18	19	5	5,2
Bisoprolol l2.5mg+ Candesartan 8mg	1	1,05	1	1,05
Amlodipine 5mg + Candesartan 8mg	7	7,3	0	0
Amlodipine 5mg + Lisinopril 5mg	5	5,2	0	0
Lisinopril l5mg + Furosemide 40mg	1	1,05	0	0
Amlodipine 10mg + Lisinopril 5mg	4	4,2	1	1,05
Amlodipine 5mg + Furosemide 40mg	1	1,05	2	2,1

Furthermore, the results of the analysis of patient characteristics based on the name of the hypertension drug consumed by hypertensive patients with the name of the drug consumed, namely monotherapy as many as 66 (69.4%), amlodipine 5mg as many as 32 (33.7%), amlodipine 10mg as many as 26 (27.3%), lisinopril 5mg as much as 4 (4.2), bisoprolol 2.5mg as much as 1 (1.05), captropil 2mg as much as 2 (2.1%), combination as many as 18 (19%), bisoprolol 5mg+ candesartan 8mg as much as 1 (1.05%), amlodipine 5mg + candesartan 8mg as much as 7 (7.3%), amlodipine 5mg + lisinopril 5mg as much as 5 (5.2%), lisinopril 5mg + furosemide 40mg as much as 1 (1.05%), amlodipine 10mg + lisinopril 5mg as much as 4 (4.2%), amlodipine 5mg + furosemide 40mg as much as 1 (1.05%). These results can be seen in Table 2.

Table 3. Characteristics of Drug Use Compliance in Prolanis Hypertension Patients at Lamongan Health Center Based on Compliance

Characteristic	Compliance Level			
	Obedient		Non-Compliance	
	N	%	N	%
Gender				
Man	15	15,7	7	7,3
Woman	70	73,6	3	3,1
Age				
36-45	2	2,10	0	0
46-55	4	4,2	0	0
56-65	47	49,4	6	6,3
> 65	32	33,6	4	4,2
Education				
No School	2	2,10	0	0
SD	31	32,6	3	3,1
JUNIOR	32	33,6	0	0
SMA	14	14,7	3	3,1
College	6	6,3	4	4,2
Work				
Not Working	2	2,10	0	0
Private	2	2,10	1	1,05
Farming	8	8,4	0	0
Self employed	2	2,10	1	1,05
Civil Servant/Pension	6	6,3	6	6,3
Merchant	3	3,1	0	0
IRT	53	55,7	2	2,10

The compliance of patients with hypertension based on their characteristics was mostly female as many as 70 people (7.6%), the age range of 56-65 as many as 47 people (49.4%), the elementary education level of 34 people (35.7%), based on IRT treatment as many as 53 people (55.7%) and the type of monotherapy therapy as many as 66 people (69.4%). The results can be seen in Table 3.

Table 4. Patient Characteristics Based on Compliance Level

Compliance	N	%
Obedient	85	89,47
Non-Compliance	10	10,53
Total	**95**	**100**

Meanwhile, 85 people (89.47%) and 10 people (10.53%) with hypertension with obedient compliance can be seen in Table 4.

DISCUSSION

Based on the results of a study of patients diagnosed with hypertension who received treatment from February-March 2024, of those considered to be included in this study, 95 people were considered suitable to be used as samples. According to the data, hypertension is more common in 73 (77%) women. It can be seen from Table 1 that

women have higher risk factors for hypertension. Estrogen hormones act as a barrier, protecting women who have not yet gone through menopause. Estrogen, the hormone that protects blood vessels against disease attacks, begins to decrease little by little for premenopausal women (Sentat 2017).

Based on the results of the study, the most hypertension sufferers are at the age of 55-65, which is 53 people (55.8%). The chances of developing hypertension increase with age, which suggests there is a strong correlation between the two. Hypertension is more common in the elderly because blood pressure increases as a result of age-related heart changes and decreased arterial flexibility (Rosiana 2020).

The findings of the study showed that hypertension was more common in people with elementary education level as many as 34 people (35.9%), hypertension patients were more common in those with low education. Data from Riskesdas shows that people with low levels of education are more likely not to adhere to their treatment plans because they don't know enough about it. On the other hand, there are many people who believe that a person's ability to learn, adapt to new situations, and advance in life is directly proportional to their level of education (Ministry of Health of the Republic of Indonesia 2018).

Based on the results of the study, the level of IRT work is more affected by hypertension, which is 55 people (58%). It can be seen from Table 1 that a person who is not working can also cause hypertension because it has high stress triggers, increased sympathetic nervous activity, which can make hypertension persistent, is a stress mechanism that contributes to hypertension (Riani and Putri 2023). Based on the results of the study, more types of therapy were found in combination therapy for 72 people (75.7%), and monotherapy for 23 people (24.3%).

The results of the analysis stated that patients with female sex tended to be more compliant than male hypertensive patients with a total of 22 (23%) with non-compliance (7.3%). This is because, adherence to medication can also be affected by gender, Basically, women are more worried about their health than men, and as a result, they are more likely to seek medical help at health centers than men (Elvira, M., & Anggraini 2019).

Based on the age of patients aged 55-65, there were 53 people (55.8%) and non-compliance (6.3%). At the age of 55 years and above, they tend to experience a decline in memory function or senility, so they are indifferent to treatment and health information. The risk factor for hypertension is also influenced by the age of a person, the immune system decreases and at that age. When a person's schedule is full of activities outside the home, they increase their chances of consuming foods that can cause hypertension (Utaminingrum, w., pranitasari, R. 2017).

Based on the educational history, it is known that patients who have an elementary education history are 34 (35.9%) with non-compliance (3.1%). A person's low educational history will greatly affect patients in treating hypertension, the lower the education a person tends to often ignore instructions or suggestions from doctors and the patient's lack of knowledge regarding hypertension treatment (Sahadewa *et aL*.,2019). A person with a low level of education is more likely to suffer from hypertension, according to a study by Waas 2020 (Waas *et al.,* 2020). Staff and patients can benefit from each other's expertise when they get an education. Ineffective healthcare provider communication skills and inadequate patient communication skills both affect a patient's ability to understand (Sudoyo *et al*.,2019).

Based on occupation, it is known that 55 (58%) patients who have a job as an IRT are non-compliant (2.10%). Riskesdas data in 2018 stated that a person who does not work can also cause hypertension because it has high stress triggers, as well as daily

activities when doing household chores which can also trigger patient non-compliance in taking medication. The patient's work factor also affects the trigger of patient non-compliance in undergoing treatment because the worker will be busier so that he does not have time to carry out medical treatment or health centers (Kurniawati, E., & Supadmi 2020).

Based on the type of therapy obtained by the patient, the most consumed is monotherapy antihypertensive, namely Amlodipine with doses of 5mg and 10 mg (group *Calcium Chanel Blocker*/CCB) as many as 72 people (75.7%) with compliance (69.4%), and combination antihypertensive as many as 23 people (24.3%) with compliance (19%). In terms of the complexity of hypertension therapy, the level of monotherapy compliance is greater than that of combination therapy (de Vries, S., *et al.,*2020).

One class of drugs used to treat hypertension is CCB, and amlodipine is one of them. These medications can be taken alone or in combination with other groups of medications, including diuretics, ACEIs, and Beta Belocker (Dipiro, *et.al.,* 2021). In JNC VIII, the first outline suggests a single treatment such as diuretic, ACEI, ARB, or CCB for patients *Stage 1* if lifestyle modifications have not been able to achieve the therapeutic target. This shows that the use of monotherapy antihypertensive drugs for patients at the Health Center is appropriate. (Cramer, J.. 2019).

Patients in this study preferred amlodipine therapy over captropil because the former is believed to be more effective in lowering blood pressure when taken orally, while the latter is associated with unpleasant side effects such as coughing and making patients reluctant to take medication, although CCB is recommended as a first-line therapy in the management of hypertension, but CCB also has the potential for side effects that are quite disruptive to patients' activities. Potential side effects that are often reported are peripheral edema (Singh, *et.al.,*2023).

Based on the results obtained through the measurement of adherence using *pill count*, most of them had adherence to adherence, which was as many as 85 people (89.47%) and non-compliance, namely as many as 10 people (10.53%). Patient non-compliance in consuming medication is caused by many patients forgetting to take medication.

In the use of hypertension medication, patients must consume medication regularly, but, due to the misconception of the community, patients with a diagnosis of hypertension will take medication if there is an increase in blood pressure or hypertension symptoms have worsened, and will stop taking medication if they feel that the symptoms they are experiencing are resolved, this can be due to 2 factors such as prediposition factors (length of treatment, work, education, gender and age) and reinforcing factors (family support, support for the role of pharmaceutical personnel) (Laili *et al.*, 2022).

CONCLUSION

A total of 95 patients were diagnosed with hypertension with 85 people with compliance and 10 people with non-compliance with compliance. So it can be stated that the level of compliance with the use of hypertension drugs at the Lamongan Health Center is categorized as compliant due to prolanis activities every month.

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Research Article

The Effectiveness of The Peer Group Method on The Level of Knowledge about Anemia and Compliance with Consuming Fe Tablets in Adolescent Women at MA Nahdlatul Ulama Petung

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ABSTRACT

The incidence of anemia in adolescent girls is still a problem in Indonesia. The underlying factors are low parental education and low compliance of young women to consume Fe tablets regularly. The aim of this research was to determine the effectiveness of the peer group method on knowledge of anemia and adherence to consuming Fe tablets in adolescent girls. This research used a pre-experimental design, one group pre-test post-test design, the research population was 50 young women, using total sampling with a sample size of 45 young women. The instrument of this research is the Extension Event Unit (SAP), this research uses a questionnaire. The research results before being given a peer group were almost half (53.3) with a poor level of knowledge and after being given the majority (35.6) of young women with good knowledge. And compliance before being given a peer group was almost half (60.0) of the teenage girls' compliance was low and after most (42.2) the compliance level of the teenage girls was high. The Wilcoxon test results obtained a significant value of p=0.000 (p<0.05), meaning that there was a significant difference in the knowledge and compliance of young women before and after being given the peer group method. Peer groups are a recommended method for increasing knowledge about anemia and compliance with consuming Fe tablets in young women.

Keywords: *Anemia, Teenage girls, Fe tablets, Peer group.*

INTRODUCTION

The incidence of anemia in adolescents in developing countries is still a public health problem, including in Indonesia. Adolescent girls are a group that has a greater risk of developing anemia than adolescent boys because adolescent girls experience menstruation every month so adolescent girls need sufficient iron. Anemia is a condition where the number of red blood cells or hemoglobin (Hb) levels in the blood is lower than normal values (Muhayati & Ratnawati, 2019). One of the factors behind the high prevalence of anemia in adolescent girls is low parental education. Many teenagers have parents who only have education up to elementary school and lack information about it schools about anemia by health workers and teaching staff As a result, knowledge about

anemia is very low. So many teenagers do not understand how to fulfill iron intake in the body properly and correctly (Budianto et al., 2016).

The Ministry of Health of the Republic of Indonesia (Kemenkes RI) in 2016 issued Minister of Health Regulation (Permenkes) Number 51 of 2016 which contains standards for nutritional supplement products for the prevention of anemia. One of these nutritional supplement products is blood/Fe tablets. The distribution of Fe tablets is aimed at middle school or high school students in order to meet the body's needs (Ministry of Health of the Republic of Indonesia, 2016). The government program provides fe tablets in the proportion of one tablet once per week with a total number of administrations of 52 fe tablets per year. However, in reality, currently there are still many young women whose level of compliance in consuming Fe tablets is still low due to the lack of awareness among teenagers in consuming Fe tablets. There are several reasons for not taking Fe supplement tablets regularly, including forgetting your drinking schedule, unpleasant smell and taste, perceived side effects, feeling that you don't need blood supplement tablets, etc. (Riskesdas, 2018).

Based on the incidence of anemia in adolescent girls and the low level of knowledge among adolescents, according to WHO in 2018 the level of knowledge among adolescents about anemia was 60.8%, while in Indonesia the level of knowledge among adolescents regarding anemia was only 50.5%, in East Java province in 2018 In 2020 the level of knowledge was around 57.8% (Ministry of Health of the Republic of Indonesia, 2020), and in Gresik district in 2021 the level of knowledge among teenagers about anemia was only 52.5% (Gresik District Health Service, 2021). Meanwhile, according to WHO, compliance with consuming Fe tablets among adolescent girls in 2020 is around 51.5%. Based on data from Riskesdes 2018, 87.6% of adolescent girls sit on a bench in 2020. High school seniors get Fe tablets at school. From these achievements, only 55.4% of young women adhere to taking TTD (Ministry of Health of the Republic of Indonesia, 2020). The level of compliance with consuming Fe tablets in Indonesia is only 56.3%. And the results obtained from East Java Province show that the level of compliance with consuming Fe tablets is 50.7% (Riskesdes, 2018). The level of compliance with taking fe tablets in Gresik district is around 46.7%(Dinas Kesehatan Kabupaten Gresik, 2021). Based on an initial survey conducted by researchers on October 25 2023 at Madrasah Aliyah Nahdlatul Ulama Petung by interviewing young women, it was found that 6 (60%) out of 10 young women did not know about the problem of anemia such as the definition, signs, symptoms, consequences and impacts. anemia disease. Apart from that, 8 (80%) out of 10 female students said they rarely consumed Fe tablets or even never consumed Fe tablets. Most young women say they only take 2-3 Fe tablets, some even never take them during menstruation or on normal days. Many young women say they are lazy because of the annoying smell of the medicine, feel dizzy and nauseous after taking it and sometimes forget to take it. With this, it can be concluded that there are still many young women who experience a very low level of knowledge about anemia and compliance with consuming Fe tablets at MA Nahdlatul Ulama Petung.

There are several factors that influence adolescent girls' noncompliance in consuming blood supplement tablets, including: lack of knowledge about anemia, monitoring and evaluation of the program for giving blood supplement tablets to teenage girls by health services which is not yet optimal, lack of awareness among teenage girls to consume tablets. adding blood, lack of support from outside parties such as teachers, peers and parents to remind them to consume blood adding tablets according to the recommended time. Apart from that, the causes of the lack of knowledge among young women regarding Fe tablets include the lack of information obtained by young women

both from health workers, mass media, electronic media and from the local environment. (Yeni & Inayah, 2020).

The impact of the lack of knowledge among young women regarding anemia and the benefits of Fe tablets includes, among other things, resulting in young women being reluctant to take the Fe tablets that have been given and decreasing awareness of young women in preventing anemia. Lack of knowledge among young women about anemia means that there are still young women who suffer from anemia (Lestari et al., 2021). The impact of non-compliance in consuming Fe tablets is that it can cause the young woman to have low hemoglobin levels, which is usually called anemia. This results in decreased learning achievement and disruption of reproductive organs in young women (Jurnal Keperawatan, 2022).

Efforts that can be made to reduce the above problems are by increasing the knowledge and compliance of young women regarding consuming Fe tablets as one of the efforts to prevent anemia, namely when distributing Fe tablets to young women in Indonesia must be increased and supervised by Health officers. Apart from that, this can be done by providing health education as a method of conveying information (Riskesdas, 2018).

One effective method used in Health Education is the peer group method. Peer group is a method that works with teenagers, for teenagers, and by teenagers. Peer groups are a useful method because they can change knowledge, beliefs, attitudes or behavior for the better through knowledge transfer techniques carried out between peer groups, because they have a more intimate relationship, use the same language, can be done anywhere and at any time by means of relaxed delivery, more comfortable when discussing. The use of the peer group method has several advantages, namely: the approach between peers is in accordance with the psychology of adolescent development, and this approach can have a high multipler effect through the training provided so that it can transfer knowledge and information as well as the formation of motivator groups to influence other group members (Sulistiyawati, 2022).

METHODE

This research design uses preexperimental with one group pre-test post test from February to March 2024 at MA Nahdlatul Ulama Petung. This research has received ethical approval number 207/EC/KEPK-S1/06/2024. The population of this study was 50 young women consisting of classes X, XI, and XII. The sample for this research was 45 young women using a total sampling technique. The inclusion criteria in this study include young women who are still active at MA Nahdlatrul Ulama Petung, willing to be respondents and willing to sign informed consent and the exclusion criteria in this study are young women who are not attending school and do not want to sign informed consent. The independent variable of this research is the peer group method. The dependent variables in this study were the level of knowledge about anemia and compliance in consuming Fe tablets. Research instruments on independent variables with the peer group method of researchers using SAP. In the dependent variable the level of knowledge about anemia, researchers used a questionnaire containing 17 questions. Meanwhile, the research instrument for adherence to taking fe tablets uses the MMAS-8 questionnaire which consists of 8 questions compiled by Morisky, et al (2011), which is a questionnaire that is commonly used to measure adherence to taking medication in patients. In the independent variable, researchers used the Guttman scale to categorize the answers into Yes and No.

RESEARCH RESULT

Table 1. Frequency distribution of characteristics of young women based on age at MA Nahdlatul Ulama Petung in February 2024.

No.	Class	Frequency	Precentage
1.	15 years	8	17,8
2.	16 years	8	17,8
3.	17 years	18	40,0
4.	18 years	11	24,4
	Amount	45	100

Based on Table 1, it can be seen that of the 45 young women at MA Nahdlatul Ulama Petung, it shows that almost 18 young women (40.0%) are 17 years old and a small portion of 16 young women (17.8%) are 15-16 years old.

Table 2. Frequency distribution of characteristics of young women by class at MA Nahdlatul Ulama Petung in February 2024.

No.	Class	Frequency	Precentage
1.	Class 10	13	28,9
2.	Class 11	18	40,0
3.	Class 12	14	31,1
	Amount	45	100

And based on table 2, it shows that almost 18 young women (40.0%) are in grade 11 and a small portion of 13 young women (28.9%) are in grade 10.

Table 3. Frequency distribution of characteristics of the level of knowledge about anemia before being given the peer group method to young women at MA Nahdlatul Ulama Petung in February 2024.

No.	Knowledge level	Frequency	Precentage
1.	Good	5	11,1
2.	Enough	16	35,6
3.	No enough	24	53,3
	Amount	45	100

Based on table 3, it shows that before being given the peer group method, almost 24 young women (53.3%) had poor knowledge and a small number of 5 young women (11.1%) had good knowledge.

Table 4. Frequency distribution of characteristics of level of knowledge about anemia after being given the peer group method to young women at MA Nahdlatul Ulama Petung in February 2024.

No.	Knowledge level	Frequency	Precentage
1.	Good	36	80,0
2.	Enough	9	20,0
3.	No enought	0	0

Amount	45	100

Based on table 4, it shows that after being given the peer group method, the majority of 36 young women (80.0%) had a good level of knowledge and a small number of 0 young women (0.0%) had poor knowledge.

Table 5. Frequency distribution of characteristics of compliance with consuming Fe tablets before being given the peer group method to young women at MA Nahdlatul Ulama Petung in February 2024.

No.	Adherence to consuming Fe tablets	Frequency	Precentage
1.	Tall	7	15,6
2.	Currently	11	24,4
3.	Law	27	60,0
	Amount	45	100

Based on table 5, before being given the peer group method, it shows that the majority of 27 young women (60.0%) had low adherence to consuming Fe tablets and a small number of 7 young women (15.6%) had high adherence to consuming Fe tablets.

Table 6. Frequency distribution of characteristics of adherence to consuming Fe tablets after being given the peer group method to young women at MA Nahdlatul Ulama Petung in February 2024.

No.	Adherence to consuming Fe tablets	Frequency	Precentage
1.	Tall	37	82,2
2.	Currently	8	17,8
3.	Law	0	0
	Amount	45	100

And in table 6 it shows that after being given the peer group method, the majority of 37 young women (82.2%) had a high level of compliance with consuming Fe tablets and there was a small number of 0 young women (0.0%) with a low level of compliance.

Table 7. Frequency distribution of the effectiveness of the peer group method on the level of knowledge about anemia among young women at MA Nahdlatul Ulama Petung in February 2024

	Post test					
Knowledge criteria Pre test	**Good**		**Enought**		**Total**	
	N	%	N	%	N	%
Good	5	11.1	0	0.0	5	11.1
Enough	15	33.3	1	2.2	16	35.6
No enough	16	35.6	8	17.8	24	53.3
Jumlah	36	80.0	9	20.0	45	100.0
Uji *Wilcoxon signed rank test P = 0,000*						

Based on table 7, the results show that of the 45 young women before being given the peer group method, most of the 24 young women (53.3%) had a poor level of knowledge, and after being given the peer group method almost half of the 16 young women (35.6%) have good knowledge. So it can be concluded that there is an increase in young women's knowledge about anemia after being given the peer group method. on the knowledge variable, it was found that the significance value was p=0.000 with a significance standard of p<,0,005 so that H1 was accepted, which means that there was effectiveness in the level of knowledge about anemia before being given the peer group method and after being given the peer group method to young women at MA Nahdlatul Ulama Petung.

Table 8. Frequency distribution of the effectiveness of the peer group method on adherence to consuming Fe tablets among young women at MA Nahdlatul Ulama Petung in February 2024

	Post test					
Compliance criteria Pre test	**Tall**		**Currently**		**Total**	
	N	%	N	%	N	%
Tall	7	15.6	0	0.0	7	15.6
Currently	11	24.4	1	0.0	11	24.4
Law	19	42.2	8	17.8	27	60.0
Amount	37	82.2	8	17.8	45	100.0
Uji *Wilcoxon signed rank test P = 0,000*						

Based on table 8, the results show that before being given the peer group method to young women, most of the 27 young women (60.0%) had low adherence to consuming Fe tablets, after being given the peer group method, more than 19 young women (42.2%) were given the peer group method. experienced high adherence to consuming Fe tablets. So it can be concluded that there is an increase in the compliance of young women consuming Fe tablets after being given the peer group method. on the knowledge variable, it was found that the significance value was p=0.000 with a significance standard of p<0,005 so that H1 was accepted, which means that there was effectiveness in compliance with consuming Fe tablets before being given the peer group method and after being given the peer group method to young women at MA Nahdlatul Ulama Petung.

DISCUSSION

Behavior is influenced by 2 factors, namely internal and external. The internal factors that influence are age and intelligence (level of intelligence). The external factors that influence are information that can create knowledge and awareness so that it can influence behavior. So, if peers provide correct information regarding the importance of consuming Fe tablets, their knowledge will increase and awareness of taking Fe tablets will also increase.

This research shows that almost all young women at MA Nahdlatul Ulama Petung had insufficient knowledge (54.4%) about anemia before being given the peer group method. And after being given the peer group method, the majority of young women's knowledge became good (80.0%).

These results are in line with research (Mulyana & Nugraini, 2018) showing that there is a significant relationship between knowledge and information sources, which

means that the information a person obtains greatly influences a person's way of thinking about something. The more good information a person obtains, the more his knowledge will increase and his thinking power will also develop, so that the knowledge he obtains will be better. We can get information about anemia from anywhere, such as parents, teachers, peers, the community, health workers, even with today's sophisticated technology, we can easily get information via the internet or cellphone. (Utami, N. L. A., 2018). Peer groups are a place to learn social skills, because through groups teenagers can take on various roles. In peer groups, teenagers become very dependent on friends as a source of fun and their attachment to peers is very strong. The tendency for cohesive ties in the group will increase with the increasing frequency of knowledge for its members so that attitudes and behavior will be created for the group.

The results above are in accordance with Soejatiningsih's (2020) theory that there is effectiveness in increasing knowledge in young women using the peer group method. This research is also in line with research Sari (2023), that there is effectiveness of the health education method using the peer group method on students' level of knowledge. By using the peer group method, young women tend to easily receive information. The advantage of this peer group method is that teenagers will be more open and easier to communicate with their peers using language appropriate to their age, teenagers will find it easier to ask each other questions and answers without having to be embarrassed about the information being conveyed. So that the information conveyed will be easily understood by teenagers and will increase their knowledge

Based on the research results, it shows that before being given the peer group method, most young women experienced low compliance (60.0%) and after being given a peer group, young women's compliance became high (82.2%). Factors that influence compliance in taking medication according to Septi Megawati, et al. (2020), namely: 1) Education and knowledge, the higher a person's education, the higher a person's knowledge will be. 2) personality & motivation, open personalities tend to be obedient compared to closed personalities because open personalities easily get along with anyone so it is easy to get information. 3) perception & attitude, good perception and attitude will support someone to comply with taking medication. 4) actions & stigma. Negative actions and stigma are defined as lack of compliance with recommendations from doctors or health workers, so this stigma must be removed. 5) family or peer support, according to Lawrance's theory, family or peer support will strengthen the occurrence of this behavior.

According to the research results of Pramana, et al. (2019) and Tibebu, et al. (2017) that someone who has low knowledge is five times more likely to be disobedient. But not all low-educated people have very little knowledge, because knowledge is not only obtained from formal learning. Knowledge can be obtained from experience and the five senses in processing information (Mathavan, Ngurah & Pinatih, 2019). The results of this study are also in line with research (Suryani & Lundy, 2022) stated that there was a significant relationship between peer groups and compliance behavior in consuming Fe tablets in adolescents. A group of peers who behave positively will of course support their friends to do positive things too. One of the determining factors for compliance in taking medication is support from peers. So if the friend is in the low category of consuming Fe tablets, his peers will always support him and always remind him that this friend should always take medication regularly. This results in changes in young women with a high level of obedience.

Peer group is the formation of a group that has members of the same age group to increase awareness and disseminate information about health. According to (Ekasari & Andriyani, 2018) this type of friend has the characteristic of being in a group with people

of the same age, for example friends from school or tutoring. The presence of these peers has a positive impact on a person's compliance in taking medication and influences a person's knowledge and attitudes. This has been proven in research (Kusumadewi, et al., 2012) that the presence of peers makes teenagers comfortable with their group (Sri Raharjo Defintasari, 2020).

Peer group is an educational method used by empowering the abilities of peers who have high absorption capacity, the group provides education to friends who don't understand. The designated peer group is required to be more active and understand this method. Techniques in the peer group can help to understand various different concepts, develop computational abilities and moral, social and emotional values, especially their ability to express ideas. Peer groups last for 30-60 minutes and are divided into several groups consisting of 10-12 children (Remaja et al., 2023).

The results of the research showed that the peer group was considered very effective in increasing knowledge about anemia and increasing compliance with consuming Fe tablets among young women at MA Nahdlatul Ulama Petung. The results of research by Kusumadewi, et al (2012) in Sri Raharjo Defintasari (2020), which states that the peer group method makes teenagers feel comfortable in that environment. This makes recommendations for increasing compliance with TTD consumption. According to Alfid (2021), peers or peer groups have an influence on a person's knowledge and attitudes so that it makes a person obedient in taking medication. In line with research conducted by Rini Dwi Mulyani (2020) that the integration of anemia prevention programs with adolescent intervention others using a peer group may be better than a standalone iron supplementation program.

Based on existing facts and theories, researchers are of the opinion that health education using the peer group method is very effective in increasing knowledge about anemia and compliance in consuming Fe tablets for young women. However, apart from the peer group, there are other supporting factors that are very important and influential in increasing knowledge of anemia and compliance with consuming Fe tablets in young women, namely the support factor from teachers and health workers. Considering that teachers are parents at school who will be closer and easier to communicate every day, they can provide additional material at school about anemia and participate in helping health workers in monitoring the amount of Fe tablet consumption among young women and for health workers they can create an education program about anemia either once a month or once every 2 months.

CONCLUSION

The level of knowledge about anemia in young women before being given the peer group method at MA Nahdlatul Ulama Petung from 45 respondents, the average level of knowledge among young women is less. The level of knowledge about anemia in young women after being given the peer group method at MA Nahdlatul Ulama Petung all increased to good. Adolescent girls adhere to consuming Fe tablets before being given the peer group method at MA Nahdlatul Ulama Petung. On average, adolescent girls have low compliance. Compliance with consuming Fe tablets among young women after being given the peer group method at MA Nahdlatul Ulama Petung, overall compliance increased significantly. The peer group method is very effective in increasing young women's knowledge about anemia. The peer group method is also very effective in increasing adolescent girls' compliance in consuming Fe tablets.

SUGGESTION

The results of this study can be used as basic data in developing further research to analyze the effectiveness of the peer group method on the level of knowledge about anemia and compliance in consuming iron tablets in adolescent girls.

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Research Article

The Effect of Qr Code-Based Javanese Short Film on Knowledge and Participation of Women of Childbearing Age in Via

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ABSTRACT
Visual inspection with acetic acid (VIA) is a simple method for detecting cervical cancer. However, in the community, this examination has not received a good response, resulting in low VIA coverage. The aim of this study is to analyze the effect of qr code-based javanese short film on knowledge and participation of women of childbearing age in via. This study uses a quasi-experimental method. The population of this study included all women of childbearing age in Jubel Kidul Sugio Lamongan Village, aged 30-50 years, totaling 304 WUS (women of childbearing age), with a sample of 173 WUS obtained using cluster sampling technique. The instrument used was a knowledge questionnaire containing 10 questions, and the participation variable is obtained through observation at the obstetrics clinic of the Puskesmas. Data was analyzed using the Wilcoxon Signed Rank Test and Chi-Square test. The results of the Wilcoxon test showed p=0.000 with a significance level of p<0.05. The results of the study indicated an influence in this research and the Chi-Square test results show post-knowledge p=0.709 (>0.05), meaning there was no difference in knowledge. In terms of participation, the results show post p=0.000 (<0.05), meaning there is a difference in participation levels between the control group and the intervention group. the effect of qr code-based javanese short film on knowledge and participation of women of childbearing age in via.

Keywords: Short Film, VIA, Cervical Cancer

INTRODUCTION

Cervical cancer is a malignant tumor that grows within the cervix or cervical neck. The cancer usually develops gradually but progressively. The process of cancer formation starts with cells that undergo mutation, consisting of 90% squamous cells lining the cervix and 10% glandular cells producing mucus in the cervical canal leading into the uterus (Hasanah, 2021). The visual inspection with acetic acid (VIA) method is a simple way to detect cervical cancer as early as possible. The visual inspection is performed with the naked eye on the cervical area (without magnification) across the entire surface of the

cervix with the aid of diluted acetic acid/vinegar. This examination should be performed by all women of childbearing age who are sexually active, especially those aged 30-50 years. It is highly recommended to undergo VIA examination at least once every five years, if possible, every three years Indrawati et al., (2017), However, in the community, this examination has not received a good response, resulting in low VIA coverage or below the expected target.

According to WHO, in 2020, there were 604,127 cases of cervical cancer. The incidence of cervical cancer in Asia is the highest, accounting for 58.2% or an estimated 351,720 cases (Kemenkes, 2020). Based on a report from The Global Cancer Observatory (GLOBOCAN, 2020), the latest cervical cancer cases in Indonesia amounted to 36,633 (17.2%). In Indonesia, cervical cancer has the highest prevalence among women. The incidence rate of cervical cancer in 2021 was 1.8 per 1,000 population and it was the number one cause of death (4.9%), and this number is predicted to continue increasing. Data from the Ministry of Health (Dinkes, 2021) reported 3,971 cases of cervical cancer in 2020, with 56 deaths. In 2021, there were 3,813 cases, with 79 deaths (Dinas Kesehatan Lamongan, 2021). According to the Lamongan Health Office (Dinkes Lamongan, 2022), the incidence of cervical cancer in Lamongan Regency was 0.7% out of 364 who underwent VIA examinations, and this number increased annually, reaching 2.1% out of 31,442 WUS who underwent VIA examinations in 2022 (Dinkes Lamongan, 2022).

To increase the coverage of VIA examinations, programs are needed to help improve the reach of these screenings. One effective way is through health education, which can enhance knowledge. When someone's knowledge increases, they are more likely to be influenced or interested in changing their behavior as conveyed. One medium for delivering messages is through film. Compared to booklets or leaflets, films are considered more effective because they can increase interest through the visual and auditory presentation of information. According to Rumyati (2021), films serve as an intermediary or tool for conveying various messages or ideas to the public through a story medium packaged as attractively as possible and in line with modern developments. Previous research by Permatasari et al. (2021) showed that films are highly influential as a medium for health education, both in terms of their physical presentation and their impact on self-concept. People feel more comfortable if a story represents the life they are currently living. According to Septiani (2020), films can inherently involve visual and linguistic symbols to encode the messages being conveyed, thereby influencing the viewers.

One of the facilities provided or created to facilitate access to services on a particular platform is the QR code, which can be quickly read with a QR code reader application on a smartphone. QR codes also make it easier for people to quickly access data without having to manually input it (Ani et al., 2022). One of the main aspects of QR codes is their ease of use; users only need to scan the QR code with their phone camera, reducing the need to manually enter data, thus making transactions faster and more practical (Akbar et al., 2023). A short film in Javanese aimed directly at the people of Lamongan Regency is intended to make the message easier to understand, using elements of the local Kejawen language, which is a unique attraction for the people of Lamongan Regency. Along with the development of the digital era, it has become essential to be sensitive to the ongoing digital advancements.

METHOD

This study used a Quasi Experiment research design with a non-equVIAlent control group design approach. The study population was 304 women of childbearing age with a sample of 173 patients divided into 2 groups, namely 84 control groups and 89 intervention groups using the Cluster Sampling technique. The analysis tests used were Wilcoxon and Chi Square. The inclusion criteria in this study were all WUS aged 30-50 years in Jubel Kidul Village, who had an android cellphone, who were willing to become respondents by signing an informed consent sheet. Exclusion criteria are respondents who are not present at the time of the research, respondents who do not follow the research until it is completed.

The author collected data by visiting the Integrated Health Post (Polindes) in Jubel Kidul Village to gather information on women of childbearing age (30-50 years old) for intervention and to follow activities at the Community Health Center (Puskesmas) for the control group. The study was conducted over the next month, involving a single educational session. A pretest was administered before showing the short film, and a post-test measured knowledge levels immediately after the session. To assess behavioral changes, another evaluation was conducted one month after the session. This research has been approved by the Ethics Committee of the Research Institute of Universitas Muhammadiyah Lamongan under approval number 219/EC/KEPK-S1/06/2024.

RESULTS

Research Conducted in Jubel Kidul Village, Sugio District, Lamongan Regency: Data Collection Spanning 1 Month in March 2024. This study will present general and specific data as follows:

1. Characteristics of Women of Childbearing Age Based on Age in Jubel Kidul Village, Sugio District, Lamongan Regency.

Table 1. Characteristics of Respondents in the Control and Intervention Groups among Women of Childbearing Age Women in Jubel Kidul Village, Sugio District, Lamongan Regency in March 2024

Characteristic	Control		Intervention	
	F	%	F	%
Age				
30-35	36	42,9	27	30,3
36-40	12	14,3	17	19,1
41-45	14	16,7	26	29,2
46-50	22	26,2	19	21,3
Total	33	100	33	100
Education				
Elementary School	21	25,0	29	32,6
Junior High School	32	38,1	31	34,8
Senior High School	27	32,1	26	29,2
Bachelor	4	4,8	3	3,4
Total	**84**	**100**	**89**	**100**
Occupation				
Housewife	51	60,7	43	48,3
Farmer/Fisher	14	16,7	23	25,8

Civil Servans/ Teacher	0	0	3	3,4
Military/police				
Entrepreneur	19	22,6	20	22,5
Total	**84**	**100**	**89**	**100**
Husband's Occupation				
Trader				
Farmer/Fisher	26	31,0	41	46,1
Civil Servans/ Teacher	7	8,3	3	3,4
Military/Police	0	0	4	4,5
Entrepreneur	51	60,7	41	46,1
Total	**84**	**100**	**89**	**100**

Primary data source 2024

Based on the data in Table 1 above, it can be observed that in the control group, nearly the majority (42.9%) of women of childbearing age were aged 30-35 years, while in the intervention group, nearly the majority (30.3%) of women were also age 30-35 years. Furthermore, regarding the highest level of education, in the control group, nearly the majority (38.1%) of women had completed junior high school or its equVIAlent, while in the intervention group, nearly the majority (34.8%) of WUS had the same educational background. Regarding occupation, it was noted that in the control group, nearly the majority (60.7%) of women were not employed or were homemakers, while in the intervention group, nearly the majority (48.3%) of women were also not employed or were homemakers. As for the husbands' occupations, in the control group, almost the majority (60.7%) of the husbands of women were entrepreneurs, whereas in the intervention group, a similar proportion (46.1%) had husbands who were farmers, and an equal proportion (46.1%) worked as farmers themselves.

2. Differences in Knowledge of Women of Childbearing Age in the Control Group Before and After Being Given Health Education About Early Detection of Cervical Cancer Using the VIA Method.

Table 2. Differences in Knowledge of the Control Group Before and After Receiving Health Education on Early Detection of Cervical Cancer using VIA Method in Jubel Kidul Village, Sugio, Lamongan

Pre Contol Knowledge Criteria	**Post Control Knowledge Criteria**						**Total**	
	Insufficient		**Sufficient**		**Good**			
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Insufficient	3	5,7	9	17,0	41	77,4	53	100
Sufficient	2	7,1	7	25,0	19	67,9	28	100
Good	0	0,0	2	66,7	1	33,3	3	100
Amount	**5**	**6,0**	**18**	**21,4**	**61**	**72,6**	**84**	**100**
Uji Wilcoxon Signed Ranktest P=0,000								

Primary data source 2024

Based on the data in Table 2 above, it shows that among 53 Women of Childbearing Age in the control group before receiving health education, the majority had inadequate knowledge. After receiving health education, 3 respondents (5.7%) still had inadequate knowledge, 9 respondents (17.0%) had sufficient knowledge, and the majority, 41 respondents (77.4%), improved to good knowledge. Among the 28 women in the control group who initially had sufficient knowledge, after health education, 2 respondents (7.1%) had inadequate knowledge, 7 respondents (25.0%) retained sufficient knowledge, and 19 respondents (67.9%) improved to good knowledge. For the 3 respondents who initially had good knowledge, after health education, 2 respondents (66.7%) had sufficient knowledge and 1 respondent (33.3%) retained good knowledge. This is supported by the results of the SPSS 23.0 test using the Wilcoxon test with a significance of 0.000, where p=<0.05, indicating a significant difference in health education using short film media on knowledge levels regarding Pap smear examinations among women of childbearing age.

3. Differences in Knowledge of Women of Childbearing Age in the Intervention Group Before and After Being Given Health Education About Early Detection of Cervical Cancer Using the VIA Method.

Table 3. The Difference in Knowledge of the Intervention Group Before and After Being Given a Short Film About Early Detection of Cervical Cancer Using the VIA Method in Jubel Kidul Sugio Lamongan Village.

Pre-Knowledge	Post-Knowledge						Total	
	Insufficient		Sufficient		Good			
	N	%	N	%	N	%	N	%
Insufficient	1	2,3	0	0,0	43	97,7	44	100
Sufficient	1	2,4	2	4,8	39	92,9	42	100
Good	0	0,0	0	0,0	3	100	3	100
Amount	**2**	**2,2**	**2**	**2,2**	**85**	**95,5**	**89**	**100**
Uji Wilcoxon Signed Ranktest P=0,000								

Primary data source 2024

Based on the data in Table 3, it is shown that among 44 women of childbearing age in the intervention group, the majority had low knowledge levels before being given the Javanese-language short film based on a QR code. After the intervention, only 1 respondent (2.3%) still had low knowledge, while the majority, 43 women (97.7%), had good knowledge. In the intervention group of 42 WUS who initially had moderate knowledge levels, after being given the Javanese-language short film based on a QR code, 1 women (2.4%) still had low knowledge, 2 respondents (4.8%) maintained moderate knowledge, and 39 respondents (92.9%) improved to good knowledge levels. Additionally, among the 3 who had good knowledge levels before and after being given the short film, their knowledge remained good. This can be evidenced by the results of the SPSS 23.0 Wilcoxon test with a significance of 0.000, where p=<0.05, indicating that there is a significant difference in the knowledge levels about VIA examinations among women of childbearing age after the intervention with the Javanese-language short film based on a QR code.

4. Differences in the Participation of Women of Fertile Age in the Control Group Before and After Providing Health Education Education on Early Detection of Cervical Cancer by VIA Method.

Table 4. The Difference in Participation of the Control Group Before and After Being Given Health Education About Early Detection of Cervical Cancer Using the VIA Method in Jubel Kidul Sugio Lamongan Village.

Pre-Control Participation	Post Control Participation				Total	
	Non Participation		Participation			
	N	%	N	%	N	%
Non Participation	77	93,9	5	6,1	82	100
Participation	2	100	0	0,0	2	100
Amount	79	79,8	5	20,2	84	100
Uji Wilcoxon Signed Ranktest P=0,247						

Primary data source 2024

Based on the data in the table above, it is shown that among 82 women of childbearing age in the control group, before receiving health education, the majority, 77 women (93.9%), did not participate in or had never undergone an VIA examination, and only 5 women (6.1%) participated in an VIA examination after receiving health education. Meanwhile, out of the 2 respondents who had previously participated in an VIA examination, they did not undergo the examination after receiving health education. From these data, it can be concluded that there is no significant difference in participation before and after the health education intervention. This is evidenced by the results of the SPSS 23.0 Wilcoxon test with a significance value of 0.06, where p=>0.05, indicating that there is no significant difference in the level of knowledge about VIA examinations among women of childbearing age after health education with the short film media.

5. Differences in Participation of Women of Fertile Age in the Intervention Group Before and After Providing Health Education Education on Early Detection of Cervical Cancer by VIA Method.

Table 5. The Difference in Participation of the Intervention Group Before and After Being Given a Short Film About Early Detection of Cervical Cancer Using the VIA Method in Jubel Kidul Sugio Lamongan Village.

Pre Intervention participation	Post Intervention participation				Total	
	Non Participation		Participation			
	N	%	N	%	N	%
Non Participation	70	79,5	18	20,5	88	100
Participation	1	100	0	0,0	1	100
Amount	71	79,8	18	20,2	89	100
Uji Wilcoxon Signed Ranktest P=0,000						

Primary data source 2024

Based on the data in the table above, it is shown that among the 88 women of childbearing age in the intervention group, before being given the Javanese-language short film based on a QR code, the majority, 70 women (79.5%), had not participated in or had never undergone an VIA examination. After receiving the health education, 18 women (20.5%) participated in an VIA examination. Meanwhile, of the WUS in the intervention group, 1 women who had previously participated in an VIA examination did not undergo the examination after being given the Javanese-language short film based on a QR code. This can be evidenced by the results of the SPSS 23.0 Wilcoxon test with a significance value of 0.000, where $p<0.05$, indicating that the Javanese-language short film based on a QR code had an influence on participation in VIA examinations among women of childbearing age.

6. The effect of knowledge of women of childbearing age after being given health education about early detection of cervical cancer by VIA method..

Table 6. The Effect of Knowledge After Being Given a Short Film About Early Detection of Cervical Cancer Using the VIA Method in Jubel Kidul Sugio Lamongan Village.

Pre Contol Knowledge Criteria	**Post Control Knowledge Criteria**						**Total**	
	Insufficient		**Sufficient**		**Good**			
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Insufficient	0	0,0	0	0,0	5	100	5	100
Sufficient	1	5,6	1	5,6	16	88,9	18	100
Good	1	1,6	1	1,6	59	96,7	61	100
Amount	**2**	**2,4**	**2**	**2,4**	**80**	**95,2**	**84**	**100**
Uji Chi-Square Signed Ranktest P=0,709								

Primary data source 2024

Based on the data in the table above, it shows that 5 women of childbearing age in both the control and intervention groups, 5 women (100%), maintained good knowledge. Among the 18 WUS in the control group who had moderate knowledge, after being given the Javanese-language short film based on a QR code, 1 women (5.6%) had low knowledge, 1 women (5.6%) maintained moderate knowledge, and 16 women (88.9%) improved to good knowledge. Similarly, among the 61 WUS in the control group who had good knowledge, after the intervention with the Javanese-language short film based on a QR code, 1 women (1.6%) had low knowledge, 1 women (1.6%) maintained moderate knowledge, and 59 women (96.7%) remained with good knowledge. These findings were tested using SPSS 23.0 with a Chi-Square test yielding a significance value of 0.709, where $p>0.05$. This indicates that there was no significant influence of the Javanese-language short film based on a QR code on the knowledge levels regarding VIA examinations among women of childbearing age in both the control and intervention groups.

7. Effect of Fertile Age Women's Participation After Provided Health Education on Early Detection of Cervical Cancer by VIA Method.

Table 7. The Effect of Participation After Being Given a Short Film About Early Detection of Cervical Cancer Using the VIA Method in Jubel Kidul Sugio Lamongan Village.

Pre Intervention participation	**Post Intervention participan**				**Total**	
	Non Participation		Participation			
	N	%	N	%	N	%
Non Participation	68	86,1	11	13,9	79	100
Participation	1	20,0	4	80,0	5	100
Amount	69	82,1	15	17,9	84	100
Uji Chi-Square Signed Ranktest P=0,000						

Primary data source 2024

Based on the data in the table above, it shows that among the 79 women of childbearing age after being given health education in the control group, the majority, 68 women (86.1%), did not participate or had never undergone an VIA examination. In the intervention group, after being given the Javanese-language short film based on a QR code, 11 women (13.9%) participated in an VIA examination. Among the 5 women in the control group who had received health education, 1 women (20.0%) did not participate in the VIA examination, whereas in the intervention group, after being given the Javanese-language short film based on a QR code, 4 WUS (80.0%) participated in the VIA examination. This can be evidenced by the results of the SPSS 23.0 Chi-Square test with a significance value of p=0.000, where p<0.05. This indicates that there is an influence of the Javanese-language short film based on a QR code on participation in VIA examinations among women of childbearing age in both the control and intervention groups.

DISCUSSION

This study shows that the level of knowledge before being given health education using Javanese language short films based on QR codes regarding the knowledge and participation of women of childbearing age in VIA examinations was mostly low, likely due to a lack of information. The increase in knowledge among women of childbearing age can be attributed to educational factors.. This finding is supported by research conducted by Aidzin (2020), which states that junior high school (SMP) is the stage where students begin to actively consider and process information more deeply, and also start to develop more advanced social, emotional, and cognitive skills. Therefore, it can be concluded that their level of knowledge and the process of receiving information are better compared to someone whose last level of education was elementary school. One of the factors contributing to the increase in knowledge in the control group is age, where younger individuals have stronger memory and curiosity. The age range of 30-35 is a productive period in terms of maturation and thinking processes. This study is also in line with the research by Dewi et al. (2021), which showed significant results between age and knowledge, indicating that a person's age can also affect their ability to understand and think.

One way to improve the knowledge of women of childbearing age is through short films. According to Lailatul Ulul Az et al. (2023), health education using films can be very effective because it can visualize information in an engaging and captVIAting manner. When using this method, the chosen film should be relevant to the health message being

conveyed and targeted to the appropriate audience. Short films can present information visually, making it easier for the audience to understand and remember, especially for complex concepts. Hardiyanti (2018) states that films can capture the audience's attention with compelling stories, engaging characters, and attractive visual effects, making the health message more prominent and easier to accept. Films often depict real-life situations, allowing the audience to easily relate the information conveyed to their own experiences (Kamil et al., 2018). Films can be accessed by various segments of society, including those living in remote areas or with limited access to other educational resources. Films can combine audio, visual, and text to convey health messages, catering to different learning styles of the audience. Some health topics may be sensitive to discuss directly but can be addressed more gently through storytelling in films (Riyana, 2023). In the control group, using lecture techniques provided by the community health center, lectures are typically delivered systematically and structured, allowing presenters to adjust material in real-time based on audience responses and understanding. According to Karmila (2018), providing detailed explanations on specific topics, direct interaction between speaker and audience allows for Q&A sessions and discussions that clarify the presented material. Speakers can promptly respond to questions or audience confusion. The credibility and expertise of the speaker can enhance the audience's trust in the information presented. In the intervention group, utilizing short films in Javanese language based on QR-Code employs visual and audio elements to explain complex concepts, making them easier for the audience to understand and remember. This study is consistent with Masturo (2016), who stated that films can shape new perspectives and influence society with the messages contained within them. The use of illustrations and actual recordings can clarify explanations that are difficult to understand through text or words alone.

The method of using Javanese-language films represents an innovative approach by researchers to attract and increase participation in VIA screenings, particularly among East Javanese communities. This research aligns with Mulyati et al. (2015), emphasizing the importance of language in films, through which viewers can gain insights into the personal lives of characters. The films portray real-life scenarios, aiming to convince viewers that the characters portrayed are individuals with identities and lifestyles that feel authentic, encompassing their personalities and daily cultures. Moreover, utilizing QR-Codes facilitates easier access to these films, applicable in various educational and training contexts without requiring the physical presence of speakers (Hidayatulloh et al., 2023). This is consistent with research by Nurhikmah & Budiman (2019), indicating that Barcode services streamline data input processes for faster and more accurate information retrieval.

CONCLUSION

In the control group, prior to receiving health education, the majority of respondents had inadequate knowledge. After receiving health education, most respondents showed improved knowledge. There was also an increase in participation rates for VIA screenings. Therefore, it can be concluded that there was an improvement in knowledge after receiving the short films, which in turn increased the participation rates of women of reproductive age in undergoing VIA examinations. Based on this information, the findings can be disseminated widely through QR-Codes for broader community access.

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Research Article

The Effect of Giving Jusemi Therapy (Watermelon Juice and Islamic Music) on Lowering Blood Pressure of Patients with Hypertension in Mojoasem Hamlet, Gresik District

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ABSTRACT
Hypertension is a worldwide health problem and a major factor in cardiovascular disease. Management can be done with non-pharmacological therapy, namely the provision of JUSEMI combination therapy for 7 days. The purpose of this study was to determine the effect of JUSEMI therapy on lowering blood pressure in patients with hypertension. This research design uses a pre-experimental design using the One Group Pre Test Post Test Design approach and uses a sample of 54 hypertensive patients obtained by total sampling technique. The instruments in this study are blood pressure measurement observation sheets and blood pressure measurements using a manual sphygmomanometer. Data analysis using the Wilcoxon Signed Rank Test. The results of the study before being given JUSEMI therapy showed a mean systolic blood pressure value of 156.81 mmHg and a diastolic average of 99.09 mmHg, then after being given JUSEMI therapy the mean value was 144.46 mmHg and diastolic 88.2 mmHg. From the results of the Wilcoxon Signed Rank Test, a significant value of p 0.000 ($p < 0.05$) was obtained, which means that there is an effect of JUSEMI therapy on lowering blood pressure in hypertensive patients. In JUSEMI therapy there is a decrease in blood pressure due to the role of watermelon juice which contains L-citiruline which lowers blood pressure. Given Islamic music therapy that can relax the patient when listening to it.

KEY WORDS
Blood Pressure,Hypertension, Islamic Music and Watermelon Juice

INTRODUCTION

Hypertension is a "silent killer" where symptoms can vary in each individual and are almost the same as symptoms of other diseases (Alhuda et al., 2018). Hypertension is a condition where a person experiences an abnormal increase in blood pressure (Kemenkes RI, 2019). The symptoms that most often accompany hypertension are headache and fatigue. These are symptoms that make most patients need medical help (Sinta, 2021).

According to the World Health Organization (WHO) in 2018, the number of people with hypertension in the world continues to increase every year, it is estimated that in 2025 there will be 1.5 billion people affected by hypertension (Kemenkes RI, 2018). Based on the results of the Basic Health Research in 2018 (RISKESDAS) The number of hypertension cases in Indonesia is 63,309,620 people, while the death rate in Indonesia due to hypertension is 427,218 deaths. Based on the measurement results of 34.1%, the highest in South Kalimantan was 44.13%, while the lowest in Papua was 22.22%. Based on Health Office Data (DINKES) In 2018, the number of people in Gresik Regency who suffered from hypertension was 36.65% or 52,169 people. Based on data on hypertension sufferers in Sidayu Subdistrict, Mojoasem Village is ranked 10th in hypertension sufferers with a prevalence of 32.7%. Mojoasem Hamlet is a hamlet located in Mojoasem Village, Gresik Regency, which has a POLINDES where data on patients with hypertension in June-August 2023 were 38 people. patients who suffer from hypertension and tend to be uncontrolled, as evidenced by the results of blood pressure checks that are still quite high.

Hypertension is caused by many factors, the factors that trigger hypertension can be divided into two that cannot be controlled and can be controlled, which can be controlled are smoking, excessive salt consumption, obesity, lack of physical activity, excessive alcohol consumption, high fat diet and stress. Those that cannot be controlled are heredity, age, gender, due to hormonal factors in women the incidence of hypertension is higher than men (A, et al., 2022). Hypertension generally has an impact that can cause several complications that arise due to hypertension that is not properly managed including Transient Ischemic Attack, Myocardial Infarction, Diabetes Mellitus, Chronic Kidney Disease and blindness. Most people do not feel anything, even though their blood pressure is far above normal. Many of these complications lead to death, so it is the complications that are recorded as the cause of death. (Wolff et al., 2017).

Management of hypertension apart from pharmacology can also use spiritual-based relaxation techniques. The use of anti-hypertensive administration, in addition to pharmacological therapy, there is non-pharmacological therapy or better known as traditional medicine (herbal) (Hidayat, Hasanah, & Susanti, 2018). Watermelon juice can lower blood pressure due to the content of watermelon called L-citiruline and L-argine, this substance is able to stimulate the production of chemical compounds that help blood vessels become flexible and relaxed so that blood pressure decreases (Permata Sari et al., 2017). According to Aizid in research Safitri (2022) Music therapy can stimulate the hypothalmus which can make feelings calmer and more relaxed. Islamic music therapy is a therapy that uses Islamic music media to overcome health problems because Islamic music tends to have a soothing rhythm.

From some of these things, of course these two treatments are useful in the process of controlling blood pressure in patients who experience hypertension. Based on the explanation above, the authors are interested in combining the two therapies, to find out

whether there is an effect of JUSEMI combination therapy (Watermelon Juice and Islamic Music) on reducing blood pressure in hypertensive patients in Mojoasem Hamlet.

METHODS

This research was conducted in Mojoasem Hamlet, Mojoasem Village, Gresik Regency starting from April to May 2024. This research includes quantitative research with the research design used is quasi-experimental using a one group pre-test and post-test approach, which is a research design that uses reveals the causal relationship by involving one group of subjects, which is measured before and after treatment. The population in this study were all hypertensive patients in Mojoasem Hamlet, Mojoasem Village. Sampling using total sampling technique with inclusion criteria, namely hypertensive patients, having blood pressure> 130 mmHg, aged 19-64 years, Muslim, and willing to become respondents. The sample amounted to 54 people. The data collection tools used were SOP (Standard Operating Procedure) and stethoscope, manual sphygmomanometer. SOP is used as a guide in carrying out the combination therapy of JUSEMI (Watermelon Juice and Islamic Music), while the stethoscope, manual sphygmomanometer is used to measure blood pressure pre test and post test. Data analysis used is univariate analysis to determine the frequency distribution and bivariate analysis using the Wilcoxon test to determine the effect of JUSEMI therapy (Watermelon Juice and Islamic Music) on lowering blood pressure in patients with hypertension.

RESULTS

1. General Data

Table 1. Frequency Distribution of Respondent Characteristics of Hypertension Patients in Mojoasem Hamlet, Mojoasem Village

Characteristics	Frequency	Presentage (%)
Age		
17-25	3	5,6
36-45	12	22,2
46-55	19	35,2
56-64	20	37,0
Total	**54**	**100**
Gender		
Male	22	40,7
Female	32	59,3
Total	**54**	**100**
Last Education		
SD	23	42,6
SMP	4	7,4
High school	27	50,0
Total	**54**	**100**
Jobs		
Housewife	27	50,0
Fisherman	21	38,9
Self-employed	6	11,1
Total	**54**	**100**

Based on table 1, it can be explained that almost half of the respondents with hypertension in Mojoasem Village are aged 56-64 years (37.0%) and a small proportion of hypertensive patients aged 17-25 years (5.6%). In the table it can be explained that more than most of the respondents were female, namely 32 respondents (59.3%) and almost some were male, namely 22 respondents (40.7%). In the table it can be seen that most of the respondents have a high school education, namely 27 respondents (50.0%) and almost a small percentage have a junior high school education, namely 4 respondents (7.4%). In the table it can be seen that most respondents work as housewives, namely 27 respondents (50.0%) and a small proportion of respondents work as entrepreneurs, namely 6 respondents (11.1%).

2. Special Data

1) Blood Pressure in Hypertension Patients Before Giving JUSEMI Therapy (Watermelon Juice and Islamic Music) in Mojoasem Village, Sidayu District, Gresik Regency.

Table 2 Distribution of Blood Pressure of Hypertension Patients Before Giving JUSEMI Therapy (Watermelon Juice and Islamic Music) in Mojoasem Village, Sidayu District Gresik Regency

Blood Pressure	**Pre Test**			
	Systolic		Diastolic	
	F	%	F	%
Normal	0	0	0	0
Pre-hypertension	30	55,6	24	44,4
Grade I hypertension	20	37,0	23	42,6
Grade II hypertension	4	7,4	7	13,0
Total	54		100	
Average	156,81		99,00	

Based on table 2 above shows that before giving JUSEMI therapy (Watermelon Juice and Islamic Music) most patients experienced pre-hypertension as many as 30 respondents (55.6%), and a small proportion of hypertensive patients experienced grade II hypertension as many as 4 respondents (7.4%). And diastolic bloodpressure, almost 44.4% experienced pre-hypertension and a small proportion of 13.0% experienced grade II hypertension.

2) Blood Pressure in Hypertension Patients After Being Given JUSEMI Therapy (Watermelon Juice and Islamic Music) in Mojoasem Village, Sidayu District, Gresik Regency.

Table 3 Distribution of Blood Pressure of Hypertension Patients After Giving JUSEMI Therapy (Watermelon Juice and Islamic Music) in Mojoasem Village, Sidayu District Gresik Regency

Blood Pressure	**Post Test**			
	Systolic		Diastolic	
	F	%	F	%
Normal	22	40,7	28	51,9
Pre-hypertension	23	42,6	17	31,5
Grade I hypertension	9	16,7	8	14,8
Grade II hypertension	0	0	1	1,9
Total	54		100	
Average	144,46		88,85	

Based on table 3 above shows that after giving JUSEMI therapy (Watermelon Juice and Islamic Music), almost some experienced pre-hypertension as many as 23 respondents (42.6%), then a small proportion experienced moderate grade I hypertension as many as 9 respondents (16.7%). And diastolic pressure more than most of 51.9% experienced normal hypertension and a small portion of 1.9% experienced grade II hypertension.

3) Identifying Blood Pressure in Hypertension Patients After Being Given JUSEMI Therapy (Watermelon Juice and Islamic Music) in Mojoasem Village, Sidayu District, Gresik Regency.

Table 4 Analyzing the Effect of JUSEMI Therapy (Watermelon Juice and Islamic Music) on reducing blood pressure in hypertensive patients in Mojoasem Village, Sidayu District, Gresik Regency.

Blood Pressure	Mean	Min	Max	SD	t	Sig. (2-tailed)
Pre Test Sistolik	156,81	140	182	12,439	12,35	<0,001
Post Test Sistolik	144,46	110	175	13,910		
Pre Test Diastolik	99,00	90	120	7,289	10,11	<0,001
Post Test Diastolik	88,89	80	110	8,105		
Wilcoxon test P = <0,001 *(P<0,5)*						

Based on table 4 above, it can be explained that the blood pressure of hypertensive patients before giving JUSEMI therapy (Watermelon Juice and IslamicMusic) systolic blood pressure has an average of 156.81 and after giving JUSEMI therapy(Watermelon Juice and Islamic Music) has an average value of 144.46 with a difference in value of 12.35. Then obtained the diastolic blood pressure value before giving JUSEMI therapy (Watermelon Juice and Islamic Music) has an average value of 99.00 and after giving JUSEMI therapy (Watermelon Juice and Islamic Music) has an average value of 88.89 with a difference in average value of 10.2. The decrease in blood pressure in hypertensive patients occurs because they have been given JUSEMI therapy (Watermelon Juice and Islamic Music).

The results of the Wilcoxon Sign test that have been carried out by researchers using the SPSS for windows version 27 program show the Sig. (2-tailed) <0.001, therefore H1 is accepted. This is where p <0.05 so that H1 which means there is an effect of giving JUSEMI therapy (Watermelon Juice and Islamic Music) on loweringblood pressure in hypertensive patients in Mojoasem Village, Sidayu District, Gresik Regency.

DISCUSSION

Based on the results of the study, it can be explained that before being given JUSEMI Combination Therapy (Watermelon Juice and Islamic Music) on blood pressure in hypertensive patients, the average value is 156.81 mmHg for systolic pressure and 99.00 mmHg for diastolic blood pressure. The results of the pre-test blood pressure observation showed that there were still many hypertensive patients who did not understand the importance of JUSEMI. how to treat hypertension with non-pharmacological therapy. The average patient who experiences hypertension may be caused by internal and external factors, one of the internal factors includes age, gender, education, occupation.

JUSEMI therapy (Watermelon Juice and Islamic Music) itself is a therapy carried out by giving watermelon juice that can be drunk once a day for 1 week and listening to

Islamic music. Watermelon juice therapy contains L-citiruline. L-citiruline is able to stimulate the production of chemical compounds that help blood vessels become flexible and relaxed, this substance turns into arginine, a type of amino acid that is efficacious for the heart and circulatory and immune systems that are proven to lower blood pressure (Renga et al., 2018). While Islamic music therapy is an activity of listening to Islamic music, this therapy aims to stimulate a decrease in sympatheticnerve activity and increased activity. One of them is murotal Al- Quran which canprovide a calming effect, this gives a response to the hypothalamus to release the endorphin hormone which makes a person feel happy, so that it can lower bloodpressure (Wahyuni et al., 2021). This research is in line with research Yuliana (2023), which states that music can affect the decrease in blood pressure in hypertensivepatients.

This research is in line with Sari's research (2023) one of the complementary therapies used for independent intervention is watermelon juice. The purpose of this study was to analyze the effect of drinking watermelon juice on lowering blood pressure in people with hypertension, a therapy that is useful and easy to do independently such as JUSEMI therapy (Watermelon Juice and Listening to Islamic Music) can be used as an alternative therapy as an effort to reduce blood pressure in people with hypertension. Patients in this study are in the treatment of high blood pressure. This is in accordance with the inclusion criteria carried out by researchers.

Based on the results of the study showed that there was an effect of JUSEMI combination therapy (watermelon juice and Islamic music). This is evidenced by blood pressure before giving JUSEMI therapy (Watermelon Juice andIslamic Music) has an average of 156.81 mmHg for systolic blood pressure and 99.00 mmHg for diastolicblood pressure. Then after being given JUSEMI therapy (Watermelon Juice and Islamic Music), the average value was 144.46 mmHg for systolic blood pressure and 88.89 mmHg for diastolic blood pressure. The decrease in blood pressure occurred because it was given JUSEMI therapy (Watermelon Juice and Isami Music) by drinking watermelon juice 300 ml once a day for 1 week.

This is in line with Suharman and Adibah's research in (Laksana et al., 2022) which says that watermelon has ingredients that are beneficial in controlling blood pressure, such as potassium, fiber, water, vitamin C, vitamin A, vitamin B6, vitamin K, and the amino acid citrulline. Potassium contained in watermelon can reduce blood pressure significantly because it can dilate blood vessels to flow more smoothly and decrease peripheral resistance.

The provision of Islamic music listening therapy in research (Safitri et al., 2022) says that listening to Islamic music can reduce anxiety in patients with hypertension becauseit can increase endorphin production, because listening to Islamic music can stimulate the release of endorphin hormones which can reduce anxiety and cause a sense of comfort.

In a study conducted (Nurleny, 2019) stated that after being given watermelon juicefor 7 consecutive days in the morning and evening, it was found that the blood pressure of hypertensive patients decreased, this is because watermelon contains the amino acidcitrulline which is used by the body to produce the amino acid arginine, an acid that canbe used as an antioxidant. Amino arginine is used by cells lining the blood vessels to make nitric oxide, which relaxes the blood vessels and lowers blood pressure.

Based on the description above, the researcher assumes that the combination of JUSEMI therapy (Watermelon Juice and Islamic Music) has an effect on reducing the systolic and diastolic blood pressure of hopertensives, this is because the watermelon juice content contains *L-citiruline* which is able to help

blood vessels become flexible and relaxed, thereby lowering blood pressure. While Islamic music itself can reduce anxiety in people who experience hypertension because it can increase the release of endorphins which can lower blood pressure and relax muscles and nerves. It is hoped that people with hypertension can carry out JUSEMI (Watermelon Juice and Islamic Music) therapy regularly as taught and sufferers must also maintain a healthy lifestyle such as a sodium / salt diet, stop smoking, do activities, do not consume alcohol,maintain weight and routinely take anti-hypertensive drugs according to the doctor's dose.

CONCLUSIONS

Most of the hypertensive patients in mojoasem hamlet, mojoasem village, sidayu sub- district,esik regency experienced a decrease in blood pressure after being given JUSEMI therapy (Watermelon Juice and Islamic Music). There is an effect of giving JUSEMItherapy on lowering blood pressure of hypertensive patients in mojoasem hamlet,mojoasem village, sidayu sub-district, gresik regency. It is hoped that people with hypertension can read and learn about the causes of hypertension and hypertension treatment and can use this therapy as an alternative therapy to lower blood pressure.

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RESEARCH ARTICLE

The Relationship of Parental Communication Patterns and Child Gender with the Incidence of Temper Tantrums in Preschool-Age Children

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ABSTRACT
Temper tantrum is an emotional outburst that often occurs in children which is influenced by the way parents communicate with their children and differences in child gender. The purpose of this study was to determine the relationship between parental communication patterns and child gender with the incidence of temper tantrums in preschool children at Muslimat NU Kindergarten Sugio Lamongan Village. This research design uses a cross sectional approach, the population amounted to 98 children at the Muslimat NU Kindergarten Sugio Village, which was taken with stratified simple random sampling technique obtained as many as 78 children. Data were collected using a questionnaire and then analyzed using the spearman rank test and the contingency coefficient test with a significance level of p = 0.05. The results showed that poor parental communication patterns experienced temper tantrums (30.8%). This study also shows that the gender of the child with the incidence of temper tantrums, where boys experience temper tantrums more often than girls (28.2%). While the results of statistical tests obtained a p value of 0.000 with (r = 0.529) and (c = 0.431) means that there is a relationship between parental communication patterns and child gender with the incidence of temper tantrums in preschool children at Muslimat NU Kindergarten Sugio Lamongan Village. Parental communication is very influential in controlling temper tantrum behavior in children. Parents can increase the intensity of communication with children to reduce temper tantrums in children.

Keywords
Parental Communication Patterns, Child Gender, Temper Tantrum Incidence.

INTRODUCTION

Tantrums are a common outburst of uncontrolled emotion or anger in children. Children tend to have their own desires and often vent their emotions uncontrollably. Children can cry, shout, slam things if their wishes are not met. If the child's anger is getting out of control, the parents are the ones who are most bothered and responsible for calming the child down. Parents often lose their temper, scold their children to the point of violence and hurt their children. This action does not make the child calm and silent from crying. But the child's anger becomes even more intense and difficult to calm down (Yuw'Wiyouf et al., 2017).

Based on the results of previous research conducted by Lauren Waksclag in Nurhayati et al., (2023), in the Journal of Child Psychology and Psychiatry proves that preschool-age children who experience tantrums are 83.7%. In Indonesia, toddlers who usually experience this within one year, 23-83% percent of children aged 3-6 years have experienced temper tantrums (Qalam et al., 2023). According to data from the World Health Organization (WHO), the prevalence of temper tantrums in toddlers in 2022 is 28.7%. According to data from the Health Office (2022), 27.8% of early childhood social and emotional development is inappropriate. Based on the Basic Health Research (Riskesdas) in 2022, the prevalence of temper tantrums in preschool children aged 3-6 years reached 88.3%. East Java Province reported that 71.9% of preschool children had impaired emotional development (Sholikha et al., 2021).

According to Sari et al., (2019), there are several factors that can influence children's temper tantrums, namely: Physical factors such as fatigue, hunger, illness, psychological factors such as children feeling depressed, failing, or feeling insecure, and parental factors such as age, occupation, parenting, communication patterns. Parental communication patterns can affect child development because communication is a tool or bridge in family relationships. Poor family communication will have a negative impact on the integrity and harmony of the family itself. In addition, gender also affects children's tantrum behavior because men have a higher emotional level than women.

Communication patterns can affect children's social, emotional and cognitive development, if parents provide communication patterns to their children incorrectly, it will have a major effect on the emotional development of their children or have an impact on the development of children's learning that is not good (Katili, 2022). Based on gender characteristics, children who experience temper tantrums are mostly found in boys and girls. Boys are louder than girls where boys usually tend to get angry often by kicking, hitting and throwing objects around them, while girls have more often shown a spoiled attitude and often cry or are more sensitive and tend to want attention (Watiningsih et al., 2018).

If ignored, temper tantrums can have an impact on a child's emotional development. Children tend to imitate existing events, so if a child who is having a tantrum is observed by a child who is not having a tantrum, this can have an impact on the surrounding environment, imitating existing events. To overcome this, parents play an important role in parenting, especially through effective communication (Supriyanti & Hariyanti, 2019). Efforts in handling temper tantrums in children certainly require effective, appropriate and good communication behavior from parents in dealing with the condition of children who are experiencing tantrums. Good communication patterns will have a positive impact on family unity and harmony as well as children's emotional development.

Some strategies that parents should do to overcome temper tantrums are learning to control their own and others' anger, distracting or redirecting the child, finding the cause of anger or temper tantrums in the child, avoiding shaming the child about his anger, teaching the child about the level of intensity of anger, paying attention, praising, and rewarding appropriate behavior, maintaining open communication with the child, teaching understanding and empathy by making the child aware of the effects of his actions on others.

METHOD

This study used non-experimental quantitative research with a correlation study design with a cross-sectional survey approach. The study population was 98 children aged 3-6 years at the Muslimat NU Kindergarten in Sugio Village. The study sample was 78 children selected by stratified simple random sampling method. Data collection used a questionnaire of parental communication patterns and a questionnaire of temper tantrum incidence. Data analysis used spearman rhank test and keofisen contingency test.

RESULT

Table 1. Frequency Distribution of Children Based on Children's Age, Children's Gender, Children's Order, Children's Siblings, and Parents' Frequency Based on Parents' Age, Parents' Gender, Parents' Education, Parents' Occupation, and Parents' Income at Muslimat NU Kindergarten in Sugio Village, Sugio Subdistrict, Lamongan Regency

Child Characteristics	N	%
Child"s Age		
3 Year's old	14	17,9%
4 Year's old	15	19,2%
5 Year's old	23	29,5%
6 Year's old	26	33,3%
Quantity	**78**	**100%**
Child Gender		
Male	40	51,3%
Female	38	48,7%
Quantity	**78**	**100%**
Child Order		
1 St	40	51,3%
2 St	32	41,0%
3 St	6	7,7%
Quantity	**78**	**100%**
Number Of		
Sibling	37	47,4%
Sibling of child 1	8	10,3%
Sibling of child 2	22	28,2%
Sibling of child 3	10	12,%
Sibling > 3	1	1,3%
Quantity	**78**	**100%**
Parent Characteristics		
Parent's Age		
< 20 Year's	2	2,6%
21-30 Years	66	84,6%
>30 Years	10	12,8%
Quantity	**78**	**100%**

Gender Of Parent's		
Male	0	0%
Female	78	100%
Quantity	**78**	**100%**
Parental Education		
Elemantary shcool	1	1,3%
Junior high shcool	14	17,9%
High shcool	48	61,5%
College	15	19,2%
Quantity	**78**	**100%**
Parent's Ocupation		
Housewife	31	39,7%
Farmer	8	10,3%
Private	16	20,5%
Self-employed	15	19,2%
Civil servant	8	10,3%
Quantity	**78**	**100%**
Parent's Income		
< 2.500.000	47	60,3%
2.500.000 – 5.000.000	26	33,3%
>5.000.000	5	5,4%

Based on table 1 above, it can show the percentage results that the age of the child is almost partly (33.3%) aged 6 years, almost partly (51.3%) the child is male, almost partly (47.4%) the child has no siblings, almost entirely (84.6%) the age of the parents is 21-30 years old, all (1005) parents are female, most (61.5%) parents' education is high school, almost partly (39.7%) the occupation of the housewife (IRT), and most (60.3%) parents' income < 2,500,000.

Table 2 Frequency Distribution of Parental Communication Patterns, Gender of Children, and Incidence of Temper Tantrums in Preschool-Age Children at Muslimat NU Kindergarten, Sugio Village, Sugio Subdistrict, Lamongan Regency

Variabeles	N	%
Parental Communication Patterns		
Less comunication pattern	37	47,4%
Moderate communication pattern	21	26,9%
Good comunication pattern	20	25,6%
Quantity	78	100%
Child Gender		
Male	40	51,3%
Female	38	48,7%
Quantity	**78**	**100%**

Incidence of Temper Tantrums in Preschool-Aged Children		
Mild Temper Tantrum	15	19,2%
Moderate Temper Tantrum	27	34,6%
Severe Temper Tantrum	36	46,2%
Total	**78**	**100%**

Based on table 2 above, it can show the percentage results that parents' communication patterns (47.4%) parents apply less communication patterns, almost some (51.3%) children are male, and almost some (46.2%) children experience severe temper tantrums.

Table 3 Cross Table Based on Parental Communication Pattern with Temper Tantrum Incidence and Child Gender with Temper Tantrum Incidence in Preschool Age Children at Muslimat NU Kindergarten Sugio Village, Sugio Subdistrict, Lamongan Regency

Parental Communication Patterns	**Temper Tantrum Incident**							
	Light		Medium		Heavy		**Quantity**	
	N	%	N	%	N	%	N	%
Communication patterns are lacking	2	2,6	11	14,1	24	30,8	37	47,4
Communication patterns are lacking	2	2,6	13	16,7	6	7,7	21	26,9
good communication pattern	11	14,1	3	3,8	6	7,7	20	25,6
Quantity	15	19,2	27	34,6	36	46,2	78	100
Coleration ceoficient = 0,529					P = 0,000			

Child Gender	**Temper Tantrum Incident**							
	Light		Medium		Heavy		**Quantity**	
	N	%	N	%	N	%	N	%
Male	8	10,3	22	28,2	10	12,8	40	51,3
Female	7	9	5	6,4	26	33,3	38	48,7
Quantity	15	19,2	27	34,6	36	46,2	78	100
Contingency Coefficient Test = 0,431					P = 0,000			

Based on table 3 above that mothers who apply good communication patterns almost a small portion (3.8%) of children experience mild temper tantrums, while mothers who apply poor communication patterns almost some (30.8%) children experience severe temper tantrums. Based on the test results using the Spearman Rank test and using the SPPS 25.0 program with a significant level value (p) = 0.000 colleration value = 0.529 then H1 is accepted meaning that there is a relationship between parental communication patterns and the incidence of temper tantrums with a strong level of colleration, with a positive correlation direction. And based on the gender of children who experience temper tantrums dominant boys (51.3%), while girls who experience temper tantrums (48.7%). For the severity of temper tantrums, girls tend to be in the hard

category as much as (33.3%), while for boys in the moderate category (28.2%). Based on the test results using the Coefficient of Contingency test and using the SPSS 25.0 program with a significant level value (p) = 0.000 colleration value = 0.431, then H1 is accepted, meaning that there is a significant relationship between child gender and the incidence of temper tantrums with a strong correlation level, with a positive correlation direction.

DISCUSSION.

Communication Patterns of Parents in Muslimat NU Kindergarten Sugio Lamongan Village

From the results of the research table 10 above, it can be seen that a small proportion of parents use good communication patterns and almost half of parents apply poor communication patterns. In fact, parents apply poor communication patterns to children in the form of inactivity in listening, lack of attention, or lack of emotional support.

According to Smith & Jones, (2018) the number of parents who do not apply poor communication patterns can be caused by various factors. One of them is a lack of understanding about the importance of effective communication and how to implement it. Many parents may not realize how important it is to actively listen, use empathy, and avoid negative communication.

According to Werdianingsih, (2018) that the readiness of parents in carrying out their parenting patterns can be done with good education. The function of communication is to inform, where communication has a role as a provider of information needed by both individuals and groups that is used to gain knowledge, because if education is lacking, parents' knowledge is also lacking in providing good information to children because education plays an important role in caring for their children. Families need to be as often as possible and get used to so that the family always provides the right news so that there is good communication between each member in the family thus in the family environment and social environment (Wulandari, 2021).

Based on the description above, the researcher argues that the importance of good communication patterns in the family not only serves to maintain a healthy emotional relationship between parents and children, but also plays a role in preventing various psychological problems such as depression.

Gender of Children in Muslimat NU Kindergarten Sugio Lamongan Village

From the results of the study, it was found that most children were male, for the severity of temper tantrums, girls tended to be in the hard category as much as, while for boys in the moderate category. The fact obtained is that girls have a temper tantrum personality for the reason of showing a fussy attitude, whining, spoiled and often crying, or being more sensitive and tending to want attention. This finding is in line with the research of Jannah & Wirdatu Alini (2019), another factor of girls having a temper tantrum personality on the grounds that girls more often show a spoiled attitude and often cry or are more sensitive and tend to want attention. In addition, at all age levels and viewed as a group, girls show more fear than boys.

According to Syamsudin (2019), that temper tantrum behavior in preschool-age children is crying, biting, hitting, kicking, screaming, throwing the body on the floor, banging the head, and throwing things, temper tantrums often occur when children are angry and the child's tantrums are getting worse when parents try to persuade them.

Based on the description above, the researcher argues that the gender of the child can affect the severity and characteristics of temper tantrums at preschool age. Girls tend to exhibit temper tantrums with higher intensity, including fussing, whining, spoiling, and tantrums.

Incidence of Temper Tantrums in Preschool Children at Muslimat NU Kindergarten Sugio Lamongan Village

The research results showed that almost some children experienced severe temper tantrums and a small percentage of children experienced mild temper tantrums. It can be concluded that the factor in the occurrence of temper tantrums is caused by male gender. Boys tend to be stronger while girls tend to be weaker so they can form different personalities. Boys tend to use physical force to do something, so that if there are desires that are not fulfilled or when they are frustrated after not being able to do what they want, they react with negative behavior or temper tantrums.

This finding is different from research by Jannah & Wirdatu Alini (2019) which states that the incidence of temper tantrums is based on gender, showing that girls are higher than boys because girls tend to show a spoiled attitude and often cry or are more sensitive than boys.

Overall, this research emphasizes the importance of understanding and skills of parents and caregivers in managing temper tantrums in preschool children, by paying attention to differences in emotional expression between children's gender.

The Relationship between Parental Communication Patterns and the Incidence of Temper Tantrums in Preschool Age Children at Muslimat NU Kindergarten Sugio Lamongan Village

Based on the results of the analysis conducted with the spearman rank test, the p-value is 0.529 so that H1 is accepted, there is a relationship between parental communication patterns and the incidence of temper tantrums at the Muslimat NU Kindergarten, Sugio Village, Sugio District, Lamongan Regency with a moderate correlation level.

Because it is found that parents' communication patterns are not good so that children can experience various negative impacts. These impacts can include difficulties in building interpersonal relationships, emotional problems such as anxiety or depression. Poor communication patterns can lead to a lack of self-confidence and the inability of children to express themselves effectively.

According to Thompson (2018), children who experience temper tantrums mostly have poor emotional regulation. The incidence of temper tantrums is not only influenced by parental communication patterns, but also by other factors such as children's cognitive development and their emotional experiences. Researchers assume that good communication patterns between parents and children can help prevent temper tantrums by helping children regulate their emotions more effectively.

The Relationship between Children's Gender and the Incidence of Temper Tantrums at Muslimat NU Kindergarten Sugio Lamongan Village

Based on the results of the analysis carried out using the contingency efficiency test, a p-value of 0.431 was obtained. H1 accepted that there was a relationship between the gender of the child and the incidence of temper tantrums, mostly boys experienced it compared to girls. For the severity of temper tantrums, girls tended to be in the severe

category. Meanwhile, boys in the medium category tend to often get angry by kicking, hitting and throwing objects around them, while girls show a spoiled attitude and often cry or are more sensitive and tend to want attention.

According to Smith, A & Johson, S (2018), factors that influence the occurrence of temper tantrums are cognitive development, environmental factors, stress and discomfort and the child's gender. Researchers assume that the gender of children with temper tantrums has a tendency to develop more prominent behavioral habits if left for too long. This can be a risk factor for more frequent and intense temper tantrums.

CONCLUSION

Based on the results of the research and discussion, it can be concluded that the importance of effective communication patterns from parents in reducing the incidence of temper tantrums in preschool children. Understanding and implementing good communication can help children manage their emotions better, which in turn reduces the frequency and intensity of temper tantrums. In addition, parents also need to pay attention to gender differences in their approach to managing their children's emotions.

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Research Article

Risk Factors Contributing to Job Stress among Nurse: A Systematic Review

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ABSTRACT
Background: 74% of nurses experience severe job stress, which can cause many mental and physical disorders, job stress can have an impact on decreasing work motivation, job satisfaction and increasing burnout, working conditions will also have an impact on decreasing work performance. Objectives: This systematic review literature aim to discuss the contributing factors leading to nurse job stress. Methods: conducted a systematic review of literature examining the sources of work stress in nurse, their link to adverse health outcomes. A narrative review of contextual factors that may contribute to work stress. All articles written in English, and Indonesian were eligible for conclusion. Results: occupational stress are influenced by female gender, being married, having lower educational levels, increased work hours, and job dissatisfaction and introverted nurses experiencing moderate to high levels stress. Conclusion: nurses who experience job stress can be caused by demographic and social factor, organizational and work environment factors, psychological factors and resilience, leadership factors, life events and disruptions to work-family balance, so nurse need intervention to prevent the negative impact of job stress.

Keywords
Job stress; nurses; factors; occupational stress

INTRODUCTION

Setiani and Novitasari's research in 2023 showed that work stress that occurred in Puskesmas employees as many as 12 people (60%) experienced high work stress and a moderate stress category of 7 people (35%). (Setiani and Novitasari, 2023). Stres Job stress is a significant problem among nurses, especially those who work in health centers. As a primary health care institution, Puskesmas has a crucial role in providing comprehensive health services to the community. This condition requires nurses to work in an environment that is often stressful and challenging, which can trigger work stress. (Panglipurningsih et al., 2024).

A number of factors can influence the level of job stress experienced by nurses at the health center. One of the primary contributing factors is the high workload. Nurses at Puskesmas

frequently have to treat a considerable number of patients presenting with a diverse range of symptoms within a limited time frame. Additionally, they are tasked with administrative duties and participation in public health programs, both of which can contribute to an increased work burden (Manaf, Simanjorang and Asriwati, 2019; Susiarty, Suparman and Suryatni, 2019; Riyanti and Rahmandani, 2020).

A lack of support from management is also a significant contributing factor to job stress. Inadequate support, whether in the form of supervision, constructive feedback, or assistance in addressing challenges, can result in nurses experiencing feelings of being overburdened and unappreciated. This can subsequently give rise to sentiments of dissatisfaction and prolonged stress (Khamisa et al., 2016; Kokoroko and Sanda, 2019; Eka Safitri, 2023).

Interpersonal conflict between coworkers represents another factor that can contribute to job-related stress. A less harmonious work environment, unhealthy competition, and a lack of cooperation can collectively create an uncomfortable atmosphere and increase stress levels. Nurses who are compelled to work in such conditions often report feelings of isolation and reduced motivation (Lanz and Bruk-Lee, 2017; Palanc\i et al., 2020; Abdillah and others, 2022; Ahmad, 2022).

Inadequate facilities and resources can also contribute to stress. Health centers that lack complete medical equipment or sufficient drug supplies can impede nurses' performance and intensify work-related stress. The inability to provide optimal service to patients due to limited facilities can give rise to feelings of frustration and stress in nurses (Thapa et al., 2022; Nurlela et al., 2023).

In addition to the above factors, nurses' personal characteristics also play an important role in determining the level of occupational stress (Amalia, Wahyuni and Ekawati, 2017). Nurses who lack stress management skills or who have a tendency to be anxious (Sahertian, Desi and Lahade, 2022) and easily depressed may be more vulnerable to occupational stress. Conversely, nurses who possess effective coping strategies and strong social support are able to cope to navigate work-related pressures.

The impact of work stress on nurses is widespread and can affect both physical and mental health (Kang *et al.*, 2020). Prolonged stress can precipitate sleep disturbances, chronic fatigue, and a range of other serious health problems, including hypertension and heart disease. From a psychological perspective, stress can give rise to anxiety, depression, and burnout, all of which have the potential to impair performance and the quality of care provided by nurses (Cohen, Edmondson and Kronish, 2015; Borchini *et al.*, 2018; Huang *et al.*, 2019).

To address this issue, it is imperative that holistic and sustainable efforts be undertaken. Puskesmas management must take steps to reduce nurses' workload, increase support and supervision, and create a conducive work environment. Furthermore, nurses must be provided with training in stress management and coping skills to help them cope with work pressure more effectively (Yosiana, Hermawati and Mas'ud, 2020; Ginting, Efendy and others, 2022).

The objective of this study is to identify and analysed the various factors that influence job stress in nurses at Puskesmas. To this end, a literature review approach will be employed, whereby previous research results will be collected and evaluated in order to provide a comprehensive understanding of this issue. The data obtained will then be subjected to critical analysis in order to identify the key factors that contribute to job stress in nurses at Puskesmas. The results of this study are expected to provide useful insights for the development of strategies and policies to reduce work stress among nurses. Thus, the welfare of nurses can be improved, which in turn will improve the quality of health services provided to the community. This

research is also expected to be the basis for further research in the field of work stress management in the health sector.

METHOD

Literature Search

This study used a systematic review method to identify, assess, and analyse relevant studies related to factors affecting work stress in nurses at community health centres. The literature search was conducted through scientific databases such as PubMed, ScienceDirect, and Google Scholar with the keywords "work stress", "nurse", "health Centre", and " contributing factors". The search was limited to articles published in the last 10 years (2014 - 2024) and available in English.

Inclusion and Exclusion Criteria

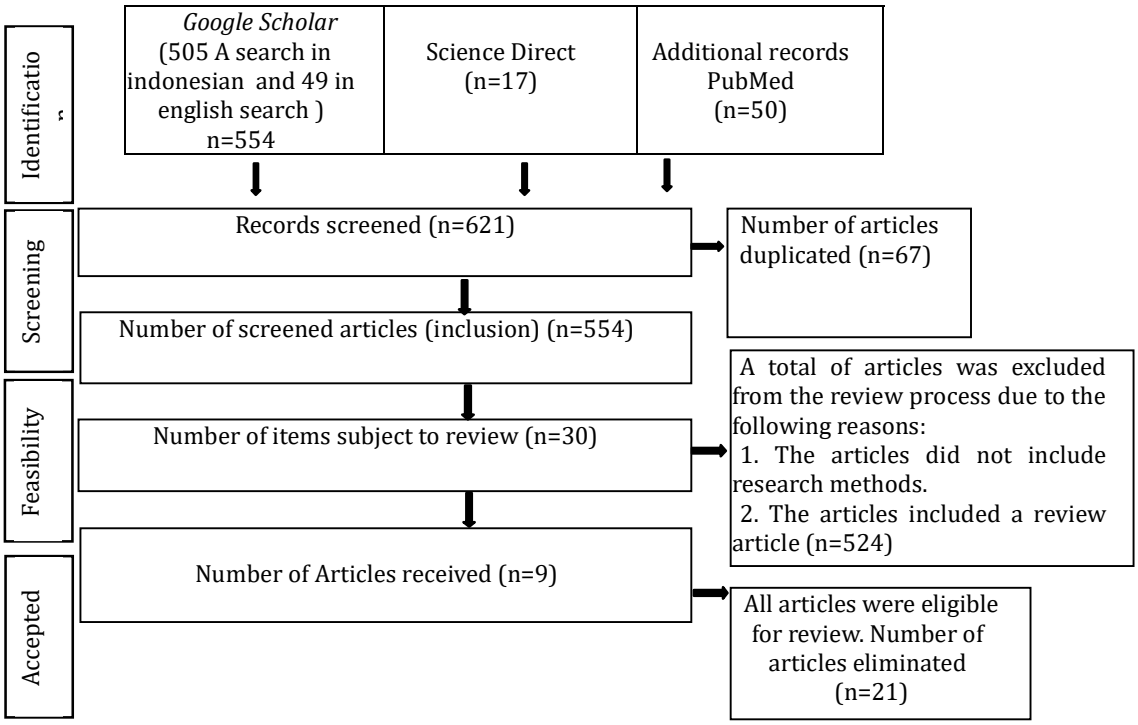
Articles that met the inclusion criteria were studies that examined the causal factors of work stress in nurses in community health centres, using quantitative research methods. Irrelevant articles, such as studies that focused on professions other than nursing or locations other than health centres, as well as articles that did not provide sufficient empirical data, were excluded. In addition, articles that are only reviews without primary data will also be excluded.

Selection and Data Extraction Process

The article selection process is conducted in two stages: title and abstract screening, then full-text review. Two independent researchers will conduct this selection process to reduce bias. Once the relevant articles had been identified, the extracted data included information on the study design, sample size, research location and the key findings related to the factors affecting occupational stress in nurses in community health centres.

Data Analysis and Synthesis

The data collected were analysed descriptively and narratively. Descriptive analysis will be employed to describe the characteristics of the studies included in the review, such as the number of studies, the methods used, and the population studied. Narrative synthesis will be used to identify and categories the factors that influence occupational stress in nurses in community health centres. The final results will be presented in tables and narratives for ease of understanding and interpretation. The PRISMA diagram is employed to illustrate the process of study selection, commencing with the literature search, title and abstract screening, full-text review, and culminating in the identification of studies that meet the inclusion criteria. This diagram will demonstrate the number of studies initially identified, subsequently excluded, and ultimately included in the systematic review (Moher *et al.*, 2009).



Picture 1. Flow PRISMA (Moher *et al.*, 2009, 2010)

RESULTS

Table 1. Identity Literature Review

Title	Authors/ Year	Methodology	Samples/Populations	Statistical techniques
Influence of Toxic aAnd Transformational Leadership Practices on Nurses' Job Satisfaction, Job Stress, Absenteeism, And Turnover Intention: A Cross-Sectional Study (Labrague, 2020)	Leodoro J Labrague, Chidozie E Nwafor, 2020	The study used a cross-sectional research design	surveyed 770 registered nurses from 15 hospitals in Central Philippines. The participants were required to have at least 6 months of work experience as registered nurses. The study used validated scales to measure toxic leadership, transformational leadership, job satisfaction, psychological distress, turnover intention, and absenteeism.	- SPSS software for data analysis - Shapiro-Wilk test to assess normality of outcome variables - Pearson's correlation coefficient to examine relationships between variables - Hierarchical multiple regression analysis to examine the effects of transformational and toxic leadership on outcome variables, adjusting for relevant variables
Occupational stress and associated risk factors among nurses: A cross-sectional study (Kakemam *et al.*, 2019)	Edris Kakemam, Samira Raoofi, Ahmad Soltani-, Mobin Sokhanvar-, Denis Visentin, Mic, 2019	Cross-sectional survey design	-Multi-stage sampling approach, including random selection of 13 out of 31 provincial centers in Iran and cluster sampling within those centers. The total number of participants in the study was 2895. - Inclusion of full-time clinical nurses, excluding those with less than 1 year of employment.	- One-way ANOVA to compare differences in occupational stress across demographic variables - Bonferroni correction for multiple comparisons in the ANOVA analysis - Multiple linear regression analysis to identify factors associated with occupational stress - All analyses were performed using the SPSS software package, with a significance level of 0.05 before Bonferroni correction.
Stress Factors among Nurses at the Primary and Secondary Level of Public Sector Health Care: The Case of Slovenia (Starc, 2018)	Jasmina Starc 2018	The methodology a descriptive and causal non-experimental research design, using a questionnaire, The questionnaire was developed based on a review of the literature and	The total number of participants in the study was 370 nurses (14% male, 86% female) in Slovenia.	1. Independent samples t-test to compare differences in stress factors between groups (women vs. men, primary healthcare vs. secondary healthcare) 2. Cronbach's alpha to assess the reliability of the attitude scales used in the questionnaire 3. SPSS 23.0 statistical software package for data processing

Title	Authors/ Year	Methodology	Samples/Populations	Statistical techniques
		consisted of 9 closed-ended questions. The survey was conducted online using a snowball sampling method,		
Identification of Causes of the Occupational Stress for Health Providers at Diff erent Levels of Health Care (Trifunovic, Jatic and Kulenovic, 2017)	Natasa Trifunovic, Zaim Jatic, Alma Dzubur Kulenovic, 2017	Cross-sectional, observational design with an anonymous survey of healthcare workers in primary and secondary care settings	The total number of participants in the study was 489, with 418 (85%) from primary health care and 71 (14%) from secondary health care.	- Descriptive statistics (counts, percentages, means, medians, standard deviations) - Chi-square test - Cronbach's alpha reliability analysis - Correlation analysis
The relationship between psychological capital, burnout and perceived stress in junior nurses: a latent profile analysis (Zhang *et al.*, 2024)	Xu Zhang, Siye Chen, Ziling Zheng, Mi Zhao, Li Song, Yue Zhao, Zhiwen Wang, Luis Felipe, 2024	- Cross-sectional, multicenter study following STROBE guidelines - Online recruitment of junior nurses (≤3 years of experience) from 3 tertiary hospitals in Beijing, China	Sample size of 480 participants, calculated based on previous literature	1. Exploratory latent profile analysis (LPA) to identify different profiles of psychological capital among junior nurses 2. Logistic regression to analyze the factors associated with the different psychological capital profiles, including baseline characteristics, burnout, and perceived stress 3. Model fit indices (Pearson chi-square, likelihood ratio chi-square, AIC, BIC, aBIC, BLRT, LMR) to determine the best fitting LPA model 4. Variance inflation factor (VIF) to check for multicollinearity in the logistic regression model 5. Best subset method to identify the most influential factors in the logistic regression model
The impacts of occupational risks and their effects on work stress levels of health professional (The sample from the Southeast region of Turkey)(Uluta\csdemir *et al.*, 2015)	Nilgu ¨n, Ulutas ¸demir, Habip Balsak, O ¨zlem Berhuni, Emine O ¨zdemir, Esra Atas ¸alan, 2015	- Cross-sectional and descriptive study design	360 health professionals from 3 state hospitals in the Southeast region of Turkey	The key statistical techniques used in this paper were one-way ANOVA, correlation analysis, simple comparison tests, and regression analysis, all implemented using the SPSS 22.0 software package. A 5% significance level was used for all analyses.
Predictors of work-related stress among nurses working in primary and secondary health care levels in Dammam, Eastern	Huda M Al-Makhaita, Amr A Sabra, Ahmed S Hafez, 2014	Cross-sectional epidemiological study design,	- Included nurses from primary and secondary health care facilities - Total sample size of 637 nurses, with 144 from	- Descriptive statistics - Chi-square tests - Fisher's exact test - Logistic regression analysis - SPSS software for statistical analysis

Title	Authors/ Year	Methodology	Samples/Populations	Statistical techniques
Saudi Arabia (Al-Makhaita, Sabra and Hafez, 2014)		- Conducted in Dammam, Saudi Arabia from January to May 2013	primary care and 493 from secondary care	
Workplace stressors, psychological well-being, resilience, and caring behaviours of mental health nurses: A descriptive correlational study (Foster *et al.*, 2020)	Kim Foster, Michael Roche, Jo-Ann Giandinoto, Trentham Furness, 2020	- Cross-sectional descriptive correlational survey design	The participant count in this study is 498 nurses working in mental health roles or settings in Victoria, Australia.	- One-way ANOVA and Kruskal-Wallis ANOVA to examine differences in workplace resilience, caring behaviours, and psychological well-being across workplace stressor categories - Pearson's correlation to examine relationships between workplace resilience, caring behaviours, and psychological well-being - One-way ANOVA and independent t-tests to examine differences in workplace resilience subscales across sociodemographic characteristics
Work-related stress and associated factors among health professionals working in Ambo town public health facilities, West Shoa Zone, Ethiopia, 2021: a cross-sectional study (Bakare *et al.*, 2023)	Mulatu Bakare, Jiregna Darega, Gerbaba Guta Nugus, Menen Tsegaw, 2023	Cross-sectional study design	The total number of participants in the study was 407.	1. Descriptive statistics to show the prevalence of work-related stress (WRS) 2. Multivariate logistic regression to identify factors associated with WRS, with statistical significance declared at $p<0.05$ and 95% confidence intervals reported 3. Binary logistic regression to identify variables for inclusion in the multivariate analysis, with variables having $p<0.25$ in the binary regression included in the final multivariate models The data were analyzed using EPI-data and SPSS-25 software.

Table 2. Research results and research suggestions

Research title	Hypotheses tested	Results	Future research	Policy recommendations
Influence Of Toxic And Transformational Leadership Practices On Nurses' Job Satisfaction, Job Stress,	- Toxic leadership practices of nurse managers will negatively influence nurses' job satisfaction, psychological distress, absenteeism, and intent to	- Nurses perceived their nurse managers as highly transformational, with a composite score of 4.22 on the transformational leadership scale. - Toxic leadership behaviors of nurse managers negatively predicted nurses' job satisfaction, increased absenteeism,	1. Examining the effects of transformational and toxic leadership on patient outcomes and care quality. 2. Conducting studies with more rigorous research	1. Provide further education (e.g., MA/PhD) and relevant certifications for nurse managers to improve their leadership behaviors, particularly in developing transformational leadership skills.

Research title	Hypotheses tested	Results	Future research	Policy recommendations
Absenteeism, And Turnover Intention: A Cross-Sectional Study, (Labrague, 2020)	leave the organization or the nursing profession. - Transformational leadership practices of nurse managers will positively influence nurses' job satisfaction and intent to leave the organization or the nursing profession.	psychological distress, and intent to leave the nursing profession. - Transformational leadership behaviors of nurse managers positively predicted nurses' job satisfaction and reduced their intent to leave the nursing profession.	designs, such as longitudinal studies, to establish causality. 3. Using data collection methods beyond self-report scales, such as observation or chart review, to reduce response bias.	2. Utilize simulation-based training to help nurse managers develop effective leadership competencies, including skills like delegation, communication, and problem-solving. 3. Use leadership assessment tools when recruiting nurse manager candidates to screen for and avoid hiring those with toxic leadership behaviors, and instead attract leaders who can support the organization's goals.
Occupational stress and associated risk factors among nurses: A cross-sectional study Running Header: Occupational stress among nurses, (Kakemam *et al.*, 2019)	- The prevalence of occupational stress among nurses varies across different provinces/regions in Iran. - Certain demographic factors (e.g., gender, marital status, education level, work hours, ward type, hospital type) are associated with the level of occupational stress experienced by nurses.	- The study found a high prevalence of occupational stress among nurses in Iran, with 78.4% reporting high stress levels. - The major sources of stress were related to working conditions, staffing, pay, management, and workplace policies. - Risk factors for higher stress included being married, female, having lower education, and working overtime or in certain hospital units like emergency, general wards, and teaching hospitals.	Not mentioned	1. Managers should focus on improving work schedules, staffing levels, and compensation to reduce occupational stress among nurses. 2. Managers should develop programs to promote resilience and improve workplace conditions to better support nurses and help them manage occupational stress. 3. Nursing education providers in Iran should incorporate strategies to promote resilience and manage occupational stress into their curricula.
Stress Factors among Nurses at the Primary and Secondary Level of Public Sector Health Care: The Case of Slovenia, (Starc, 2018)	- What are the factors that most often cause workplace stress for nurses? - How does stress affect the quality of nursing performance? - What methods and techniques do nurses use	- Nurses experience high levels of stress in the workplace, with the most common stressors being psychological/physical abuse, dealing with death, lack of staff, and high patient volume. - Stress negatively impacts the quality of nursing performance, leading to issues like diminished concentration, lack of motivation, and conflicts with patients and coworkers.	1. Conducting a longitudinal study to compare the impact of stress on nursing performance and the use of stress reduction techniques between primary and secondary healthcare nurses. 2. Conducting more in-depth research to investigate the differences in stress factors	1. Provide nurses with a safe working environment, improve work methods, clearly define roles, improve organizational climate and communication, and implement strategies to improve motivation. 2. Teach nurses how to identify, eliminate, and cope with stress, and provide them with support when they are already stressed.

Research title	Hypotheses tested	Results	Future research	Policy recommendations
	to reduce or eliminate stress? - Are there any statistically significant differences in the factors that cause workplace stress between male and female nurses? - Are there any statistically significant differences in the factors that cause workplace stress between nurses in primary and secondary healthcare?	- Certain stress factors, such as relationships with coworkers, physical/psychological abuse, and dealing with difficult patients, are more stressful for female nurses compared to male nurses.	between nurses in primary and secondary healthcare. 3. Investigating potential interventions to improve working conditions, adjust workloads, and clearly define nurses' roles and competencies.	3. Provide nurses with compulsory and continuous supervision, lectures, and workshops led by experts to help them manage stressful situations. 4. Improve working conditions, moderate standardization of nurses' work, reduce patient load, allow time for administrative work, and clearly define nurses' competencies.
Identifi cation of Causes of the Occupational Stress for Health Providers at Diff erent Levels of Health Care, (Trifunovic, Jatic and Kulenovic, 2017)	- There are differences in the types and intensity of stressors experienced by healthcare workers in primary vs. secondary care. - There are differences in the types and intensity of stressors experienced by physicians vs. nurses.	- Among all study participants, stressors related to the organization of work, finance, and communication were found to most strongly affect their mental health. - There was a significant difference between primary and secondary health care providers in experiencing stressors related to the organization of work, such as on-call duty shifts, an inadequate working environment, and administrative work overload. - Primary health care physicians reported a significantly higher experience of stress and impact on mental health compared to other physicians related to emotional difficulties when working in the field of palliative care.	Not mentioned	Not mentioned
The relationship between psychological capital, burnout and perceived stress in junior nurses: a latent profile analysis, (Zhang *et al.*, 2024)	- Junior nurses can be classified into distinct psychological capital profiles using latent profile analysis. - Certain factors, such as personality, burnout, and perceived stress, are	- The psychological capital of junior nurses is at a moderate-high level, but still lower than the average for nurses and previous studies of junior nurses. - Latent profile analysis identified two groups of junior nurses: a low-psychological capital group and a high-psychological capital group, with the	Not mentioned	Not mentioned

Research title	Hypotheses tested	Results	Future research	Policy recommendations
	associated with the different psychological capital profiles of junior nurses.	number of people in each group being almost equal. - Junior nurses who perceive higher stress and experience higher burnout are more likely to belong to the low-psychological capital group.		
The impacts of occupational risks and their effects on work stress levels of health professional (The sample from the Southeast region of Turkey), Nilgu ¨n, Ulutas ¸demir, Habip Balsak, O ¨zlem Berhuni, Emine O ¨zdemir, Esra Atas ¸alan, 2015 (Uluta\csdemir *et al.*, 2015)	- Occupational risks experienced by health professionals are associated with increased work stress levels. - Health professionals in the Şehitkamil State Hospital experience higher levels of occupational risks and work stress compared to those in other hospitals.	- Health professionals in the Southeast region of Turkey face various occupational risks and hazards, including needle injuries, back pain, violence, and stress. - These occupational risks and hazards lead to increased work stress among health professionals. - The work stress levels were highest among health professionals working at the Şehitkamil State Hospital, where the stress level "threatens the health and the efficiency".	Not mentioned (the paper does not explicitly state any future research directions)	1. Evaluate the occupational risks and work stress of health professionals in the Şehitkamil State Hospital in terms of occupational health and safety. 2. Provide in-service training to health professionals on effective communication methods with patients/families and coping with stress. 3. Develop appropriate occupational health and safety policies in health institutions.
Predictors of work-related stress among nurses working in primary and secondary health care levels in Dammam, Eastern Saudi Arabia, (Al-Makhaita, Sabra and Hafez, 2014)	- The prevalence of work-related stress (WRS) among nurses working in primary and secondary health care levels in Dammam, Saudi Arabia. - The factors associated with WRS among nurses working in primary and secondary health care levels. - The factors that predict the occurrence of WRS among nurses working in primary and secondary health care levels.	- The overall prevalence of work-related stress (WRS) among the nurses was high, at 45.5%, with similar rates in primary (43.1%) and secondary (46.2%) care. - The predictors of WRS differed between primary and secondary care, with young age being the only significant predictor in primary care, while female gender, Saudi nationality, being married, having work shifts, and working in the surgical department were significant predictors in secondary care.	Not mentioned (the paper does not suggest any specific lines of future research)	1. Healthcare organizations should develop strategies to investigate work-related stress among nurses. 2. Healthcare organizations should develop interventional programs to identify and address the sources and effects of work-related stress among nurses, including providing more training, support, and improving work conditions.
Workplace stressors, psychological well-being,	- There are relationships between mental health	- There were positive relationships between workplace resilience and psychological	1. Exploring MHNs' practice environments in more detail	1. Provide resilience education and well-being programs for nursing

Research title	Hypotheses tested	Results	Future research	Policy recommendations
resilience, and caring behaviours of mental health nurses: A descriptive correlational study, (Foster *et al.*, 2020)	nurses' workplace stressors, psychological well-being, workplace resilience, and caring behaviours. - There are differences in psychological well-being, workplace resilience, and caring behaviours based on the type of workplace stressors experienced by mental health nurses. - There are differences in workplace resilience based on mental health nurses' sociodemographic characteristics (gender, age, locality, role, qualification, and experience).	well-being for mental health nurses, regardless of the type of workplace stressor. - Psychological well-being was lower for nurses who faced more stressors related to consumers and their carers. - Younger and less experienced mental health nurses had lower workplace resilience compared to older and more experienced nurses.	to inform well-targeted support programs 2. Understanding how to prevent or reduce workplace stressors related to consumers/carers, colleagues, and organizational factors 3. Identifying predictors of MHNs' psychological well-being, resilience, and caring behaviors, including sociodemographic characteristics	students and new graduate nurses entering mental health to improve their resilience and prevent future psychological distress. 2. Implement resilience-building programs for mental health nurses across all roles and levels of seniority. 3. Ensure mental health organizations support nurses' positive workplace experiences, psychological well-being, and caring behaviors. 4. Make addressing mental health nurses' workplace stress an urgent priority for governments, organizations, and the profession, and take assertive measures to reduce stressors and strengthen staff well-being and resilience.
Work-related stress and associated factors among health professionals working in Ambo town public health facilities, West Shoa Zone, Ethiopia, 2021: a cross-sectional study, (Bakare *et al.*, 2023)	- The prevalence of work-related stress among health professionals in Ambo town is significant. - There are specific factors associated with work-related stress among health professionals in Ambo town.	- The overall prevalence of work-related stress (WRS) among health professionals in Ambo town, Ethiopia was 52.33%. - Female health professionals were 1.73 times more likely to report WRS compared to male health professionals. - Health professionals who reported that their job interfered with their family/social life were nearly 2 times more likely to develop WRS. - Health professionals who felt insecure about their job were over 3 times more likely to report WRS compared to those who felt secure about their job. - Health professionals who reported experiencing major life events in the past 6	The authors suggest that longitudinal research is needed to ensure temporal association between the independent variables and work-related stress (WRS). They also recommend that health facilities, program managers, and policy makers should consider the identified factors (sex, job insecurity, home-work interface, and occurrence of major life events) while designing public health interventions to reduce WRS among health professionals.	1) Health facilities, program managers, and policymakers should design interventions to address the factors associated with work-related stress among health professionals, including sex, job insecurity, home-work interface, and major life events. 2) The authors recommend conducting longitudinal research to better understand the temporal relationship between the identified factors and work-related stress.

Research title	Hypotheses tested	Results	Future research	Policy recommendations
		months were 2-3 times more likely to report WRS.		

Table 3. presents the findings of the research study investigating the factors influencing work-related stress among nurses

factors influencing	Research results
Demographic and Social Factors	Gender is a significant factor, with female nurses often experiencing higher levels of stress than male nurses. Age and work experience also play an important role, with younger and less experienced nurses tending to experience higher levels of stress (Al-Makhaita, Sabra and Hafez, 2014; Foster *et al.*, 2020) Marital status and nationality can also influence stress, as seen in Saudi Arabia, where married nurses and Saudi nationals showed different levels of stress compared to nurses outside of these groups (Al-Makhaita, Sabra and Hafez, 2014)
Organizational and Work Environment Factors	Poor working conditions, including administrative overload, understaffing, and irregular work shifts, contribute significantly to job stress (Trifunovic, Jatic and Kulenovic, 2017; Kakemam *et al.*, 2019). Occupational risks, such as injuries and violence, also exacerbate stress levels (Uluta\csdemir *et al.*, 2015). Work environment factors, such as pressure from management, workplace policies, and patient load, play a large role in causing stress in nurses (Kakemam *et al.*, 2019)
Psychological Factors and Resilience	Psychological capital and resilience in the workplace are closely related to perceived stress levels. Nurses with low psychological capital and less resilience tend to experience higher levels of stress and burnout (Foster *et al.*, 2020; Zhang *et al.*, 2024). Stress related to interactions with patients and caregivers also negatively impacts nurses' psychological well-being (Foster *et al.*, 2020).
Leadership Factors	Toxic leadership practices from managers can increase job stress, while effective transformational leadership can reduce stress and increase job satisfaction (Labrague, 2020). Managers who support and motivate staff with transformational leadership skills can help reduce the level of stress experienced by nurses.
Life Events and Disruptions to Work-Family Balance	Major life events and disruptions to work-family balance also contribute to increased work stress. Nurses who experience disruptions in family life or feel insecure in their jobs report higher levels of stress (Bakare *et al.*, 2023).

Table 4. Suggestions and recommendations for researchers and policymakers based on the findings of the research study

Dealing with WRS	Suggestions based on research results
Policy Development and Organizational Support	Healthcare organisations need to design and implement policies that minimise risk factors for occupational stress, such as improving working conditions, managing administrative workload, and providing adequate support (Trifunovic, Jatic and Kulenovic, 2017).
Education and Training Programs	Provide training on stress management, resilience and transformational leadership for nurses and managers to improve skills and reduce work stress (Al-Makhaita, Sabra and Hafez, 2014; Bruyneel *et al.*, 2019; Labrague and Santos, 2020).
Evaluation and Adjustment of Working Conditions	Conduct regular evaluations of working conditions and risks to identify areas that require improvement, and implement appropriate interventions to create a safer and more supportive work environment (Bruyneel *et al.*, 2019).
Work-Family Balance	Supporting nurses in achieving balance between their work and personal lives to reduce the negative impact of work-family balance disorders on occupational stress (Bakare *et al.*, 2023).
Individualized Approach	Provide psychological support and counselling for nurses experiencing stress, and implement psychological profile-based strategies to support nurses in managing stress effectively (Trifunovic, Jatic and Kulenovic, 2017; Starc, 2018; Foster *et al.*, 2020).

DISCUSSION

In 2023, Mulatu Bakare, Jiregna Darega, Gerbaba Guta Nugus, and Menen Tsegaw conducted a study to examine the prevalence and contributing factors of occupational stress among healthcare professionals in public health facilities in Ambo town, West Shoa Zone, Ethiopia. The findings indicated that the prevalence of work-related stress (WRS) among healthcare professionals in the city reached 52.33%. The results indicated that a number of factors were associated with occupational stress. These included genders, with female health workers exhibiting a 1.73-fold increased likelihood of experiencing occupational stress compared to their male counterparts. Moreover, health workers who indicated that their work had an adverse impact on their family or social life were nearly twofold more likely to experience job-related stress. Additionally, job insecurity emerged as a significant correlate of occupational stress. Health workers who reported feelings of job insecurity were more than three times as likely to experience job-related stress compared to those who did not. The prevalence of job-related stress among health workers who had experienced a significant life event in the past six months was two to three times higher than that among those who had not experienced such an event (Bakare *et al.*, 2023).

Research conducted by Kim Foster, Michael Roche, Jo-Ann Giandinoto, and Trentham Furness in 2020 examined the relationship between work stress, psychological well-being, workplace resilience, and caring behaviour in mental health nurses. The results showed that there was a significant relationship between workplace resilience

and the psychological well-being of mental health nurses, regardless of the type of work stress they faced. Nurses who experienced more stress related to their patients and caregivers had lower psychological well-being. In addition, younger and less experienced mental health nurses showed lower levels of workplace resilience compared to their older and more experienced counterparts. Sociodemographic factors such as gender, age, work location, role, qualifications, and experience also influence nurses' resilience levels (Foster *et al.*, 2020).

Research conducted by Huda M. Al-Makhaita, Amr A. Sabra, and Ahmed S. Hafez in 2014 examined the prevalence and factors predicting work-related stress (WRS) among nurses working at primary and secondary health care levels in Dammam, Saudi Arabia. The results showed that the prevalence of occupational stress among nurses was very high, reaching 45.5%, with similar rates in primary (43.1%) and secondary (46.2%) care. Factors predicting the occurrence of occupational stress differed between primary and secondary care. In primary care, young age was the only significant predictor, while in secondary care, female gender, Saudi nationality, marital status, the presence of shift work, and working in the surgical department were significant predictors (Al-Makhaita, Sabra and Hafez, 2014).

This study underscores the necessity for healthcare organizations to devise strategies for investigating and addressing work-related stress among nurses. It is imperative for these organizations to develop intervention programs aimed at identifying and addressing the underlying causes and consequences of occupational stress. This can be achieved, for instance, by providing additional training, support, and enhanced working conditions. Such measures will not only mitigate occupational stress among nurses but also enhance their overall well-being and the quality of care provided to patients (Al-Makhaita, Sabra and Hafez, 2014).

Research conducted by Nilgün Ulutaşdemir, Habip Balsak, Özlem Berhuni, Emine Özdemir, and Esra Ataşalan in 2015 examined the impact of occupational risks on occupational stress levels among health workers in the Southeast region of Turkey. The results showed that occupational risks experienced by healthcare workers correlated with increased levels of work-related stress. Health professionals at Şehitkamil State Hospital experienced higher levels of occupational risks and work-related stress compared to those working at other hospitals. Commonly experienced occupational risks and hazards include needlestick injuries, back pain, violence and stress, all of which contribute to increased occupational stress(Uluta\csdemir *et al.*, 2015).

This study emphasizes the importance of evaluating occupational risks and occupational stress levels among healthcare workers, particularly at Şehitkamil State Hospital, from an occupational health and safety perspective. In-service training for health workers regarding effective communication methods with patients or families and how to cope with stress is necessary. In addition, the development of appropriate occupational health and safety policies in healthcare institutions is essential to reduce occupational risks and stress and improve the well-being and efficiency of healthcare workers. These measures will help create a safer and healthier working environment for health workers in the Southeast region of Turke.

Research conducted by Xu Zhang, Siye Chen, Ziling Zheng, Mi Zhao, Li Song, Yue Zhao, Zhiwen Wang, and Luis Felipe in 2024 used latent profile analysis to examine the

relationship between psychological capital, burnout, and perceived stress in junior nurses. The results showed that junior nurses can be classified into different psychological capital profiles. Factors such as personality, burnout, and perceived stress are associated with different psychological capital profiles in junior nurses. Although the psychological capital of junior nurses is at a medium-high level, this value is still lower compared to the average nurse and previous studies on junior nurses (Zhang *et al.*, 2024).

Latent profile analysis identified two groups of junior nurses: a group with low psychological capital and a group with high psychological capital, with almost equal numbers of people in each group. Junior nurses who perceived higher stress and experienced higher burnout tended to fall into the group with low psychological capital. This study highlights the importance of managing stress and burnout among junior nurses to increase their psychological capital. The development of appropriate interventions to support psychological capital may assist in improving the well-being and performance of junior nurses, as well as reducing the level of burnout and stress they experience.

Research conducted by Natasa Trifunovic, Zaim Jatic, and Alma Dzubur Kulenovic in 2017 identified the causes of occupational stress among healthcare providers at different levels of healthcare. The results showed differences in the type and intensity of stress experienced by health workers in primary care compared to secondary care, as well as differences between doctors and nurses. Stressors related to work organization, finance and communication were found to affect the mental health of all study participants the most. There were significant differences between primary and secondary healthcare providers in experiencing stressors related to work organization, such as night duty schedules, inadequate work environment, and administrative overload (Trifunovic, Jatic and Kulenovic, 2017).

healthcare providers in primary healthcare reported experiencing more significant stress and mental health impacts than those in secondary healthcare, particularly related to emotional difficulties when working in the field of palliative care. This study highlights the importance of occupational stress management tailored to the level of healthcare and profession, with a particular focus on improving work organization and emotional support. Interventions designed to address these specific stressors may help improve the mental well-being and performance of healthcare workers, especially those working in highly challenging environments such as palliative care.

Research conducted by Jasmina Starc in 2018 examined the most frequent factors causing workplace stress for nurses at primary and secondary healthcare levels in the public sector in Slovenia. The results showed that nurses experienced high levels of stress at work, with the most common stressors being psychological/physical abuse, dealing with death, staff shortages, and high patient volumes. This stress negatively impacted the quality of nurses' performance, causing problems such as decreased concentration, lack of motivation, and conflicts with patients and coworkers. Certain factors, such as relationships with coworkers, physical/psychological abuse, and dealing with difficult patients, are more stressful for female nurses compared to male nurses (Starc, 2018).

This study highlights the need for interventions to create a safe work environment for nurses, improve work methods, clearly define roles, improve

organizational climate and communication, and implement strategies to increase motivation. Nurses also need to be taught how to identify, eliminate and cope with stress, and be provided with support when they experience stress. In addition, it is important to provide mandatory and ongoing supervision, lectures, and expert-led workshops to help nurses manage stressful situations. Working conditions need to be improved, standardization of nurses' work should be adjusted, patient load reduced, time for administrative work provided, and nurses' competencies clearly defined. These measures are expected to improve nurses' well-being and the quality of healthcare they provide.

Research conducted by Edris Kakemam, Samira Raoofi, Ahmad Soltani, Mobin Sokhanvar, Denis Visentin, and Mic in 2019 examined the prevalence and risk factors associated with occupational stress among nurses in different provinces of Iran. The results showed that the prevalence of occupational stress among nurses was very high, with 78.4% reporting high levels of stress. The main sources of stress were identified to be related to working conditions, understaffing, salary, management, and workplace policies. Demographic factors such as marital status, gender, education level, working hours, ward type, and hospital type had significant associations with the level of stress experienced by nurses. Nurses who are married, female, have lower education, work overtime, or work in certain hospital units such as emergency rooms, general wards, and teaching hospitals tend to experience higher stress(Kakemam *et al.*, 2019).

Research conducted by Leodoro J. Labrague and Chidozie E. Nwafor in 2020 explored the influence of toxic and transformational leadership practices on job satisfaction, job stress, absenteeism, and nurses' intention to leave the organization or nursing profession. The results showed that nurses viewed their managers as highly transformational leaders, with a composite score of 4.22 on the transformational leadership scale. Toxic leadership practices of nurse managers negatively predicted nurses' job satisfaction, increased absenteeism, psychological distress, and intention to leave the nursing profession. In contrast, transformational leadership practices of nurse managers positively predicted nurses' job satisfaction and reduced their intention to leave the nursing profession (Labrague and Santos, 2020).

This study emphasizes the importance of further education (such as MA/PhD) and relevant certifications for nurse managers to improve their leadership behaviors, particularly in developing transformational leadership skills. Simulation-based training is also suggested to help nurse managers develop effective leadership competencies, including skills such as delegation, communication, and problem-solving. In addition, the use of leadership assessment tools when recruiting prospective nurse managers can help screen out and avoid hiring those with toxic leadership behaviors, as well as attract leaders who can support organizational goals. These measures are expected to increase nurses' job satisfaction, reduce stress and absenteeism, and reduce their intention to leave the nursing profession, thereby contributing to improved patient care quality and health outcomes.

CONCLUSION

The findings of the literature review, which included nine articles on the factors affecting occupational stress in nurses, indicated that job-related stress is influenced by a number of interrelated factors. Demographic and social factors, such as gender and age, as well as

organizational and work environment factors, such as understaffing and workload, have been identified as significant contributors to stress levels. Furthermore, psychological factors such as resilience, encompassing psychological capital and the capacity to cope with stress, influence job satisfaction and stress levels in distinct ways. Disruptions to work-life balance and major life events also impact stress levels. To effectively reduce stress and enhance nurses' well-being, a comprehensive approach that considers these interrelated factors is essential.

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Research Article

The Effect of Islamic Learning-Based Storybook on Sex Education Knowledge of Preschool Children

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ABSTRACT

The lack of sex education knowledge can lead children to experience sexual violence. The contributing factor is the insufficient knowledge of how to provide sex education. Therefore, the management that can be undertaken is to provide education through Islamic learning-based media story books. The research objective is to determine the effect of Islamic learning-based storybook on sex education knowledge among preschool-aged children. The study used a pre-experimental design with a one-group pre-post approach. The intervention was conducted over 2 sessions: on the first day, a pre-test questionnaire was administered followed by education, and on the second day, education was provided followed by a post-test questionnaire. The population consisted of 46 children, and a purposive sampling method recruited a sample of 35 children. The instrument used was a questionnaire validated through validity testing. After normality testing using the Kolmogorov-Smirnov test, the data were analyzed using the Wilcoxon signed-rank test with a significance level of $p < 0.05$. The research findings indicate that before receiving education, a majority (48.6%) of children had a low level of knowledge, whereas after education, a majority (54.3%) of children had good knowledge. The Wilcoxon signed-rank test yielded a significant p-value of 0.000, indicating a change in sex education knowledge level among preschool-aged children before and after education. Islamic learning-based media storybook are highly effective media for preschool-aged children.

Keywords: Sex Education, Preschool Children, Storybook

INTRODUCTION

Sex education can be described as efforts to provide information, teaching, and awareness regarding matters related to sexuality, including biological, psychological, and psychosocial aspects, as a result of human growth and development (Ismiulya et al., 2022). Sex education for preschool-aged children involves learning provided by teachers and parents. This education covers all aspects of sexuality that are good and healthy to

prevent future behavioral deviations in children. Sex education for preschool-aged children includes understanding their bodies, the opposite sex, reproductive organs, and instilling ethics, morals, and religion, thereby minimizing and preventing sexual violence (Qalbina & Wati, 2023).

In 2023, the World Health Organization (WHO) recorded a global prevalence of sexual violence against children at 21.7%, with prevalence among girls reaching 21.2% and among boys at 10.7%. In Indonesia, the number of sexual violence victims identified by the Ministry of Women's Empowerment and Child Protection continued to rise from 2019 to 2021. In 2019, the number of children victimized by sexual violence was 6,454, increasing to 6,980 in 2020. Subsequently, in 2021, there was a further increase of 25.07%, reaching 8,730 victims (Ministry of Women's Empowerment and Child Protection). The Online Information System for the Protection of Women and Children (SIMFONI-PPA) recorded 20,099 cases of sexual violence from January 1, 2023, onwards, with 57.3% of the victims being children, and this number continues to rise daily. Most victims of child sexual violence are between 5 and 11 years old. According to the Indonesian Pediatric Society (IDAI) in 2021, cases of sexual violence against children most frequently occurred at ages 6-12 years (33%) and at ages 0-5 years (7.7%). In East Java, there were 312 cases in 2023, with 83% of the victims more minors (Ministry of Women's Empowerment and Child Protection, 2023). Data from the Department of Women's Empowerment and Child Protection (DPPPA) in Lamongan shows that there were 28 cases of sexual violence against children and 22 cases against women throughout 2023.

Based on a preliminary study conducted by researchers on November 7, 2023, interviewing 10 children at the Muslimat NU Hidayatul Athfal in Maduran Village, Maduran District, Lamongan Regency, the findings revealed that 8 out of 10 children (80%) had insufficient knowledge about sex education. They did not understand boundaries regarding which parts of the body can be touched or not by strangers, and which parts should not be shown to others. They also did not grasp the concept of changing clothes in a closed room where others cannot see, while 2 children (20%) had sufficient knowledge.

There are several factors contributing to the low level of sex education knowledge in children, including mothers' lack of knowledge about how to properly provide sex education to children, sexual interest orientation towards children (pedophilia), and children's lack of understanding about sexual issues (Ilmiah et al., 2019). On the other hand, reasons why adults avoid discussing sex with children include cultural taboos that consider sex discussions shameful or pornographic (Ilmiah et al., 2019). Additionally, children's lack of understanding about sex education is due to limited opportunities to learn about sex education itself. Lack of teacher competence and parental hesitation are also reasons why children struggle to understand proper sex education. Teacher competence in introducing sex education to children needs improvement, especially in children's education (Ismiulya et al., 2022). These factors underscore the need for implementing appropriate sex education strategies and approaches for children.

Efforts to enhance knowledge about sex education for preschool children can be carried out by implementing Islamic learning. The religion has taught about sex education since ancient times. These teachings are evidenced by the examples of the Prophet

Muhammad (SAW) (Azmi & Romadhoni, 2024). During his lifetime, the Prophet (SAW) provided many opportunities for both Muslim men and women to ask about life issues, especially personal matters related to sexual life. Sexual education is part of moral education, which is a branch of Islamic education. Moreover, if viewed from the objectives according to the Qur'an, the goal of sex education is to protect and maintain a person from falling into the abyss of disgrace, which includes various forms of sexual deviation. Islamic learning can be supported by the use of storybook media. Storybooks are books that convey information in two ways: through stories and pictures that complement each other, and they use simple language. Storybooks are equipped with pictures that match the theme of the story and are used as learning media (Husnah et al., 2023). Storybooks can serve as a medium for teachers to impart knowledge to children.

Previous research conducted by Azzahra (2023) showed that the children's health and safety storybook series could be a medium for sex education for children aged 4-6 years because it is educational and aligns with the developmental stages and criteria of children's storybooks. A second study conducted by Nurbaiti et al. (2022) showed that understanding of sex education in children increased significantly compared to the results before using the storybook media (Sex Education Book), achieving a percentage score of 54.28% in the developing as expected category. Research by Apriani (2023) showed a difference in knowledge before and after being given a sex education storybook. This research is expected to contribute to sex education for children starting at an early age and is anticipated to inspire more modified media that can be used to introduce sex education to children early on. Therefore, it can be concluded from the three previous studies that the use of storybook media is very effective as a medium for sex education for preschool children.

Although previous studies have extensively researched the use of storybook media in sex education for preschool children, none have utilized Islamic learning-based storybook media. Therefore, this research aims to fill that gap, prompting the researcher to conduct a study on "The Effect of Islamic Learning-Based Storybook on Sex Education Knowledge of Preschool Children."

METHOD

The research used pre-experimental with a one-group pretest-posttest, conducted from February to March 2024 at Muslimat NU Hidayatul Athfal. Kindergarten it began with a preliminary survey by providing several questions to the teachers at the school. The study was carried out over two sessions: on the first day, the researcher distributed a pre-test questionnaire on sex education knowledge and provided education from the first to the fourth indicator points. On the second day, the education continued from the fifth to the eighth indicator points. After the education was given, the children completed the same post-test questionnaire on sex education knowledge as in the first session.

This study has been declared ethically feasible with the number 210/EC/KEPK-S1/06/2024. The research population consisted of 46 children from KB, TK A, and TK B classes. The sample size was 35 children, selected using purposive sampling. The inclusion criteria for this study included students at KB-TK Muslimat NU Hidayatul Athfal aged 4-6 years, students willing to be respondents, and students who could follow instructions from start to finish. The exclusion criteria were students who are absent

during the study or are ill and did not follow all stages of the research, including the pre-test and post-test. The independent variable was Islamic learning-based storybook. The dependent variable was sex education knowledge. The was instrument for the independent variable, using Islamic learning-based storybook, the outreach unit. For the dependent variable, the level of sex education knowledge, a questionnaire containing 14 questions was used. For the independent variable, the researcher used the Guttman scale, categorized into True and False answers.

RESULTS

1. The characteristics of the children who are the subjects of this study are presented in the form of a table as follows:

Table 1. Children Characteristics

Characteristics	n	%
Gender		
Male	16	45,7
Female	19	54,3
Age		
4 Years	12	34,3
5 Years	13	37,1
6 Years	10	28,6
Class		
Playgroup	9	25,7
Kindergarten A	13	37,1
Kindergarten B	13	37,1

Based on Table 1 above, the results show that the majority (54.3%) of children at Muslimat NU Hidayatul Athfal are female. Regarding the age of the children, the majority (37.1%) are 5 years old. For the class characteristics, the majority (37.1%) of the children are in kindergarten A and kindergarten B classes.

2. The level of knowledge before and after being given education through Islamic learning-based storybook media about sex at Muslimat NU Hidayatul Athfal is presented in the form of a table as follows:

Table 2. Knowledge Level Distribution

Knowledge level	n	%
Before		
Good	3	8,6
Moderate	15	42,9
Poor	17	48,6
After		
Good	19	54,3
Moderate	10	28,6
Poor	6	17,1

Based on Table 2 above, the results show that before being given education through Islamic learning-based storybook media at KB-TK Muslimat NU Hidayatul Athfal, almost half (48.6%) of the children had a low level of knowledge. After being given education through Islamic learning-based storybook media at KB-TK Muslimat NU Hidayatul Athfal, the majority (54.3%) of the children had a good level of knowledge.

3. Cross-tabulation table of knowledge level before and after being given education through Islamic learning-based storybook media on sex education for preschool children at KB-TK Muslimat NU Hidayatul Athfal is presented in the following table:

Table 3. Cross-tabulation Table of Knowledge Level Before and After Being Given Education through Islamic Learning-Based Storybook Media on Sex Education for Preschool Children

No	Pre Test of Knowledge Level	Post test of Knowledge Level						Total	
		Good		Moderate		Poor			
		F	%	F	%	F	%	F	%
1	Good	3	8,6	0	0	0	0	3	8,6
2	Moderate	11	31,4	4	11,4	0	0	15	42,9
3	Poor	5	14,3	6	17,1	6	17,1	17	48,6
	Total	**19**	**54,3**	**10**	**28,6**	**6**	**17,1**	**35**	**100**

Wilcoxon Signed Rank Test, P = 0.000

Based on Table 3 above, the results show that before being given education through Islamic learning-based storybook media, the majority of children had a low level of knowledge (48.6%). After being given education through Islamic learning-based storybook media, the majority of children (54.3%) had a good level of knowledge. Therefore, it can be concluded that there is an improvement in children's knowledge about sex education after being given education through Islamic learning-based storybook media.

DISCUSSION

This research indicates that the level of knowledge before receiving education through Islamic learning-based storybook media on sex education shows that the majority of children had a low level of knowledge. This is likely due to a lack of sources of information on sex education obtained by children from parents, teachers, or the community in their environment.

The less optimal role of teachers in schools can affect the development of children's personalities, especially in sex education for preschool children. However, the lack of understanding among teachers regarding the importance of providing sex education from preschool age contributes to cases of violence and sexual abuse against children still occurring (Wibisono & Boyke, 2016).

In addition, the lack of knowledge about sex education in children is due to a lack of information sources from parents. Tampubolon et al. (2019) state that parents often provide incorrect interpretations of sexuality education terms. Education is often

perceived as a formal and systematic form of instruction, while sexuality is often interpreted as adult relationships with negative connotations. Therefore, parents feel uncomfortable discussing sexuality, especially with preschool-aged children. Parents also believe that information related to sexuality will be acquired by children as they grow older, without needing to be explained by parents at home (Ardianti, 2017). This is consistent with Situmorang's statement (2020), which emphasizes the crucial role of parents in supporting children's morals through sex education at a preschool age (early childhood).

Children's experiences of not having received sex education or health information contribute to their level of sexual knowledge, as indicated by research conducted by Utami (2018), which states that the more exposure to sexual education, the better someone's knowledge becomes. When questionnaires were administered before providing education through storybook media, children showed a lack of understanding of the risks and impacts of insufficient sex education. This aligns with the findings of Irianti et al. (2023), who noted in their study at Aisyiyah 20 that the school did not provide supportive sex education or explain it adequately, leading to many children not understanding aspects of sex education, such as girls hugging boys. The pretest and posttest scores in this research show that children's sex education knowledge improved after receiving education.

The change in knowledge level after receiving education through Islamic learning-based storybook media on sex education shows that the majority of children have a good level of knowledge. This knowledge outcome indicates that after receiving education through Islamic learning-based storybook media on sex education, more children have a good level of knowledge compared to before the education. Therefore, it can be concluded that there is an improvement in knowledge both before and after the implementation of education through Islamic learning-based storybook media on sex education.

This is supported by Oktarina & Liyanovitasari's (2019) research on the influence of illustrated storybooks on children's knowledge of sex. Their study explains that preschool-aged children's knowledge experiences improvement after being taught sex education through illustrated storybooks, compared to before the introduction of the media. Another aligned study is by Nurgiyanto (2019), stating that storybooks are highly beneficial for preschool-aged children because the materials are easily understood, using simple language that children can comprehend, with lightweight vocabulary and structure. This approach enhances language richness, language skills, and good communication abilities in children.

This research is similar to previous studies because it involves preschool-aged children as respondents, and the results show that after receiving education through storybook media, children's knowledge of sex education improves compared to before the education. The difference lies in the use of storybook media in this study, which is based on Islamic learning narrative, making it particularly suitable for Islamic (Muslim) schools. Khoiruzzaim (2015) mentions that in Islam, sex education cannot be separated from religion and must be entirely built upon religious principles. By teaching sex education in this manner, it is hoped that individuals will develop into responsible adults, both males and females, capable of behaving according to their gender, taking responsibility for their purity, and adapting to their environment.

Based on the statistical test results analyzing the influence of Islamic learning-based storybook media education on sex education knowledge among preschool children, the data analysis was conducted and its significance was tested using Wilcoxon Signed Rank test in SPSS for Windows version 26, showing a significance value (p sign = 0.000), which means $p < 0.05$. This indicates that H_1 is accepted and H∘ is rejected, meaning there is an influence of storybook media education on the level of sex education knowledge among children at Muslimat NU Hidayatul Athfal. In the study by Juwita et al. (2024), it was stated that there is a significant influence of implementing the "Aku Sayang Tubuhku" storybook media on sexual education for 5-6-year-old children at RA Al Farizi, South Jambi District, Academic Year 2023/2024. Children's sexual education developed further after the implementation of the "Aku Sayang Tubuhku" or i love my body storybook media. This is evidenced by hypothesis testing where the calculated t-value > t-table value, specifically 11.436 > 2.131, indicating an influence of the "Aku Sayang Tubuhku" storybook media on the sexual education intelligence of 5-6-year-old children at RA Al Farizi, South Jambi District. Similar research was also conducted by Nurbaiti & Saripudin (2022), showing a significant increase in understanding of sex education among children compared to before using the "Sex Education Book" storybook media, which achieved a percentage score of 54.28% in the BSH category (Developing as Expected).

The increase in knowledge is due to children at Muslimat NU Hidayatul Athfal receiving sex education. According to Hutami (2019), school-age children's intellectual abilities are capable of receiving various new knowledge that can develop their thinking patterns. School-age children have a high interest in learning, good memory retention, and the ability to capture and understand the material provided. In Nurasita's research (2021), it is stated that sex education should be provided to children to prevent them from making mistakes in life. Sex education should be given to children as early as possible, ideally starting at the age of 4-6 years old, because at this age, children can engage in two-way communication and understand their body organs, including an introduction to internal organs. Based on these points, it is crucial to provide education to school-age children to enhance their cognitive and social abilities using various methods and media. One effective media proven for sex education in children is through storybooks.

In this research, Islamic learning-based storybook titled "Ayo Jagalah Tubuhmu" or let's take are of our body is used. Previous research has extensively utilized storybooks to enhance children's knowledge of sex education. However, this storybook incorporates aspects of Islamic learning, featuring characters who wear modest clothing that covers their aurat (intimate parts). This approach is highly effective for Islamic schools. In Islam, sex education is part of moral education, and healthy sexual behavior is a fruit of good morals. Therefore, sex education should adhere to the demands of Allah SWT (God), as He alone knows best about the humans He created, serving as the best example to follow.

Low understanding of sex in children leads to high levels of immoral sexual behavior and makes children vulnerable to becoming victims or perpetrators of sexual violence. Early sex education provided by parents to preschool-age children is still very limited due to being considered taboo. Educating children through Islamic learning-based storybook media serves as a means to enhance students' understanding of sexuality.

CONCLUSION

Based on the explanation above, the researcher believes that providing sex education through Islamic learning-based storybook is an effective way to enhance sex education knowledge in preschool children because it facilitates their understanding of the subject matter. The storybook contains vocabulary that is easy for children to understand and uses language that is concise, precise, and clear. However, the researcher suggests that future studies would be even better and more effective if they include a control group and increase the number of respondents.

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Research Article

Medication Posession Ratio for Hypertension Therapy at Lamongan Health Center

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ABSTRACT

Hypertension requires drug therapy for a long period of time, so compliance with the use of drugs is urgently needed. One type of compliance in the treatment of hypertension is compliance with drug retakes from health care facilities so that patients always have the availability of drugs. The purpose of this study is to see the compliance with the use of antihypertensive drugs as seen from retake in outpatients at the Lamongan Health Center. This study uses an observational design. Data collection was carried out retrospectively, data was taken from medical record data at the Lamongan Health Center in November-December 2023. The sampling method was used consecutive *sampling method.* The sample used was 75 people. Data on re-medication compliance using the *Medication Posession Ratio* (MPR) method. The parameters of the MPR calculation results are divided into categories of compliance if >80% and non-compliance if <80%. The data of the results of the study were displayed descriptively and were associated with prediposition *factors* or factors influenced by age, gender, level of knowledge, education, and occupation. The results of the study showed that in the measurement of compliance with retaking drugs with a period of 1 month, 63 patients (84%) were obedient and 12 people (26%) were non-compliant. Based on these data, it can be concluded that hypertension patients in this study can be categorized as compliant in undergoing hypertension treatment. This is because the existence of prolanis programs and public awareness will improve the quality of life by maintaining the health of their bodies.

Keywords

Adherence, Hipertensi, Medication Possession Ratio

INTRODUCTION

Hypertension is still a common disease around the world, and even today, cases of hypertension continue to develop over time, increasing along with the prevalence of unhealthy lifestyle changes. In the past, hypertension was often detected in elderly people, but now it is starting to be found at a young age (Kadir et al., 2016). Hypertension is a syndrome or a collection of progressive cardiovascular symptoms, as a result of other complex and interconnected conditions (Dennison-himmelfarb et al., 2014).

According to the data *World Health Organization* (WHO) in 2018, estimated that the prevalence of hypertension globally is 22% of the total world population. Southeast Asia is in the 3rd highest position with a prevalence of 25% of the total population (WHO, 2018). The results of Riskesdas 2018 show that the prevalence rate of hypertension in the Indonesian population aged ≥18 years based on national measurements is 34.11% (RI, 2019). Based on the report of the East Java health office, the percentage of hypertension sufferers in East Java was 22.71% or 2,360,592 people in 2018 (East Java Provincial Health Office, 2019). Meanwhile, the estimated number of hypertension patients aged ≥15 years in Lamongan Regency in 2021 is 335,813 residents.

One of the ways to control blood pressure is to use medications. Medication adherence is an important factor in the health and well-being of hypertensive patients. Adherence and obedience are prerequisites for effective hypertension treatment, and the greatest potential for improving hypertension control is in improving the patient's behavior. Meanwhile, the impact of low adherence or non-adherence to medication in Hypertension patients is worsening of health status, decreased quality of life, poor blood pressure and blood pressure can fluctuate and even tend to be high and the risk of complications such as cardiovascular disease, stroke, peripheral artery disease, and heart failure which causes permanent damage to the heart, brain and kidneys which causes an increase in morbidity rates and mortality (Laili et al., 2022) (DEPKES RI, 2018).

Meanwhile, in East Java, drug consumption compliance is still at 56.07%, the rest are still not routine and do not consume drugs (DEPKES RI, 2018). In the Lamongan health center itself, there are still 27.5% of hypertensive patients with low compliance in consuming antihypertensive drugs. Based on these reasons, in this case, efforts are needed to identify the level of patient compliance by approaching the patient to assess compliance with the use of drugs can be done by several methods, namely: *patient self-report, pill count, medication reffil-rate,* record treatment data, assessment of drug levels in the blood and MPR (*medication possession ratio*) (Kusuma et al., 2017). The MPR method is a compliance measurement expressed as the percentage of supply days received divided by the period (sperber CM, 2017). Based on this background, the researcher is interested in conducting research on "Evaluation of compliance with the use of antihypertensive drugs with MPR Method *(Medication Posession Ratio)* on outpatients at the Lamongan Health Center"

METHOD

This study is a non-experimental research that is observational. Data collection is carried out retrospectively. Data was collected by tracing secondary data through rekamedical data on outpatient hypertension patients at the Lamongan Health Center for the period of November-December 2023. The inclusion criteria in this study are patients diagnosed with hypertension aged >18 years, hypertensive patients with outpatient treatment at the Lamongan Health Center in November-December 2023, and receiving antihypertensive therapy. The exclusion criteria in this study are hypertensive patients with pregnant conditions. The sampling method uses *consecutive sampling techniques*. Compliance data was analyzed using the Medication Possession Ratio (MPR) method. The MPR method is calculated based on (the number of drugs available during the specified treatment period) / (the number of days in one treatment period) x 100%. The parameters of the

MPR calculation results are divided into categories of compliance if >80% and non-compliance if less than 80%.

RESULTS

This study was conducted on hypertension patients who were treated at the Lamongan Health Center in the period of November-December 2023, namely 75 samples and obtained the following results:

Table 1. Patient Characteristics Based on Demographics

Characteristics	N	%
Gender		
Law Law	24	32
Woman	51	68
Age		
36-45 years old	4	5,4
46-55 years old	5	6,6
56-65 years old	42	56
>65 years	24	24
Education		
SD	25	33,3
SMP	20	26,6
SMA	19	25,3
College	10	13,3
Work		
Housewives	39	52
A ...	15	20
Wiraswasta	4	5,3
Farmer	2	2,6
Civil Servant / Retired	13	17,3
Pendagang	2	2,6

Based on table 1, it is known that there are 24 patients with hypertension with male sex as many as 24 people (32%) and 51 women (68%), the lowest hypertensive patients with the age range of 36-45 as many as 4 people (5.4%), and the most in the age range of 56-65 as many as 42 people (56%), in the educational history of the most hypertensive patients with elementary education as many as 25 people (33.3%), and the lowest in patients with a history of higher education as many as 10 people (13.3%), in the occupational status of patients with hypertension, the most occurred in housewives as many as 39 people (52%), and the lowest in farmer patients as many as 2 people (2.6%).

Table 2. Compliance with the use of antihypertensive drugs in outpatient hypertension patients at the Lamongan Health Center based on the characteristics of the study

Characteristic	Compliance Level				n	%
	Obedient		Non-Compliance			
	N	%	n	%		
Gender						
Law Law	18	24	5	6,6	24	32
Woman	45	60	7	9,3	51	68
Age						
36-45	3	4	1	1,3	4	5,4

Characteristic	Compliance Level				n	%
	Obedient		Non-Compliance			
	N	%	n	%		
46-55	5	6,6	0	0	5	6,6
56-65	35	46,6	7	9,3	42	56
>65	20	26,6	4	5,3	2	24
Education						
SD	15	20	5	6,6	25	33,3
SMP	18	24	3	4	20	26,6
SMA	21	28	3	4	19	25,3
College	9	12	1	1,3	10	13,3
Work						
Housewives	35	46,6	4	5,3	39	52
A ...	11	14,6	3	4	15	20
Wiraswasta	3	4	2	2,6	4	5,3
Farmer	2	2,6	0	0	2	2,6
Civil Servant / Retired	10	13,3	3	4	13	17,3
Pendagang	2	2,6	0	0	2	2,6
Types of therapy						
Monotherapy	46	61,3	11	14,6	57	76
Combination	17	22,6	1	1,3	18	24

Based on table 2, it can be seen that the compliance of hypertensive patients based on their characteristics is mostly female as many as 45 people (60%), the age range of 56-65 as many as 35 people (46.6%), the elementary education level as many as 20 people (26.6%) and IRT work as many as 35 people (26.6%).

DISCUSSION

In this study, the most used sample was patients with female gender, based on the gender factor in table 1 explained that of the 75 patients diagnosed with hypertension, most of them were women, as many as 51 people (68%). This is because there are hormonal factors that are greater for women than for men. Hormonal changes after menopause will increase the risk of degenerative diseases such as hypertension. Women will tend to experience an increased risk of increased blood pressure after menopause due to a decrease in the hormone estrogen. The hormone estrogen has an important role in protecting blood vessels from the process of atherosclerosis or plaque buildup on the walls of the vessels so that it can cause hardening of the arteries, as a result of which blood flow is obstructed (New year, 2019). Based on the age factor of hypertension patients often occur in the age range of 56-65 years, which is as many as 42 people (56%), blood pressure in a person will tend to increase at the age of more than 55 years and can also be caused by hormonal changes in women after menopause at the age of more than 55 years around 60% (Aristotle, 2018).

Hypertension based on educational characteristic factors in table 1 explains that it occurs mostly in patients with a history of elementary education, which is as many as 20 people (26.6%). Based on the 2018 Basic Health Research, it is stated that hypertension sufferers are more common in groups that have low levels of education. This is because the higher a person's education, the easier it is for a person to receive

information so that it improves the quality of life and increases the breadth of knowledge and can understand the condition of the disease (Kemenkes RI, 2018).

Based on the factor of occupational status of hypertensive patients, it is more common in patients who work as IRTs (housewives), which is as many as 39 people (52%). IRT work has lighter physical activity so it has higher risk factors for hypertension and there may be other risk factors such as stress that can trigger an increase in sympathetic nerve activity so that blood pressure becomes persistently higher than usual (H.R. Pramestutie and N. silviana, 2016).

Based on the results of the research conducted in table 2, it explains the compliance with the use of antihypertensive drugs at the Lamongan Health Center which is influenced by several patient characteristic factors. Based on gender factors, patients with female sex are more obedient compared to hypertensive patients with male gender, namely as many as 45 people (60%) are obedient in carrying out hypertension treatment. This is due to differences in behavior and compliance in carrying out treatment, as is the case in the female gender who will do more frequent treatment at the health center than the male gender, this can be due to the nature or behavior of women who are more concerned about their health because women have higher anxiety compared to men (elvira, M., & Anggraini, 2019).

From the results of the study table 2 based on age, non-compliance in consuming hypertension drugs occurred in patients with an age range of 56-65 years, namely as many as 7 people (9.6%) did not comply in consuming antihypertensive drugs. The main factor causing non-compliance with medication in the age group >55 years is forgetfulness, this is because With age, a person will experience a decrease in organ function caused by a decrease in the number of cells and nutrient intake which results in structural and physiological changes in the organs, one of which is the brain which will experience changes in cognitive function in the form of difficulty in recalling and also a decrease in the ability to make decisions and act more slowly (Puspita, 2016).

Based on the status of Education in table 2 explains Non-compliance in consuming antihypertensive drugs occurred more in patients with a history of elementary education, which was as many as 5 people (6.6%). Low level of education is very risky to not comply in undergoing treatment due to the lack of knowledge possessed. Low education can also affect compliance, it can be because Education plays a role in the process *transfer knowledge* between the officer and the patient. Limited ability in patient communication and lack of effective communication skills of healthcare workers have an impact on patient understanding (Waas, F., Ratag, B., & Umboh, 2014)

In the results of the study, table 2 explained that from the occupational status, compliance in consuming antihypertensive drugs occurred more in patients who worked as IRTs (housewives) as many as 35 people (46.6%). This is because the factor of a person's work can also be a trigger for patient non-compliance in carrying out treatment, because a person who works will tend to be busy so that they do not have time to go to the doctor or treatment center (liberty, L.A., roflin, E., waris, 2017).

Based on the type of therapy factors obtained by patients from table 2, it can be known that Compliance in consuming antihypertensive drugs occurred more in patients who received monotherapy drugs compared to those who received combination drugs, which was 46 people (61.3%). This is because the burden of medication pills produced from the combination of antihypertensive drugs with other diseases makes the daily medication routine complicated and becomes a barrier to optimal medication adherence (Vrijens, B., Antoniou, S., Burnier, M. & Sierra, A., & Volpe, 2017). Another factor is also

caused by the patient feeling saturated with the drugs he or she consumes while undergoing treatment. The use of too many combination therapies makes it difficult for patients to follow a therapy regimen (Akri & Andrie, 2022). Therefore, the administration of a single type of medication can ease the habit of taking medication and increase high compliance (Vrijens, B., Antoniou, S., Burnier, M. & Sierra, A., & Volpe, 2017). In administering monotherapy drugs to hypertensive patients at the Lamongan Health Center, amlodipine 5 mg or 10 mg amlodipine is more widely used, amlodipine can control blood pressure more smoothly and more appropriately for chronic hypertension therapy so that it rarely causes side effects and is milder (ulfa M.N, 2018).

Based on the results obtained from the measurement of hypertensive patients' compliance in consuming drugs in outpatients at the Lamongan Health Center using the MPR method (*Medication position ratio*) or measurements based on patient compliance in treatment, namely 63 people (84%) patients out of 75 patients obeyed and as many as 12 people (16%) did not comply in consuming antihypertensive drugs. Adherence to treatment therapy is a major factor in the success of hypertension therapy. Compliance and understanding in carrying out good therapy can affect blood pressure and gradually prevent complications (Choudhry, N. K., *et al* 2022)

CONCLUSION

Based on the research on the evaluation of drug compliance in outpatient hypertension patients at the Lamongan Health Center in undergoing treatment, it can be concluded that the level of compliance with the use of hypertension drugs at the Lamongan Health Center is categorized as "compliant" by 84% supported by monthly prolanis activities

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Research Article

Factors Affecting Patient Mortality in the Intensive Care Unit of Muhammadiyah Lamongan Hospital

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ABSTRACT
Mortality is one of the most important issues in the intensive care unit (ICU). This makes the ICU as one of the hospital departments with a high mortality rate. The purpose of the study was to determine factors associated with the mortality of patients in the ICU of Muhammadiyah Lamongan Hospital. The research design used descriptive analytic with a retrospective approach through observation of 555 medical records of ICU patients of Muhammadiyah Lamongan Hospital. The results showed that the mortality factors of ICU patients based on the type of disease were more than half (74.41%) with internal diseases, almost half (43.25%) were over 61 years old with an average age of 53.66 years, and more than half (56.93%) were male. A small number (20.72%) had respiratory complications, and a small number (16.21%) had a medical diagnosis of pneumonia. Almost half (41.27%) had a compos mentis level of consciousness on admission to the ICU and more than half (70.10%) were in a coma 2 hours before death. Almost all (78%) were on ventilators for more than 3 hours. Research on factors associated with mortality is recommended so that these factors do not dominantly affect the high mortality rate, especially for patients in the IPI/ICU.

Keywords
Mortality, critical patient, intensive care unit.

INTRODUCTION

Mortality is the number of deaths due to certain diseases or natural deaths. Patient mortality is one of the indicators of the quality of nursing care in the *Intensive Care Unit* (ICU) or Intensive Care Installation (IPI). Patient mortality increases in emergency and critical care areas, including care in the ICU or IPI. The ICU or IPI is a place to care for patients with complex conditions. Mortality is one of the most important problems in IPI/ICU, which makes IPI/ICU one of the rooms in the hospital that has a high mortality rate.

According to the *World Health Organization* (WHO) in 2022, that 9.8-24.6% per 100,000 population in the world suffer from critical illness and get treatment in the intensive care unit. The number of deaths caused by critical illness is 1.2%-7.5% (WHO, 2022). The prevalence of critical patients in Indonesia in 2022 was recorded at 33,148

patients with the percentage of patient deaths in the ICU reaching 38.5% (Ministry of Health, 2022). The causes of death of IPI patients include septic shock, chronic heart failure and myocardial infarction. ICU patient deaths are also caused by circulatory disorders 23.4%, infections 11.4% and the endocrine system 10.9% (Megawati et al., 2022).

Meanwhile, according to the results of the mortality rate during 2023, 92.4% were treated in the IPI/ICU of Muhammadiyah Lamongan Hospital. The most cases that experienced death were pneumonia, sepsis and IMA. According to Megawati's research (2020), there are several factors that influence the mortality of ICU patients including the type of disease, disease complications, ventilator use, age, and level of consciousness. The type of disease factor that affects the body system, one of which is sepsis, both severe sepsis and septic shock and multisystem organ dysfunction syndrome (MODS), is a complex process characterized by a systemic inflammatory response to infection and is the tenth cause of death in the world. Data shows that sepsis affects more than 1.1 million people and causes a mortality rate of 59%. (Booker, 2015).

Next is the factor of disease complications or comorbidities, patients who have a history of complicating diseases have a 1.833 times greater risk of death compared to patients who do not have comorbid diseases. (Candra, 2022). The use of ventilators can affect the high mortality rate in ICU patients, among the life support devices used are mechanical ventilators, ECMO, *Continous Positive Airway Preasure (*CPAP), Bipap machines, Jackson rees. (Rustini, 2023). The use of ventilators can affect mortality rates, mechanical ventilators are one of the medical devices used in the ICU, patients who use mechanical ventilators are patients with multi-organ failure and also because of the level of complications caused by the use of ventilators that are too long or more than 48 hours (Comisso, 2015).

Patient age factor, based on research conducted by Megawati, et al (2020) patients who experienced death in the ICU were over 65 years of age. This is because as a person gets older, there will be a decrease in function in the body system. Advanced age can also cause physiological abilities to decrease with age. Meanwhile, physiological abilities play a role in maintaining balance during illness until old age causes patients to be unable to maintain a state of body homeostasis, which can lead to death (Megawati, 2020).

The next factor of patient mortality in the ICU is the level of consciousness, decreased level of consciousness and also caused by the use of life support that is too long. Patients who experience mortality also if the ICU room has adequate resources and expertise can provide a higher quality of care, so as to reduce patient mortality (Prasetyo et all, 2014). The impact of the high mortality rate is a health service quality problem that requires corrective action, this is because mortality is one of the indicators of the quality of health services (Widaryati, 2021).

There is a high mortality rate of patients in the ICU/IPI, so it is very important to conduct research related to factors associated with mortality of patients admitted to the IPI/ICU of Lamongan Muhammadiyah Hospital. In addition, researchers have not found literature sources that explain specifically and clearly the factors that influence the mortality of ICU patients. The purpose of this study was to determine the factors that influence patient *mortality* in the Intensive Care Unit of the Muhammadiyah Lamongan Hospital. This research is useful for improving the quality of health services both at the national and international levels and can identify mortality factors so that they can be used as a reference in carrying out the interventions needed to reduce the mortality rate of IPI patients at Muhammadiyah Lamongan Hospital.

METHOD

The research design used descriptive analytics with a retropospective approach through secondary data in the form of medical records of patients who died with a total sampling of 555 medical records in March 2023-2024. The instrument of this study used an observation sheet containing the initials of the patient's name, age, gender, type of disease, MRS date, date of death, medical diagnosis, complicating diseases, level of consciousness, and ventilator use.

RESULTS

Table 1. Distribution of IPI patients who died based on gender, and medical diagnosis, disease type, disease complications and ventilator use at Muhammadiyah Lamongan Hospital.

Characteristics	n	%
Gender		
Male	316	56,93
Female	239	43,06
Quantity	555	100
Medical Diagnosis		
Old Myocardial Infarction (OMI)	25	4,50
Peritonitis	16	2,88
Ileus	11	1,98
Hypertensive Heart Disease (HHD)	12	2,16
Congestive Heart Failure (CHF)	9	1,62
Severe Brain Injury (COB)	19	3,42
Acute gastroenteritis (GEA)	7	1,26
Systemic Lupus Erythematosus	6	1,08
(SLE)	7	1,26
Leukemia	8	1,44
Liver Desease	9	1,62
Colon Invagination	5	0,90
Intraventricular Hemorrhage (IVH)	17	3,06
Brain Tumor	7	1,26
Hedrosevalus	31	5,58
Anemia	27	4,86
Pulmonary TB	19	3,42
Fracture	55	9,90
Acute Lung Oedem (ALO)	44	7,92
Cerebrovascular Acute (CVA)	37	6,66
Diabetes Mellitus	33	5,94
CKD	63	11,35
Acute Myocardial Infarction (IMA)	90	16,21
Pneumonia		
Quantity	555	100
Type of Disease		
Internal Diseases	413	74,41
Surgical Disease	113	20,36
Internal & Surgical Disease	29	5,23

Quantity	555	100
Disease Complications		
Cardiovascular System	98	17,65
Nervous System	23	4,15
Respiratory System	115	20,72
Excretory System	29	5,23
Autoimmune	11	1,99
Metabolic	52	9,37
Sepsis	107	19,27
Cardiac Arrest	77	13,88
Quantity	512	92,26
Non-complications	43	7,74
Quantity	555	100
Ventilator Use		
Ventilator >3 hours	435	78
Non Ventilator	119	22
Quantity	555	100

Based on table 1 above, it can be explained that patients treated at IPI were found to be more than half (56.93%) with male gender, namely 316 people. A small proportion (16.21%) with a medical diagnosis of pneumonia, namely 90 people and a small proportion (0.90%) with a diagnosis of IVH, namely 5 people. More than half (74.41%) of patients with internal medicine were 413 people and a small proportion (5.23%) with internal medicine and surgery were 29 people. Almost all (92.26%), namely 512 people, experienced disease complications with a small proportion (20.72%) of patients experiencing disease complications in the respiratory system, namely 115 people. A small proportion (1.99%) with complications of autoimmune diseases, namely 11 people. And almost all (78%) used a ventilator for more than 3 hours, namely 435 people. Patients who use ventilators for less than 3 hours are included in patients not using ventilators.

Table 2. Distribution of IPI Patients Based on Age **at Muhammadiyah Lamongan Hospital.**

Range	**n**	**(%)**
<20 years	22	3,96
21-30 years	35	6,30
31-40 years old	45	8,11
41-50 years old	76	13,69
51-60 years old	137	24,69
>61 years	240	43,25
Quantity	555	100
Average age	53.66 years	

Based on table 3 above, it can be explained that of the 555 patients who died at IPI Muhammadiyah Lamongan Hospital, almost half (43.25%) of the patients were over 61 years old, namely 240 people. A small portion (3.96%) was under the age of 20 years, namely 22 people. with the average age of patients who died was 53.66 years.

Table 3. Distribution of IPI Patients Based on Awareness Level at Muhammadiyah Lamongan Hospital.

Category	Frequency at IPI Entry	Percentage (%)	Frequency 2 hours before death	Percentage (%)
Coma	151	27,21	389	70,10
Somnolent	96	17,30	56	10.10
Delirium	45	8,10	35	6,30
Apathy	34	6,12	27	4,87
Composmentist	229	41,27	48	8,63
Quantity	555	100	555	100

Based on table 3 above, it can be explained that of the 555 patients who died at IPI Muhammadiyah Lamongan Hospital, there were almost half (41.27%) of patients with a level of consciousness of Composmentis, namely 229 people and a small proportion (6.12%) with a level of consciousness of apathy, namely 34 people at the time of admission to IPI. More than half (70.10%) with a Coma level of consciousness, namely 389 people and a small proportion (4.87%) with an apathetic level of consciousness, namely 27 people before 2 hours of death.

DISCUSSION

1. Type of Illness of IPI/ICU Patients at Muhammadiyah Lamongan Hospital

Based on the results of the study, it shows that of the 555 patients who died in the IPI/ICU of Muhammadiyah Lamongan Hospital, more than half were found with internal diseases and a small proportion with internal diseases as well as surgery. This is evidenced by the presence of the patient's final diagnosis before death through patient medical record data that shows a diagnosis of internal disease. Based on WHO sources (2020), there are 10 categories of the most deadly diseases. This data is based on the number of cases causing death, the order is: Heart disease, cancer, respiratory system infections, lung disease, digestive diseases, diarrhea, are internal diseases.

From the results of the study, there were three types of diseases that dominated death in the IPI/ICU room, namely Pneumonia, IMA and ALO. Patients with pneumonia have secretions that cause the respiratory system to become abnormal so that the fulfillment of oxygen needs is disrupted, and patients with respiratory system disorders, especially pneumonia, also need breathing aids in the form of ventilators, which ventilators are foreign objects that enter the human body so that they can cause infection. Likewise, patients with a medical diagnosis of IMA, where patients experience plaque on the walls of blood vessels and blockage of blood vessels so that blood cannot flow to the heart normally and there is a decrease in heart function which can cause cardiac arrest. Patients with ALO are patients who experience fluid buildup in the lung cavity, causing the lungs to be unable to supply oxygen according to the body's needs, this can cause the patient to experience respiratory failure and cause death.

This can prove that internal diseases are the most common diseases suffered by the community at this time, such as cardiovascular system diseases, nervous system diseases, respiratory system diseases and degenerative diseases. With an increase in the types of internal diseases suffered by the community, it can increase emergency cases, potentially increasing the mortality rate in the ICU room. The types of diseases that affect patient

mortality in the IPI/ICU room are types of diseases with critical conditions. From the many cases of internal diseases suffered by patients in IPI/ICU, it can be a top priority in handling and providing *critical* care to patients so as to reduce mortality, especially in IPI/ICU. This can also make us vigilant and careful in managing people's lifestyles so as not to get into critical patient conditions and increase mortality rates.

2. Complicated Diseases of IPI/ICU Patients of Muhammadiyah Lamongan Hospital

Based on the results of the study, it shows that of the 555 patients who died in the IPI/ICU of Muhammadiyah Lamongan Hospital, almost all patients had complications or more than two medical diagnoses and a small proportion without complications or with one medical diagnosis. The disease complications that occur in these patients are a small part of the respiratory system. This is because the patient's respiratory system experiences a lack of oxygen which can trigger cardiac arrest or respiratory failure in patients which can cause the patient to experience death. Respiratory failure is one of the strong independent predictors as a factor in the mortality of patients in critical conditions who are treated in the intensive care unit.

Patients with complications in the respiratory system have twice the risk of developing more severe or critical illnesses that require treatment in the intensive care unit. IPI/ICU RSML patients have more than two complications of the disease so that the medical diagnoses that appear are more than two so that the treatment process is longer and has the potential to cause infection or a decrease in the immune system. Patients with more than one diagnosis have a worse prognosis of life and their organ functions are more prone to failure and cannot maintain homeostasis. This can be a top priority in handling and more intensive care so that it can reduce patient mortality in IPI/ICU.

According to research Megawati et al (2022), patients with complicated diseases have a longer hospital stay than patients without complications or comorbidities. Patients with complicated diseases can increase emergency cases so that they can increase mortality rates in hospitals, especially in the ICU. According to Satria (2020), patients with critical conditions accompanied by a history of disease in the cardiovascular system and respiratory system have a higher tendency to die. Chronic heart and metabolic diseases, the presence of acute inflammation and decreased organ function (heart, kidney, liver, and hematology) experienced by patients at the beginning of treatment can increase the risk of death due to infection.

Patients who have disease complications and are in critical condition can increase the risk of death compared to patients without complications. This can be a priority in handling patients in the IPI/ICU room. Complications in the respiratory system there are various cases that make the patient's condition critical, including COPD, ARDS, ALO pulmonary TB. Patients admitted to the ICU with one medical diagnosis are patients with critical conditions as well as patients with more than one medical diagnosis so that patients with complicated diseases or more than one medical diagnosis can be prioritized and considered in the treatment process. The more complications the patient has, the more the immune system and organ function decreases so that each organ cannot maintain its function and can cause the patient to be in a more critical and terminal condition so that it can increase the risk of death.

3. Ventilator Use in IPI/ICU Patients at Muhammdiyah Lamongan Hospital

Based on the results of the study, it shows that of the 555 patients who died in the IPI/ICU of Muhammadiyah Lamongan Hospital, almost all patients were found to be using

the Ventilator for more than 3 hours. Patients were attached to the ventilator from the beginning of entering the IPI/ICU room with setting the mode and volume of oxygen according to patient needs. In addition to the use of ventilators, some patients are also attached to oxygen with nasal caul, simple masks, and *Non Rebreathing Mask* (NRM). Patients with less than 3 hours of ventilator use were categorized as patients without ventilator use.

According to Alfi (2020), patients who use ventilators have a higher mortality rate compared to patients without using ventilators. This is because the use of ventilators can cause infection, especially the use of ventilators for a long period of time. The use of ventilators is a mortality factor in patients in the ICU room because prolonged use of ventilators can cause complications in patients (Saputra, 2023). With this, patients who use mechanical ventilators for too long can increase the risk of high infection and patient mortality in the ICU. Patients who are attached to a mechanical ventilator are more prone to nosocomial infections due to health conditions and decreased endurance due to the disease experienced. (Khayati et al., 2018)..

Ventilators are foreign objects if they enter the human body, using a ventilator can cause various bad conditions in patients, one of which is the increasing amount of secretions in the respiratory system organs, making it more susceptible to germs entering the body and causing infections and new diagnoses, so it is not uncommon that patients with longer ventilator use will cause higher complications in patients, causing patients to be in critical condition and the higher the risk of death. So that patients who use ventilators and do not use ventilators both have a high risk of mortality.

4. Age of IPI/ICU Patients at Muhammadiyah Lamongan Hospital

Based on the results of the study, it shows that of the 555 patients who died in the IPI / ICU of Muhammadiyah Lamongan Hospital, almost half of the patients were over 61 years old and a small proportion were under 20 years old. Age can be a risk factor for death in the intensive care room as evidenced by research data showing death experienced at an advanced age, namely in the age range above 61 years with an average age of 53.66 years. Patients who died in the IPI room of the Muhammadiyah Lamongan Hospital were mostly male. One of the causes is that cases experienced by patients under 60 years of age are cases of injury, such as: Fracture, COB, and trauma.

According to WHO data (2020), 53.66 years of age is included in *middle* age which is not included in the elderly category. Based on the results of the study, there is more internal disease data with an average age of 53.66 years. This can be influenced by the unhealthy lifestyle of today's society, such as smoking, alcohol consumption, and not paying attention to the balanced nutritional intake needed by the body so that it can increase the risk of cardiovascular system disease, nervous system and degenerative diseases or other intensive diseases.

Apart from being influenced by an unhealthy lifestyle, this is also influenced by patients who experience death at an age under 60 years more than those over 61 years of age, giving rise to an average age of 53.66 years. This can increase emergency cases and increase mortality in hospitals, especially in the ICU room. According to research results Megawati (2020), there is a 31.43% higher mortality rate at the age of over 65 years and mostly with male gender. This happens because the older a patient is, the patient is unable to maintain a state of homeostasis balance which can cause death. So that with increasing age there are many physical changes that occur thus the older a person is, normal physiological changes in all body systems are universal, progressive, decremental and intrinsic (Susan, 2016).

This can prove that the older the human age, it can increase the risk of higher mortality in patients treated in the ICU, this is because the older a person is, the weaker the body maintains the function of his organs so that the body's metabolism cannot run properly. In addition, at an advanced age humans are more susceptible to disease complications due to decreased immunity in the body. Along with increasing age, the human body's immunity decreases so that it can increase the risk of critical conditions and death in patients admitted to the IPI/ICU room.

5. Awareness Level of IPI/ICU Patients at Muhammdiyah Lamongan Hospital

Based on the results of the study, it shows that of the 555 patients who died in the IPI/ICU of Muhammadiyah Lamongan Hospital, almost all patients were at the level of compositional consciousness and a small proportion with an apathetic level of consciousness when entering the IPI/ICU. But there are also patients who experience a drastic decrease in consciousness. This is because the disease suffered by the patient is quite complex and causes comorbidities to arise so that it can increase the risk of decreased consciousness and death in patients in the IPI/ICU.

According to the results of Najoan's research (2023), the highest patient mortality rate was in patients with coma within 2 hours before death. In the research of Megawati et all (2020), patients who experience death are dominated by coma level of consciousness, this is due to the weakness of the body system in maintaining its function so that shock or cardiac arrest can occur. Patients with decreased consciousness, especially patients with decreased consciousness are often indicated as *critical* patients who need more intensive care. Patients who experience a decrease in consciousness upon admission to the ICU are patients with critical conditions so that a decrease in the level of consciousness is one of the indications that the patient can be admitted to the ICU.

The level of consciousness greatly affects the patient's condition, the more the patient's level of consciousness decreases, the higher the risk of death in critical patients in the ICU. Patients who experience decreased levels of consciousness in the ICU are a top priority to be treated quickly and appropriately, so as to reduce mortality, especially in patients with critical conditions. From the results of the study, it was found that a decrease in the level of consciousness could be caused by the critical condition of the patient who failed to maintain his body's homeostasis either due to the disease he suffered, complications of the disease or comorbid diseases, and his advanced age.

6. Ventilator Use in IPI/ICU Patients at Muhammdiyah Lamongan Hospital

Based on the results of the study, it shows that of the 555 patients who died in the IPI/ICU of Muhammadiyah Lamongan Hospital, almost all patients were found to be using the Ventilator for more than 3 hours. Patients were attached to the ventilator from the beginning of entering the IPI/ICU room with setting the mode and volume of oxygen according to patient needs. In addition to the use of ventilators, some patients are also attached to oxygen with nasal caul, simple masks, and *Non Rebreathing Mask* (NRM). Patients with less than 3 hours of ventilator use were categorized as patients without ventilator use.

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mortality in the ICU. Patients who are attached to a mechanical ventilator are more prone to nosocomial infections due to health conditions and decreased endurance due to the disease experienced (Khayati et al., 2018).

Ventilators are foreign objects if they enter the human body, using a ventilator can cause various bad conditions in patients, one of which is the increasing amount of secretions in the respiratory system organs, making it more susceptible to germs entering the body and causing infections and new diagnoses, so it is not uncommon that patients with longer ventilator use will cause higher complications in patients, causing patients to be in critical condition and the higher the risk of death. So that patients who use ventilators and do not use ventilators both have a high risk of mortality.

CONCLUSION

Based on the results of research and discussion, it can be concluded that:

Patients who died in the IPI/ICU of Muhammadiyah Lamongan Hospital were more than half with internal diseases with 3 dominating medical diagnoses being Pneumonia, Acute Myocardial Infarction (IMA), and *Acute Lung Oedem* (ALO)**.** Most were over 61 years old with an average age of 53.66 years. A small proportion had complications in the respiratory system, spinal cord and cardiovascular system. Almost some with compos mentis level of consciousness at admission in IPI/ICU and more than some with coma level of consciousness 2 hours before death. And almost all with the use of Ventilators for more than 3 hours during admission and the treatment process. Based on the existing conclusions, it is recommended for further researchers to conduct research in the form of a correlation between the factors identified in this study and with the results of this study health workers, especially nurses, can understand the factors that increase the occurrence of death in IPI/ICU patients so that nurses can improve EoL Care in accordance with patient needs.

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Research Article

The Relationship between Knowledge and Attitudes of Parents in Emergency Aid and the Degree of Dehydration in Toddlers

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ABSTRACT

Background: Dehydration is a frequently occurring problem in toddlers. If not treated properly, dehydration can be life threatening. Parents are required to be aware of and have a good attitude about first aid for dehydration emergencies.

Objectives: To determine the relationship between knowledge and attitudes of parents in emergency aid and the degree of dehydration in toddlers at Intan Medika Lamongan Hospital.

Methods: The research design employed an analytic correlation with a Cross Sectional approach, with accidental sampling technique on the population of parents who had toddlers with dehydration of 42 people in the Emergency Room, polyclinics, and inpatients and analyzed using the Pearson test.

Results: 83.3% of parents had good knowledge, 64.3% had a good attitude, and 50.0% of toddlers were moderately dehydrated. The data analysis revealed that there was a relationship (P=0.001) between knowledge and the degree of dehydration of toddlers with moderate correlation (r=-0.503), and there was a relationship (P=0.000) between attitude and the degree of dehydration of toddlers with strong correlation (r=-0.672).

Conclusion: Having good knowledge in identifying signs of dehydration in toddlers and good parental attitudes can accelerate the first aid performed on toddlers. The condition of toddlers improves if the degree of dehydration is low. Therefore, parents are required to improve their knowledge and attitudes about the first aid of dehydration emergencies in toddlers which are in accordance with government recommendations.

Keywords

Attitude; Dehydration; Emergency; First-Aid; Knowledge

INTRODUCTION

Dehydration is a global problem in toddlers and can be life-threatening. Dehydration is the body lacking fluids as a result of losing fluid more than entering (Koyfman, 2018). Dehydration often occurs in toddlers and is usually taken by their parents to the Hospital Emergency Unit (ER) with various degrees (Lestari et al., 2018). According to Fukushima

et al., (2018), dehydration is divided into three levels, namely mild, moderate and severe. Mild dehydration the body loses 3-5% fluid. Moderate dehydration loses 5-10% and loses >10% is called severe dehydration (Maulana et al., 2021).

According to WHO (2019), there are 1.7 billion cases of dehydration in the world with 760,000 deaths of children under five. According to the Indonesian Ministry of Health (2020), the data on the extraordinary incidence of dehydration of toddlers in Indonesia is 4% and is the highest dehydration discovery from the previous year. In East Java, it is known that the percentage of dehydration in children under five in 2019 was 56.6% (East Java Provincial Health Office, 2019). Based on data from the Lamongan Health Office (2021), it was found that there was an increase in dehydration cases, namely 17,315 people and in (2022) as many as 32,520 people. Data from Intan Medika Lamongan Hospital (2023) found that 1,427 toddlers were admitted to polyclinics and 826 toddlers were hospitalized.

The results of the initial survey on December 8-12, 2023, there were 10 toddlers who were dehydrated and treated at Intan Medika Lamongan Hospital. There were 3 toddlers who were severely dehydrated, 4 moderately dehydrated, 2 mildly dehydrated, and 1 undehydrated. From the results of interviews with parents of toddlers, it was found that 40% of parents know the principles of handling dehydration in toddlers, but 60% of parents do not understand the principles of handling dehydration. Parents who know how to handle dehydration usually give toddlers excess fluids such as giving exclusive breast milk. Meanwhile, another 60% said that toddlers with diarrhea were given soft food, bought medicine at stalls, and smeared oil on the toddler's stomach. There are also parents who bring toddlers with diarrhea and fever to health services after 1-2 days. Even though it has only been 1 day and the toddler has been found to be severely dehydrated, it must be immediately taken to health services because it can be life-threatening. This shows that parents' knowledge and attitudes about the initial management of dehydration at home are still lacking.

Several studies show that factors that affect dehydration in toddlers include: Parents, toddlers, and the environment (Syahdan & Kurniasari, 2019; Fatmawati, 2016; Irawan, 2016). Parents' factors include: Knowledge, attitudes, behaviors and education. Factors for toddlers include: Exclusive breastfeeding, nutritional status, immunization status, early age of complementary foods, hand washing habits and children's eating behavior. As well as the last factor the environment includes: Clean and healthy living behavior (PHBS), dirty environment, hot environment and availability of clean water. Some of these factors can trigger dehydration, either due to diarrhea, vomiting, or others.

According to Hutasoit et al., (2019), knowledge is the main factor that affects the prevention of dehydration in toddlers. Parents, especially mothers, are the closest people to toddlers and have an important role in maintaining and maintaining the health of toddlers. So they need to have good knowledge. Parents who have low knowledge will not understand how to prevent dehydration. Dehydration can basically be prevented by knowing the cause (Johar & Komalasari, 2022). According to Hartono et al., (2021), good knowledge of the signs of dehydration will help speed up the identification of toddlers with dehydration. The sooner the signs of dehydration symptoms are known, the faster the treatment will be. Good parents' knowledge will affect how parents behave in handling emergencies for diarrhea toddler patients.

Attitude is a person's response that is still closed to a stimulus or object. Attitudes cannot be seen, but they can be identified. Parents' attitudes determine how they do treatment of dehydration in toddlers (Amare & Mullu, 2015). Another study said that the handling of dehydration in toddlers is greatly influenced by how parents perceive diarrhea (Efi, 2022). A bad attitude is a risk factor for the occurrence of diarrhea in toddlers. Attitude is a behavior that a person has before taking action. If the attitude of parents is good, it will be easy for parents to do a good deed, but if this attitude is still lacking, it will have a bad impact on the degree of dehydration of toddlers (Christy, 2014).

Dehydration that is not handled properly results in impaired organ function, such as kidney disorders due to decreased perfusion to the kidneys. Brain perfusion is also impaired which is characterized by a decrease in consciousness. Serious organ damage if left untreated will result in death (Melianti, 2016). This quite serious impact can be avoided by knowing the degree of dehydration and how to handle it properly. The more severe the degree of dehydration, the heavier the impact on the body's organs. The lighter it is, the easier it will be to handle and can be done by parents at home.

One of the efforts that can be made is to increase parents' knowledge and attitudes towards the signs of dehydration symptoms in toddlers early. In addition, parents should know about the treatment of dehydration according to the degree of dehydration. According to Khasanah & Sari, (2016), increased knowledge does not cause a change in attitude but has a positive relationship, namely with increased knowledge, there can be a change in parents' attitudes.

Handling diarrhea according to the Ministry of Health of the Republic of Indonesia (2017) to avoid dehydration in children/toddlers, namely: Rehydration, zinc administration, exclusive breastfeeding and complementary foods, antibiotic administration, and counseling to parents. Rehydration aims to prevent dehydration from getting worse. Zinc tablets are given to improve the digestive tract. Exclusive breastfeeding is required for children aged 0-6 months and is given as much as the child wants to breastfeed. For children who have eaten, feed more frequently. The administration of antibiotics must be prescribed by a doctor. Counseling/education to parents is the main key in handling dehydration, especially due to diarrhea.

METHODS

This study is an analytical correlation study with a cross sectional approach with variables of knowledge, parents' attitudes, and degrees of dehydration of toddlers. The research was conducted in the emergency room, Poli Clinic, Inpatient Intan Medika Lamongan Hospital in February 2024. The sampling technique used accidental sampling and the research sample amounted to 42 parents.

Inclusion criteria include: Respondents are parents of toddlers (Father, Mother, or Caregiver) whose child is admitted to the emergency room, polyclinic, hospitalized with dehydration, can read, write and understand Indonesian, and agree to informed consent. Exclusion criteria include: Parents with hearing, vision problems and children in emergency and uncooperative conditions.

The parent knowledge questionnaire was developed by the researcher with a total of 15 questions. The research indicators consist of the definition of dehydration (2), signs and symptoms of dehydration (3), causes of dehydration (3), and emergency treatment of dehydration (7). Positive questions are true with a score of 1 and false with a score of 0 while negative questions with a true score of 0 and false with a score of 1. Parents' knowledge score is good: 68-100, moderate: 37-67, and severe: 0-33. The validity test is

n=35, df=n-2, which is 35-2=33, so that a significant level of 5% is obtained r table=0.429. Based on the validity test, this questionnaire has a r-calculent>r table (0.449-0.533). The reliability test of the questionnaire showed Alpha Cronbach's>0.6 (0.772) so that the questionnaire of parents' knowledge about dehydration emergency aid was declared valid and worthy of being used as a research instrument.

The parent attitude questionnaire was developed by the researcher with a total of 10 questions. The indicators of this questionnaire consist of recognizing the signs and symptoms of dehydration (2), the willingness to handle toddlers independently (2), the efforts made if toddlers are dehydrated (4), and parents' confidence in handling toddlers with dehydration (2). This questionnaire uses a Likert scale. For favorable questions, strongly agree score 5 and strongly disagree 1 while unfavorable questions strongly agree score 0 and strongly disagree score 1. Parents' attitude scores are good: 38-50, moderate: 24-37, and severe: 10-23. The total score produced is between 10 and 50. The validity test is n=35, df=n-2, which is 35-2=33, so that a significant level of 5% is obtained r table=0.429. Based on the validity test, this questionnaire has a r-calculent>r table (0.480-0.591). The reliability test of the questionnaire showed Alpha Cronbach's>0.6 (0.702) so that the questionnaire of parents' attitudes about dehydration emergency help was declared valid and suitable as a research instrument.

Dehydration degree score instrument based on clinical symptoms according to Friedman et al., (2004). Instruments in the form of observation sheets containing physical findings that appear in toddlers include: General condition, eyes, mucous membranes and tongue, and tears. The total score of dehydration degrees is 0 to 8. If the dehydration degree score is 0, the toddler is not dehydrated, the score is 1-3 mild dehydration, the score is 4-6 moderate dehydration, and 7-8 severe dehydration. The higher the dehydration degree score, the worse the condition of the toddler.

Before the statistical test, a data distribution test was carried out first using a comparison of skewness values, namely a comparison of skewness values and standard error skewness which showed the results of parents' knowledge of -1.60 (-2 to 2), parents' attitudes -0.16 (-2 to 2), and the degree of dehydration of toddlers -0.06 (-2 to 2) which means normal data distribution. Then it was analyzed using the Pearson Hypothesis Test.

This research has been declared ethically feasible by the Ethics Committee of the University of Muhammadiyah Lamongan on February 22, 2024 with No. 023 /EC /KEP K - S1 / 02 /2024.

The purpose of this study is to determine the relationship between knowledge and parents' attitudes in emergency care to the degree of dehydration in toddlers at Intan Medika Lamongan Hospital.

RESULTS

Table 1. Demographic Data

	Characteristic	Frequency	Presentation
Age of Parents	20-30 years old	15	35.7%
	31-40 years old	17	40.5%
	41-50 years old	9	21.4%
	51-60 years old	1	2.4%
	Average age of parents	34.88	
	Total	42	100%
Gender	Male	11	26.2%
	Female	31	73.8%
	Total	42	100%

Education	Not in school	0	0%
	Didn't pass elementary school	0	0%
	Graduated from elementary school	1	2.4%
	Graduated from junior high school	5	11.9%
	Graduated from high school	25	59.5%
	Graduated D3/S1	11	26.2%
	Total	42	100%
Work	Self employed	13	31.0%
	Labor/Helper	5	11.9%
	IRT	20	47.6%
	Civil servants	1	2.4%
	Other	3	7.1%
	Total	42	100%
Toddler Relationship with Respondents	Father	11	26.2%
	Mother	27	64.3%
	Grandma/uncle/Aunt	3	7.1%
	Caregiver	1	2.4%
	Total	42	100%
Toddler Age	0-6 months	2	4.8%
	7 months-2 years	8	19.0%
	2.1-4 years	20	47.6%
	4.1-5 years	12	28.6%
	Average age of toddlers	3.040	
	Total	42	100%
Toddler Weight	1-5 Kg	1	2.4%
	6-10 Kg	8	19.0%
	11-15 Kg	19	45.2%
	16-20 Kg	13	31,0%
	21-25 Kg	1	2,4%
	Average weight of toddlers	13.614	
	Total	42	100%
Height/length of toddlers	45-65 cm	5	11.9%
	66-86 cm	12	28.6%
	87-107 cm	25	59.5%
	>107 cm	0	0%
	Average height/length of toddlers	87.14	
	Total	42	100%
Immunization Status	Complete	42	100%
	Incomplete	0	0%
	Total	42	100%

Table 2. Data on knowledge and attitudes parents' and the degree of dehydration of toddlers

	No	Characteristic	Frequency	Presentation
Parents' Knowledge	1	Good	35	83,3%
	2	Moderate	7	16,7%
	3	Severe	0	0%
		Total	42	100%

	No	Characteristic	Frequency	Presentation
Parents' Attitude	1	Good	27	64,3%
	2	Moderate	15	16,7%
	3	Severe	0	0%
		Total	42	100%
	No	Characteristic	Frequency	Presentation
Degree of Dehydration of Toddlers	1	Not dehydrated	0	0%
	2	Mild dehydration	15	35,7%
	3	Moderate dehydration	21	50,0%
	4	Severe dehydration	6	14,3%
		Total	42	100%

Table 3. The relationship between parents' knowledge and attitudes with the degree of dehydration of toddlers

Parents' knowledge about dehydration emergency care	Degree of Dehydration of Toddlers					Test Results
	Not dehydrated	Mild dehydration	Moderate dehydration	Severe dehydration	Total	
	n	n	n	n	%	
Good	0	14	20	1	83,3%	
Moderate	0	1	1	5	16,7%	*P=0,001*
Severe	0	0	0	0	0%	Test
Total	0	15	21	6	100%	*Pearson* r= -0,503

Parents' attitudes about dehydration emergency care	Degree of Dehydration of Toddlers					Test Results
	Not dehydrated	Mild dehydration	Moderate dehydration	Severe dehydration	Total	
	n	n	n	n	%	
Good	0	15	12	0	64,3%	
Moderate	0	0	9	6	35,7%	*P=0,000*
Severe	0	0	0	0	0%	Test
Total	0	15	21	6	100%	Pearson r= -0,672

DISCUSSION

Based on the distribution of table 1, it can be seen that parents who have a toddler with dehydration and are admitted to Intan Medika Lamongan Hospital amounted to 42 respondents. Some (40.5%) of parents have an age range between 31-40 years with an average age of 34 years. The most women (73.8%) people. (59.5%) people graduated from high school/high school. Work as a housewife (47.6%) people. The relationship between toddlers and maternal respondents (64.3%) people. (47.6%) of toddlers in the age range of 2.1-4 years. (45.2%) toddlers weigh between 11-15 kilograms. The height of toddlers is the most, which is in the range of 87-107 cm (59.5%). In this study, the average toddler was 3 years old, weighed 13.6 kilograms, and was 87.14 centimeters tall. It can be concluded that the average toddler is in the normal category when viewed from the list of tables of ideal weight and height for toddlers aged 1-5 years from the Ministry of Health of the Republic of Indonesia. Based on table 2, it can be seen that more than half (83.3%) of parents have good knowledge. Some (64.3%) of parents have a good attitude. The degree of dehydration oftoddlers most often experienced in the category of moderate dehydration is as many as (50%) of toddlers. There are no parents who have less knowledge and attitude.

Based on table 3, it shows that there is a relationship between parents' knowledge and the degree of dehydration of toddlers ($P=0.001<0.05$) and moderate correlation strength ($r=-0.503$). There was a relationship between parents' attitudes and the degree of dehydration of toddlers ($P=0.000<0.05$) and strong correlation strength ($r=-0.672$). Both of these variables have a negative correlation direction, which means that the higher the value of parents' knowledge and attitude, the lower the degree of dehydration, which means that they are in the opposite direction.

1. Parents' Knowledge of Dehydration Emergency First Aid

Based on the research, it was found that 35 (83.3%) respondents had good category knowledge, and 7 (16.7%) respondents had sufficient knowledge. This research is in line with the results of the study by Bakry et al., (2023), which stated that parents' knowledge of dehydration emergency care is good (80%).

Knowledge gained formally and informally is the foundation for parents in understanding dehydration emergency aid. Parents, especially those with toddlers, must be aware of the importance of knowledge to be able to understand the degree of dehydration of toddlers (Utami & Haqi, 2018).

The results of this study showed that almost all parents of toddlers with dehydration had good knowledge, but when filling out the questionnaire they admitted that they lacked confidence in being able to complete the questionnaire correctly. The parents answered according to what was known. But when corrected by researchers, many parents who have good knowledge are proven to score between the range of 68-100.

According to researchers, parents' knowledge is very important and must be owned by every individual, this is useful to help toddlers when experiencing dehydration at home independently. Parents who have good knowledge are able to recognize the signs and symptoms of dehydration early. So that when toddlers experience mild dehydration, parents do not need to take toddlers to health services, just handle them at home.

2. Parents' Attitudes about Dehydration Emergency Aid

Based on the results of the study, it was found that the attitude of parents was good as many as 27 (64.3%) people and the attitude was sufficient as many as 15 (35.7%) people. This research is in line with the research of Santini & Mahayana (2020), and Hapsari & Gunardi (2018), which stated that the attitude of parents of toddlers is in the good category.

Attitude is a person's response that is still closed to a stimulus. Attitudes cannot be seen, but they can be identified. Parents' attitudes determine how they handle dehydration in toddlers (Amare & Mullu, 2015). Another study said that the handling of dehydration in toddlers is greatly influenced by how parents perceive diarrhea (Efi, 2022). Attitudes consist of good, adequate, and lacking attitudes. A good and sufficient attitude will lead a person to perform good behavior, especially those related to health. Meanwhile, a poor attitude will lead a person in poor behavior to have a bad impact on health (Nuadi et al., 2020).

According to researchers, one of the things that parents must have in caring for dehydrated toddlers is a positive attitude as an effort to reduce the degree of dehydration of toddlers. A positive parents' attitude is also very important in the intervention that must be carried out in caring for toddlers when experiencing dehydration at home, because the degree of dehydration of toddlers can be handled by themselves at home if the degree is low.

3. Degree of Dehydration of Toddlers

Based on the results of the research conducted, it was found that most of the 21 (50.0%) toddlers were moderately dehydrated and a small part was severely dehydrated as many as 6 (14.3%) toddlers. This research is in line with the research of Yunadi & Budiarti (2017), which said that mild/moderate degree of dehydration diarrhea was as many as (96.6%) of toddlers.

Dehydration is the excessive discharge of body fluids due to vomiting, diarrhea, bleeding, burns or due to excessive sweating due to hot air or high body temperature (Kanisa, 2019). Prevention of dehydration can be done by early treatment of diarrhea in toddlers at home. In this case, parents are required to play an active role in monitoring the amount and consistency of children's feces during diarrhea, signs of dehydration and giving fluids to prevent dehydration (Johar & Komalasari, 2022).

According to researchers, the degree of dehydration in toddlers should not be underestimated, because dehydration in toddlers can occur quickly and cause serious health complications if not treated appropriately.

4. The Relationship between Parents' Knowledge and the Degree of Dehydration of Toddlers

The results of the study showed a value of r=-0.503 and P value=0.001 which means that there was a moderate relationship between parents' knowledge and the degree of dehydration of toddlers in the Emergency Room, Inpatient, and Polyclinic of Intan Medika Lamongan Hospital. This is in line with the results of research by Bakry et al., (2023) and Purnamiasih (2022), which show that there is a relationship between parents' knowledge and the degree of dehydration in toddlers.

Based on table 3, there were 2 respondents who had sufficient knowledge but low and moderate degrees of dehydration of toddlers. There were 5 respondents whose

knowledge was sufficient with the degree of severe dehydration. In the knowledge of parents, there was also 1 respondent who had good knowledge but a severe degree of dehydration. This can happen because the measurement of the degree of dehydration using an observation sheet according to Friedman et al., (2004) obtained results that are very suitable for the state of toddlers.

Lack of knowledge is one of the factors in the increasing incidence of dehydration in toddlers. Knowledge about diarrhea prevention is important to disseminate because it is very helpful in the first treatment of toddlers who experience diarrhea (Astuti, 2022). With knowledge, it can raise awareness so that parents behave according to the knowledge they have. Behavior change based on awareness will be lasting because it is not from a compulsion (Astuti, 2022).

According to researchers, the better the parents' knowledge, the better the degree of dehydration of toddlers. Identification and analysis are important to find out the relationship between parents' knowledge about dehydration emergency aid and the degree of dehydration of toddlers.

5. The Relationship between Parents' Attitudes and the Degree of Dehydration of Toddlers

The results of the study showed a value of r=-0.672 and P value=0.000 which means that there is a strong relationship between parents' attitudes and the degree of dehydration of toddlers in the Emergency Room, Inpatient, and Polyclinic of Intan Medika Lamongan Hospital. This is in line with the results of research by Santini & Mahayana (2020), which show that there is a relationship between parents' attitudes and the degree of dehydration of toddlers.

Based on table 3, there were 0 respondents who had a good attitude with a severe degree of dehydration of toddlers. There were 6 respondents whose attitude was sufficient with the degree of severe dehydration of toddlers. This happens because the measurement of the degree of dehydration using an observation sheet according to Friedman et al., (2004) obtained results that are very suitable for the condition of toddlers.

A good and sufficient attitude will lead a person to perform good behavior, especially those related to health. Meanwhile, a lack of attitude will lead a person in poor behavior to have a bad impact on health (Nuadi et al., 2020). Parents' attitude towards the prevention and control of diarrhea is a unit to reduce the rate of diarrheal pain. If the mother's attitude towards diarrhoea prevention is supportive, then the number of illnesses or deaths can be reduced (Sudirman et al., 2021).

Attitudes affect behavior, which is the attitude that a person believes determines what he will do. The more specific a person's attitude is measured and the more specifically we identify related behaviors, the more likely we are to obtain a significant relationship between the two (Yunida, 2018).

According to researchers, the better the attitude of parents about dehydration emergency help, the better the degree of dehydration of toddlers. Identification and analysis are important to find out the relationship between parents' attitudes and the degree of dehydration of toddlers.

CONCLUSION

Knowledge of parents in the good category. The attitude of parents is in the good category.

The degree of dehydration of toddlers in the category of moderate dehydration. There was a relationship (P=0.001<0.05) between knowledge and the degree of dehydration of moderate correlation strength (r=-0.503). There was a relationship (P=0.000<0.05) between attitude and the degree of dehydration of toddlers and strong correlation strength (r=-0.672). The results of this study can be used as a reference for future researchers to conduct further research in an observative way in the Emergency Room, Polyclinic, and Inpatient Room.

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Research Article

The Relationship between Onset to Door Time (ODT) and Glasgow Coma Scale (GCS) in Stroke Cases in the IGD of Muhammadiyah Lamongan Hospital

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ABSTRACT

Background: *Strok is a major cause of death and disability. This situation was the result of a delay in the patient's arrival at the hospital, namely more than 3 hours after the attack occurred. Delays in patient arrival can affect the patient's GCS for the worse.*
Objective: *to determine the relationship between onset to door time (ODT) and the Glasgow Coma Scale (GCS) in cerebrovascular accident (CVA) in the emergency room at Muhammadiyah Lamongan Hospital.*
Method: *The design of this research was correlational analytic with accidental sampling technique on 50 stroke patients in the emergency room in March-April 2024, then analyzed using the Spearman test and the instruments used were general data and ODT and GCS observation sheets.*
Results: *Research shows that the average respondent has an onset to door time of 7.08 hours and the average patient GCS is 11.96. The results of statistical analysis show that sig. (2-tailed) = 0.005<0,05 This means that there is a relationship between onset to door time and the Glasgow Coma Scale.*
Conclusion: *in this study is that onset to door time is related to the Glasgow Coma Scale in strok patients. Treatment from onset to door time is a very important factor that influences GCS in strok patients. Treating strok quickly can improve the patient's prognosis, as well as the importance of educating the public regarding recognizing the signs and symptoms that lead to strok*

Keywords
onset to door time, glasgow coma scale, strok.

INTRODUCTION

Stroke is a disease resulting from neurological and functional damage that occurs suddenly due to a lack or interruption of blood flow to the brain caused by blood clots, plaque, or rupture of blood vessels. This situation can occur at any time and requires immediate treatment, so it is known as time is brain (Pulvers & Watson, 2018). Stroke

patients must be treated as soon as possible. The sooner it is treated, the more neurological damage to stroke patients will be minimized. The ideal standard of time required for stroke management from the onset is 3 hours and is known as the Golden Period. Clinical manifestations found in stroke patients are neurological disorders such as decreased consciousness, decreased muscle tone, loss of sensibility and ability to move the limbs. This will have an impact on the patient's inability to carry out certain activities (Burta, 2018).

According to WHO (2022), globally, there are more than 12.2 million stroke sufferers in the world. More than 7.6 million or 62% of new ischemic strokes every year and more than 38% or 4.6 million of all hemorrhagic stroke events (Dwilaksono et al., 2023). Meanwhile, in Indonesia every year an estimated 500,000 people are affected by strokes And around 2.5% or 125,000 people died from strokes and other mild or severe disabilities. It can be said that in general, the incidence of stroke is 200 per 100,000 population (Bian et al., 2018). Based on Riskesdas data (2018), the number of stroke sufferers in East Java Province is in eighth position with a prevalence of 12.4 per 1000 population. In Lamongan Regency, the prevalence of stroke is ranked highest in East Java, namely 38% (Laily, 2018).

Based on the results of survey data conducted at the Muhammadiyah Lamongan Hospital, it was found that stroke cases coming to the emergency department (IGD) had increased in the last three years. In 2021, 753 cases of hemorrhagic and non-hemorrhagic stroke were recorded, in 2022 there were 1,084 cases and in 2023, from January to October, there were 1,074 cases.

Based on research conducted in the emergency room at Muhammadiyah Lamongan Hospital, out of 10 stroke patients, the majority had an onset to door time of more than 3 hours, 9 patients and only 1 patient had an onset to door time of less than 3 hours, with an average delay in arrival. patient 11.11 hours. This data shows that there are still many stroke patients who arrive late at the hospital.

Delays in the arrival of patients to health service centers are a major problem that must be considered. Determining delays can use the onset to door time (ODT) parameter, namely the time measured from the appearance of symptoms (onset) until the patient arrives at the hospital. ODT is very important to reflect the length of time from the attack (onset) until the patient arrives at the door of the health care unit. Ideally this ODT should not be more than 3 hours. Several factors can influence a patient's delay in going to the hospital, namely: Knowledge, distance, transportation, economy, time of night, and family. Knowledge about the signs and symptoms of stroke is a factor that influences whether a patient is taken to the hospital sooner or later. The better the knowledge regarding the signs and symptoms of eating stroke, the faster the response will be to seek immediate help at the nearest facility so that patients can immediately get help (Rachmawati et al., 2018).

The development of ischemic stroke/infarction in the course of a stroke can cause neurological deterioration such as decreased consciousness, disability and death. Disability in stroke sufferers is caused by brain organ disorders that are not treated immediately, which can cause hemiparesis. Apart from that, delays in the arrival of stroke patients at the hospital also have the potential to increase mortality. If neurological damage, especially to the central nervous system, is not treated immediately, the brain is seriously damaged and will disrupt vital functions such as breathing and cardiovascular.

Impaired vital functions will increase the risk of mortality. Damage will occur significantly with every 60 minutes of delay (Paciaroni et al., 2019). This shows that the impact of delay on stroke patients is quite serious and endangers the patient.

Neurological damage can be seen using several indicators, one of which is the Glasgow coma scale according to the National Institutes of Health Stroke Scale (NIHSS). Indicators of neurological damage include: decreased consciousness, visual impairment, facial paresis, impaired motor response, ataxia, sensory, cognitive impairment, and dysathria (Robinson JK, 2018). An important indicator to determine the presence of neurological damage is decreased consciousness, which in determining the level of consciousness can be measured using the Glasgow Coma Scale (GCS). GCS is a scale used to measure the patient's level of consciousness by focusing on motor, verbal and eye reactions. GCS is a scale used to measure the patient's level of consciousness by focusing on motor, verbal and eye reactions.This scale has proven to be an excellent tool in the initial assessment of patients with impaired consciousness. GCS not only provides an overview of stroke severity but can also be a potential predictor of patient clinical outcomes (Cvadi et al., 2023).

One of the keys to managing stroke is speed in providing care to patients, including identifying ODT. Prevention efforts that can be carried out by emergency room nurses so that there is no delay in lower stroke patients getting to the hospital is by providing education according to the American Stroke Association (ASA), namely developing a focus on stroke recognition and EMS activation via 3D, namely: Detection, Dispatch, Delivery for pre hospital and Door, Data, Decision, Drug while in hospital. Public education about stroke symptoms and access to EMS activation is an important regional component for developing pre-hospital management of stroke patients (Cukir, 2020).Training of health workers and paramedics to recognize stroke symptoms focuses on assessment focused on facial asymmetry, weakness of the extremities and difficulty speaking. Collaboration between hospitals and emergency service providers to facilitate coordination and quick response to stroke cases (Sumarsono, 2020). By involving all components of society and health workers, this will minimize the risk of delays in stroke patients when they arrive at the hospital.

METHOD

This research uses a quantitative type of research. With a research design using correlation analytics using the Accidental Sampling Technique. This research was conducted at the Muhammadiyah Lamongan Hospital In March 2024, total, there are 50 Stock sufferers. The independent variable of this study is onset to door time and the dependent variable is the Glasgow coma scale. The instruments used in this research were observation sheets and interviews. After the data is collected, it is then tested statistically. To determine the relationship between the research results, the data was analyzed using the Spearman test. With results $P < 0.05$.

RESULTS

Table 1. Demographic Data

	Karakteristik	Frekuensi	Presentasi	Rata-rata usia pasien
Age	45-55 Year	15	30%	60,86
	56-65 Year	21	42%	
	66-75 Year	13	26%	
	>75 Year	1	2%	
Gender	Male	24	48%	
	Female	26	52%	
Last Education	Elementary school	28	56%	
	Junior high school	8	16%	
	Senior high School	14	28%	
	Lulus D3/S1	0	0%	
Work	Farmer	24	48%	
	Housewife	10	20%	
	Self-employed	14	28%	
	PNS	2	4%	
	Total	50	100%	
income	Upper middle	10	20%	
	Middle down	40	80%	
Transportation	Private car	20	40%	
	Ambulance	30	60%	
How many attacks	1st attack	45	90%	
	2st attack	4	8%	
	3st attack	1	2%	
Type of stroke	Hemoragic	16	32%	
	Iskemic	34	68%	
	Total	50	100%	

Table 2. Identifying Onset to Door Time (ODT) in stroke patients

No	Characteristics	Frequency	Percentage	Average	Std. Deviasi	Minimum	Maximum
1.	> 3 hours	36	72%	7,08	6,36	0,55 jam	26.00
2.	< 3 hours	14	28%				
	Total	50	100%	7,08	6,36	0,55 jam	26.00

Table 3. Identifying the Glasgow Coma Scale (GCS) in stroke patients

Average	Std. Deviasi	Minimum	Maximum	Total
11.96	3.790	4	15	50

Table 4. *The Relationship between Onset To Door Time (Odt) and Glasgow Coma Scale (Gcs) in Stroke Cases in the IGD of Muhammadiyah Lamongan Hospital*

Onset To Door Time	GCS	GCS	GCS	Total		
	GCS 15-13	GCS 12-8	GCS 7-4			
	f %	f %	f %	f	%	
> 3 hours	17 47,2	12 33,3	7 19,4	36	100	
< 3 hours	13 92,9	0 0,0	1 7,1	14	100	
Total	30 16	12	24 8	60	50	100
Uji *Spearman* r= 0,390				*P=0,005*		

DISCUSSION

1. General data

Based on the distribution of table 1, it is known that of the 50 stroke sufferers at Muhammadiyah Lamongan Hospital, the majority (42%) were aged 56-65 years. Age is a period of time that measures the existence of an object or creature, both living and dead. Delays in stroke patients are often experienced in patients over 60 years of age. This is because older patients misinterpret the symptoms they are experiencing as due to aging factors. the majority (52%) were female, this is in line with research conducted by Sumarsono.,(2020), which states that female patients tend to experience delays in seeking medical treatment compared to men. Many female patients ignore the importance of preventive medical care or lack information regarding signs of disease or certain health problems (Sari et al., 2019). Female respondents may misinterpret the stroke symptoms they are experiencing or not immediately check for symptoms that arise because they are busy in their caregiving or household roles.

the majority (56%) had elementary school education a low level of education will affect an individual's level of knowledge. Education is an effort to change a person's behavior, including health behavior to prevent strokes (Barahama et al., 2019). The causes of patient delays in receiving first medical care are closely related to decision making by the patient and family. The patient's level of knowledge, response and perception of the disease they are experiencing is an important factor in making the decision to receive first medical treatment. Knowledge is very important in speeding up the patient and family's decision making, if you have adequate knowledge it will be quicker to report the symptoms experienced to emergency medical aid providers so that the patient will receive first medical treatment immediately.

The majority (48%) work as farmers, based on research conducted by Susilawati., (2018), said that farmers mostly live in rural areas which have limited access to emergency health facilities. Farmers often depend on heavy physical work and do not have sufficient time flexibility to seek medical care quickly (Rachmawati et al., 2018). People who work as farmers generally always ignore the signs and symptoms of illness due to distance or inadequate access to health service centers. This has an impact on delaying decisions by patients and families to get emergency help when a stroke occurs.

The majority (40%) have an income <middle down, this is in line with research conducted by Shak, (2020), which shows that there is a relationship between economic factors and delays in families bringing stroke patients to the emergency room at Labuha Regional

Hospital. Economic status can be a factor in delays. Where patients who have a low economic status and have difficulty earning money will take longer to arrive at the hospital than patients with a high economic level (Slavin et al., 2018). Most of the respondents who were late in bringing their families to the hospital had low economic/income levels, often because stroke patients needed intensive care and long-term rehabilitation. High costs of care, including hospital costs, medications, physical therapy and rehabilitation procedures can be a major financial burden for patients and families. As a result, patients will delay seeking medical care and prefer traditional treatment because they are worried they will not be able to afford the cost of treatment.
The majority (60%) use an ambulance, this is in line with research conducted by Tan et al., (2022), which states that there is a significant relationship between delays in the arrival of stroke patients at the hospital and the use of ambulances as the preferred mode of patient transportation. The results of previous studies say that using ambulances as a means of transportation can reduce the rate of delays in arrival of stroke patients at the hospital (Riyanti et al., 2023). However, patient and family knowledge of the symptoms and signs of stroke is important when the patient makes the decision to receive ambulance services as a mode of transportation to the hospital.

2. Onset to Door Time (ODT)

Based on table 2, it can be seen that the Onset to Door Time (ODT) of stroke patients in the emergency room at Muhammadiyah Lamongan Hospital, most of the respondents experienced a delay, 36 patients (72%) and 14 patients (28%) who arrived on time. With the average delay of respondents being 7.08 hours. Based on research conducted by Kurnia et al., (2023), it explains that knowledge, level of education, perception, transportation, distance from residence to health facilities and economic factors are factors that cause delays in treating stroke patients. In line with research conducted by Muhlis, (2021), which states that there are many factors that influence the delay in patients coming to the hospital, including long distance from the hospital, belief in myths, preferring alternative treatment, and low awareness of the family and patient. on recognition of stroke symptoms.
Strokes can happen suddenly to anyone, whether while resting or doing certain activities, at home or at work or even while exercising (Kurnia et al., 2023). Onset is the time of arrival based on the occurrence of the first stroke and brain ischemia lasting more than 3 hours results in permanent nerve damage, when acute stroke patients are evaluated within 8 hours of onset, they often do worse (Muhlis, 2021).
The aim of stroke management in general is to reduce morbidity and reduce mortality and reduce disability rates (Hafid, 2021). Stroke sufferers must be immediately taken to hospital so that optimal treatment can be given.
Another reason a patient receives treatment late is a lack of knowledge about the signs and symptoms of stroke, and a failure to understand stroke as a medical emergency that requires immediate treatment. Accurate information will increase the respondent's knowledge about stroke management. If the respondent has never received information about the dangers of stroke, the longer it will take for the respondent to react to immediately go to the nearest hospital or health service.
As is known based on research results which show that almost half of the respondents

have never received information about stroke and how to treat it and have an education level that is still at the basic education level and half of the respondents live with their children or family. Some of these factors can be assumed to be one of the factors in poor handling ability to get an onset to door response time when a stroke occurs.

3. Glasgow Coma Scale (GCS)

Based on table 3, after observing 50 respondents, it was found that the average Glasgow Coma Scale (GCS) in stroke patients in the emergency room at Muhammadiyah Lamongan Hospital was 11.96, Std. The deviation is 3.790, the minimum value is 4, and the maximum value is 15. The Glasgow coma scale (GCS) is a system developed to assess patients with decreased consciousness. The GCS score is also used to assess the neurological status and severity of the patient's brain dysfunction due to stroke when the patient first arrives at the ER as a tool to predict patient outcome (Anestesiologi, 2020).

There are 3 assessment components in the GCS, namely eye response, verbal and motor responses which are assessed by giving a score to each component. The loss of function that occurs after stroke is frequently described. As a loss of physiological and psychological functions, the ability to do things that healthy people should be able to do, such as: not being able to walk, swallow and see (Febriawati et al., 2023).

Loss of function that occurs after stroke is often described as disruption, loss and disability (Advani et al., 2019). GCS measurements have an important role in evaluating effective treatment in stroke patients. Rapid diagnosis and treatment appropriate to the type of stroke are key to minimizing further brain damage and improving patient clinical outcomes.

4. Relationship between Onset to Door Time and the Glasgow Coma Scale

The results of the study showed that the majority of respondents, both those who had an onset to door time of less than 3 hours and more than 3 hours, had a GCS score of 13-15, but many respondents who had an onset to door time of more than 3 hours also had GCS 8-12 was (33.3%) and respondents who had an ODT of more than 3 hours almost all had GCS 4-7 (19.4%). In addition, based on the analysis of statistical test results, it shows that there is a relationship between onset to door response time and the Glasgow Coma Scale ($p=0.005$) < α (0.05).

One of the important keys in reducing deaths and minimizing brain damage caused by stroke is providing fast and appropriate treatment. Barahama et al., (2019), stated that the most recommended time for stroke patients is 3 hours, which is called the golden hour. If stroke treatment is given for more than the golden hour, the neurological damage experienced by the patient will be permanent. This golden time is very effective for treating stroke, namely saving brain tissue that suffers from a lack of nutrient and oxygen supply.

According to Pinzon., (2019), factors that influence the delay in the golden hour of stroke patients are the level of knowledge, education, perception, transportation and economy. The importance of knowledge about the golden period can emphasize the death and disability rates in sufferers. As well as knowing the degree of neurological damage in stroke patients, and preventing strokes can be avoided by carrying out proper treatment while still in the golden period.

These factors are very important in determining how quickly stroke patients can seek the

medical care they need during the golden period. Efforts to improve health education, change public perceptions, improve transportation access, and provide economic support can significantly reduce delays in care for stroke patients, which in turn can reduce mortality and disability rates and improve patient clinical outcomes.

CONCLUSION

The onset to door response of stroke patients at Muhammadiyah Lamongan Hospital was mostly slow, but almost all of them, both late and on time, had a GCS score of 13-15, but many patients who arrived late at the hospital had a GCS score of 4-7. as many as 7 respondents. Based on the results of the analysis, it shows that there is a relationship ($p=0.005<0.05$) between onset to door time and the Glasgow Coma Scale in stroke cases at the Muhammadiyah Lamongan Hospital with a correlation value of ($r=0.390$). The results of this research can be used as a reference for future researchers to conduct further observational research at the Emergency Room at the Muhammadiyah Lamongan Hospital.

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Research Article

Description of Emergency Situations for Traffic Accident Trauma Patients in The ER at Muhammadiyah Lamongan Hospital

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ABSTRACT
The trauma of traffic accidents (KLL) with the emergency category level frequently results in emergency situations in the Emergency Room (IGD). The objective of this investigation is to provide a comprehensive account of the emergency situation experienced by trauma patients who have been involved in traffic accidents in the emergency room of Muhammadiyah Lamongan Hospital.
The sample for this study consisted of 42 patients who were admitted to the emergency room following a traffic accident and were selected through incidental sampling. The study employed a descriptive design. Patients who were involved in traffic accidents were observed by researchers, who identified emergencies through triage.
The results of this study indicate that the majority of KLL victims are men, with an average age of 35 years. The entry flow is primarily non-referral (69%) and as many as (54.8%) have a penetrating trauma mechanism. The level of emergency in traffic accident trauma patients is also present. The average medical diagnosis was a head injury and fracture, and the majority were in the yellow triage (52.4%).
The triage-based selection of emergency priorities for traffic accident patients can facilitate the subsequent action necessary to reduce morbidity and mortality rates by ensuring that the emergency is addressed appropriately. It is anticipated that the findings of this investigation will serve as a reference source for knowledge and furnish information regarding the emergency situation of KLL trauma patients in terms of triage.

Keywords: Accident, Emergency, Triage

INTRODUCTION

Emergency situations in Emergency Installations (IGD) sometimes arise due to trauma resulting from Traffic Accidents (KLL) categorized as emergencies (Khalilati et al., 2022). Traffic accidents have the potential to transpire at any given moment and location, resulting in detrimental consequences such as property damage, financial setbacks, and human casualties (Monoarfa et al, 2022). Accidental injuries can lead to emergencies caused by either external bleeding from open wounds or internal bleeding within body cavities. This leads to hemodynamic abnormalities, which are defined by the circulatory

system's inability to adequately perfuse the vital organs of the body (Rihiantoro et al., 2022).

The World Health Organization (WHO) reported that in 2018, there were 1.35 million fatalities worldwide as a result of traffic accidents. According to Rahmadiniati et al. (2023), Indonesia holds the 4th position in terms of the frequency of traffic accidents among Asian countries. The traffic accident data in Indonesia is derived from the Ministry of Transportation of the Republic of Indonesia (Kemenhub RI). According to their report, around 100,028 incidents occurred in 2019. In 2020, there were around 103,645 incidents recorded, while in 2021, the number of traffic accidents in Indonesia increased to 116,411. The value of this figure experienced a 3.62% increase compared to the previous year (Afrina, 2023). Based on the findings of a preliminary survey carried out in November 2023, the number of trauma cases in the emergency room of Muhammadiyah Lamongan Hospital between January and October 2023 amounted to 1,960. The leading cause of these accidents was KLL, accounting for 57.8% of the cases.

Triage is used to categorize emergency cases into several groups. Triage is the procedure of choosing individuals for treatment based on the severity of their medical condition. The objective of triage is to categorize individuals based on their emergency conditions by assigning them color-coded labels, specifically: Black, red, yellow, green. The color black is used to indicate dead patients. The color red, designated as priority 1, is used to indicate patients who have life-threatening illnesses, such as airway obstruction or critical illness. Yellow (priority 2) is assigned to victims whose treatment can be postponed. Typically, the victim's condition is stable, however additional treatment is still necessary. According to Gustia & Manurung (2018), patients who are classified as Green (priority 3) are typically able to walk and their treatment can be postponed for several hours. The indicators used to determine emergencies in KLL patients, based on the severity of trauma, prioritize assessing the presence or absence of abnormalities in the Airway (A), Breathing (B), and Circulation (C), as well as Disability (D) and Exposure (E) (Afrina, 2023).

Mardiana et al (2021) state that traffic collisions have immediate consequences that can result in both minor physical injuries and significant physical, psychological, and social harm. If this physical injury is not treated quickly and appropriately, it will cause damage. This will impact the patient's cognitive function, resulting in difficulties in performing daily activities. A study conducted by Abebe et al (2022) revealed that the primary cause of trauma among patients in the emergency room at the trauma center in Addis Ababa, Ethiopia, was KLL. This study identified the extent of trauma experienced by KLL patients using the Kampala Trauma Score (KTS). The purpose of this KTS is to assess the severity of trauma and anticipate outcomes by evaluating the emergency level. The severity level is categorized into mild trauma, moderate trauma, and severe trauma. Setiarin (2018) conducted research at RSI Siti Rahma Padang's emergency room, examining the emergency cases of trauma patients caused by KLL, focusing on injury classification. Many studies on the emergency condition of trauma patients caused by KLL do not utilize triage indications as a decisive factor for emergency situations. Consequently, researchers are intrigued by the prospect of conducting research on KLL by employing the triage approach. Triage plays a crucial role in determining the presence of an emergency in KLL trauma patients, hence aiding in the reduction of morbidity and fatality rates. The objective of this study is to investigate the origins of emergency situations experienced by trauma patients in the emergency room at Muhammadiyah Lamongan Hospital.

METHOD

This study employed a descriptive research methodology, utilizing a sample of 42 patients who were admitted to the Emergency Room (ER) during the months of March-April 2024. The sample was selected through accidental sampling. This study instrument utilizes an observation sheet that collects both general patient data and patient-specific data related to triage.

RESULTS

Table 1.1 Distribution of Characteristics of Traffic Accident Trauma Patients in the Emergency Room at Muhammadiyah Lamongan Hospital over the period of March to April 2024.

Respondent characteristic	Category	Frequency	Presentage (%)
Age	<17 years	6	14,1
	17- 30 years	13	30,9
	31-40 years	7	17,1
	41-50 years	6	14,1
	>51 years	10	23,8
	Total	42	100
	Average age of patients	35,07	
Gender	Man	29	69
	Woman	13	31
	Total	42	100
Patient entry flow	referral	13	31
	Not referred	29	69
	Total	42	100
Type of trauma	Penetrating trauma	23	54,8
	Blunt trauma	6	14,3
	Decelerasion trauma	13	31
	Total	42	100
Medical diagnosis	Fracture	11	26,3
	Head injury	17	40,4
	Abrasions	14	33,3
	Total	42	100

Tabel 1.2 Table of Emergency Distribution of Traffic Accident Trauma Patients in the Emergency Room at Muhammadiyah Lamongan Hospital March to April 2024

Triage category	Frequency	Precentage (%)
Red	8	19
Yellow	22	52,4
Green	12	28,6
Total	42	100

According to Table 1.1, the highest number of patients in the age range of 17-30 years was 13 patients, accounting for 30.9% of the total. These patients had an average age of 35.07 years. Gender analysis revealed that the majority of patients were male, specifically 29 patients (69%). Furthermore, it was observed that 29 patients (69%) arrived in the Emergency Room of Muhammadiyah Lamongan Hospital without a referral. Penetrating trauma was the most common type of trauma, accounting for 54.8% of cases. The most frequent diagnosis among patients was brain injury, with a total of 17 individuals (40.4%). According to the findings of this study, the majority of patients who suffered trauma from traffic accidents, as shown in table 1.2, were classified as having a yellow triage emergency level. This category accounted for a total of 22 patients, which represents 52.4% of the sample. The analysis revealed that the yellow triage had the highest proportion of male patients, specifically 16 individuals, with the majority falling between the age range of 17-30 years old. After analyzing the patient's trauma, it was determined that the majority of cases, specifically 17 patients, were caused by penetrating trauma. The study found that the majority of patients who sought medical attention were not referred by other healthcare providers. Specifically, there were 18 patients in the yellow triage category who were non-referrals. On the other hand, the red triage category was mostly comprised of patients who were referred by other healthcare providers. In this study, the red triage had the highest number of diagnoses related to head injuries, with a total of 7 patients. On the other hand, in the yellow triage, the majority of diagnoses were related to fractures, with a total of 11 patients.

DISCUSSION

1. Respondent characteristics

The findings of the study conducted by researchers revealed that a significant proportion of individuals involved in traffic accidents belonged to the age group associated with high productivity (17-30 years) and were predominantly categorized as yellow triage. The findings align with the outcomes of the research conducted by Riyadina & Puspitasari (2020), indicating that the age group most susceptible to accidents is individuals between 18 and 35 years old. The research findings indicate that there are numerous factors that contribute to the elevated incidence of traffic crashes among individuals in the productive age group. One such factor is the prevalence of mobilization activities in this age group, which significantly increases the risk of traffic accidents. The results of the investigation by Elbaih & Basyouni (2020) indicate that a larger number of male individuals are victims of traffic accidents compared to females. Additionally, the study reveals that out of the 42 patients examined, the majority were male and had a higher proportion of certain characteristics. There were a total of 16 patients in the yellow

triage, which was the highest number. These findings align with WHO research indicating that 73% of individuals who die in traffic accident are male. This finding is consistent with the study conducted by Riyadina & Puspitasari (2020), which revealed that the number of male victims is threefold higher than the number of female victims. This phenomenon can be attributed to the prevalence of male dominance in mobilization operations. Gender disparities in driving behavior can significantly contribute to variations in accident rates. Men tend to drive longer distances and are more prone to engaging in hazardous driving practices, such as driving while smoking or under the influence of alcohol, compared to women. or exceeding the usual velocity.

According to the patient entrance flow described in table 1.1, it can be inferred that out of the 42 patients, the majority of them arrived in the Emergency Room of Muhamadiyah Lamongan Hospital without being referred by another healthcare facility. The study revealed that the majority of patients that arrived were not referred and were assigned a yellow triage level. This group consisted of 18 patients, accounting for 42.8% of the total. On the other hand, referral patients were predominantly assigned a red triage level, with a total of 6 patients, making up 14.2% of the total. These findings indicate that most of the patients brought to the emergency room as a result of traffic accidents are non-referral patients. These patients include individuals who have been involved in accidents near the Muhammadiyah Lamongan hospital or within the city. The Muhammadiyah Lamongan hospital has established a cooperative relationship with the Lamongan Police. As a result, in the event of a traffic accident, victims will be transported to the Muhammadiyah Lamongan hospital. This is particularly important because the Bojonegoro - Surabaya national highway, where a significant number of accidents occur, passes by the hospital. Therefore, the hospital serves as the primary destination for victims in need of urgent medical attention. In addition, the panic button application also provides assistance to local individuals during emergency situations, such as road accidents. Patients with referral entry flows primarily occupy the red triage, consisting of individuals transferred from other hospitals that require more intense action or treatment due to inadequate resources and staff. Consequently, KLL patients are sent to Muhammadiyah Lamongan Hospital.

According to the classification in 1.1, the most common types of trauma observed in traffic accident victims were penetrating trauma, which predominated in the yellow triage category. Nashirah et al (2022) conducted study indicating that penetrating trauma frequently leads to hypovolemic shock, a highly concerning condition that can be fatal if not promptly treated. The high incidence of penetrating trauma in this study was attributed to injuries inflicted by various objects. Sharp or punctured objects, such as broken glass, vehicle metal, or sharp stones, can cause injuries in accidents. These injuries occur when there is a strong impact between the victim and the object, or when there is insufficient braking time leading to an unavoidable collision. According to medical diagnostics, head injuries were the most common consequences, with the biggest proportion being classified as red triage. Meanwhile, in the yellow triage area, the majority of patients were diagnosed with a fracture. Head injuries were the predominant type of injuries observed in this study, particularly in the context of traffic accidents. These findings align with the research conducted by Kristanto et al (2020), which indicates that a significant number of road accidents result in head injuries accompanied by brain edema following exposure to trauma. In certain instances, the presence of bleeding beneath the meninges may not result in fatality. However, the subsequent swelling of the brain can lead to heightened pressure within the cranial cavity and inflict damage onto the brain.

2. Patient emergencies are based on triage

The collected data reveals that the emergency rate for traffic accident trauma patients in the emergency room at Muhammadiyah Lamongan Hospital is presented in table 1.2. The table indicates that the non-emergency patient group (yellow triage) has the highest proportion, with 22 patients (52.4%). This is followed by the green triage group, which consists of 12 patients (26.6%), and the red triage group, which includes 8 patients (19%). According to the findings of a study conducted at the Emergency Room at Muhammadiyah Lamongan Hospital, the majority of cases seen were patients who did not require immediate medical attention (yellow triage). This study primarily focuses on instances involving head injuries and fractures. In emergency situations, patients with head injuries are the most prevalent among those categorized as red triage, encompassing a spectrum of severity from mild head injuries to severe head injuries, severe brain injuries, and multiple trauma cases. During emergency scenarios, individuals with green triage are primarily affected by abrasions.

The findings of this study are in line with the research conducted by Sahensolar et al (2021), which revealed that the majority of KLL cases were classified as emergency level, with yellow priority being the most common. This study is additionally corroborated by the research conducted by Baso et al (2023), which found that traffic accident patients with the highest level of emergency and a yellow triage label were also hazardous and required immediate treatment. Nevertheless, the yellow mark holds a lower priority than the red mark, ranking as the second priority level. If left untreated, the impact could compromise the essential functions of the body's organs and potentially endanger life. Rihiantoro et al (2022) propose that yellow triage situations resulting from accidental trauma can be attributed to either external bleeding from open wounds or internal bleeding within bodily cavities. This leads to hemodynamic abnormalities, which are characterized by the circulatory system's inability to provide sufficient perfusion to the important organs of the body. As a result, triage is necessary to assess the level of emergency. This is supported by the hypothesis proposed by Wijayanto et al (2022), which posits that triage serves as an evaluative instrument for assessing the severity of emergencies and involves the systematic determination of priorities based on life-threatening conditions in order to avert fatalities. During the process of triage, prompt and suitable medical intervention is administered based on the patient's condition. ABC (Airway, Breathing, and Circulation) should be assessed and managed, including reducing bleeding and ensuring cervical spine control, dependent on the condition of the patient. Triage is a responsive evaluation that focuses on the alterations in the patient's condition resulting from trauma.

During a critical situation, the patient's state can deteriorate or escalate, perhaps leading to fatality if prompt medical intervention is not administered. Prioritizing patient emergencies according to the triage procedure is crucial as it facilitates subsequent actions based on the patient's demands. Triage is a systematic procedure for categorizing individuals according to the seriousness and acuteness of the injury or sickness they have experienced. The triage process must be promptly executed within a limited timeframe. In addition to requiring prompt action, the execution of emergency procedures must be suitable, as erroneous decision-making can result in treatment delays and patient

incapacity. The implementation of triage in sorting emergencies is beneficial as it can effectively decrease both morbidity and mortality rates.

CONCLUSION

Research conducted at the Muhammadiyah Lamongan Hospital's emergency room from March to April 2024 focused on traffic accident patients. The study observed the emergency level of these patients using triage. The findings revealed that the majority of traffic accident victims were male, with an average age of 35. This can be attributed to their involvement in productive activities, which often require high mobility. The study also found that the most common emergency level for traffic accident victims, as determined by triage, was yellow (non-emergency). The most frequently diagnosed medical condition among these patients was head injury. This research aims to serve as a comprehensive knowledge base and provide information on the emergency assessment of trauma patients involved in traffic accidents, specifically in terms of triage. Furthermore, this research has the potential to be expanded upon using various methodologies in the future.

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Research Article

The Effect of Psychoreligious Therapy: Dhuha Prayer on Reducing Hallucinations in Schizophrenia Patients at Pondok 99, Kemlagi District, Mojokerto Regency

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ABSTRACT
Hallucinations can have a serious impact on the sufferer. In patients with schizophrenia, hallucinations can cause other problems such as PK, suicide, social loss, isos and others. The study aimed to analyze the effect of psychoreligious therapy: Dhuha prayer on reducing hallucinations in schizophrenia patients at Pondok 99, Kemlagi District, Mojokerto Regency. This research utilized pre-experiment method with one group pretest posttest design. The population was 48 patients, and the sample was obtained by using purposive sampling of 30 patients. The data was collected using a RUFA questionnaire. After tabulation, the data were analyzed using the paired t-test with a significance level of p = 0.05. The results revealed that before the treatment, most patients (60%) experienced severe hallucinations. After being treated, more than half (53.7%) experienced mild hallucinations. The results of the paired t-test test indicated a significance value of 0.000. This means that there was an effect of Dhuha prayer on reducing hallucinations in schizophrenic patients at Pondok 99 Kemlagi District, Mojokerto Regency. In conclusion, to overcome the problem of hallucinations in schizophrenia patients, this therapy is one of the alternatives used.

Keywords
Dhuha Prayer, Hallucinations, Psychoreligious

INTRODUCTION

Permasalahan utama yang sering terjadi pada pasien skizofrenia adalah halusinasi. Perubahan respon persepsi merupakan gejala yang paling awal muncul pada pasien dengan skizofrenia. Dan sekitar 70% orang dengan Skizofrenia akan mengalami halusinasi (Stuart, 2016). Halusinasi merupakan suatu persepsi panca indera yang muncul tanpa adanya stimulus eksternal. Orang yang mengalami halusinasi cenderung sering merasakan keadaan atau kondisi yang hanya dapat dirasakan oleh dirinya sendiri namun tidak dapat dirasakan oleh orang lain (Nurlaili et al., 2019).

Menurut WHO (2018) menyatakan bahwa halusinasi adalah gangguan pada mental yang parah dan mempengaruhi lebih dari 21 juta orang di dunia. Dikutip dari data dari Riskesdes 2018 penderita skizofrenia mencapai 400.000 jiwa atau sekitar 1,7 per 1000 dari total jumlah penduduk dan sekitar 73,13% mengalami halusinasi (Maulana et al., 2019). Berdasarkan data Rumah Sakit Jiwa Menur Surabaya 60% (90 pasien) yang menalami halusinasi dari rata-rata per bulan sebanyak 150 pasien skizofrenia, dari 90 pasien yang mengalami halusinasi digolongkan dalam jenis halusinasi: halusinasi dengar sekitar 50% (45 pasien), halusinasi penglihatan 45% (40 pasien) dan gangguan halusinasi jenis lain sekitar 5% (5 pasien) (Ellina, 2012). Berdasarkan Survey awal, jumlah penderita Skizofrenia di Pondok 99 Kecamatan Kemlagi, Kabupaten Mojokerto terhitung sejak tahun 2021-2023 mencapai 170 pasien dan 68% (115 pasien) mengalami halusinasi dan 38% (64 pasien) diantaranya mengalami halusinasi pendengaran, 25% (42 pasien) mengalami halusinasi penglihatan dan 5% mengalami halusinasi jenis lainya. Dari pravelensi tersebut dapat di simpulkan bahwa pada Sebagian besar kasus pasien dengan skizofrenia akan mengalami halusinasi, hal ini dibuktikan dengan tingkat halusinasi yang masih tinggi pada pasien skizofrenia di Indonesia yang sampai saat ini masih menjadi masalah utama yang dominan, terutama pada kasus halusinasi pendengaran.

Dampak yang timbul dari munculnya halusinasi yaitu kehilangan sosial diri, yang mana dalam situasi tersebut dapat menyebabkan penderitanya bunuh diri, membunuh orang lain, atau bahkan merusak lingkungan sekitarnya (Maulana et al., 2021). Halusinasi apabila tidak segera dikenali dan diobati, kemudian akan muncul keluhan kelemahan, histeria, ketidakmampuan mencapai tujuan, pikiran buruk, ketakutan berlebihan, dan Tindakan kekerasan. Sehingga diperlukan pendekatan dan manajemen yang baik untuk dapat meminimalkan dampak dan komplikasi halusinasi (Akbar & Rahayu, 2021b). Penatalaksanaan dengan terapi farmakologis lebih mengarah pada pengobatan antipsikotik yaitu ECT dan non farmakologis lebih yang merupakan pendekatan terapi modalitas yaitu terapi kombinasi dalam keperawatan jiwa, dimana perawat jiwa dapat memberikan terapi lanjutan untuk mengelola terapi yang digunakan dalam perawatan orang dengan gangguan jiwa, diantaranya yaitu terapi psikoreligius spiritual (Yosep et al., 2016). Shalat Dhuha menjad i salah satu upaya dalam terapi non farmakologis, dikarenakan Shalat Dhuha merupakan bagian dari relaksasi dan meditasi karena Shalat Dhuha juga mengandung aktivitas fikiran yang dilakukan dengan khusyu' dan aktivitas

lisan sebagai do'a, sehingga melakukan Shalat Dhuha bisa melapangkan dada dan membuat perasaan tenang (Pramudita & Silvitasari, 2023).

Sholat Dhuha bermanfaat bagi kondisi psikis seseorang hal ini dibuktikan dengan adanya penurunan ketegangan dari otot dikarenakan secara fisiologis tubuh mengeluarkan zat-zat enkafalin dan endorphin yang dapat memberikan perasaan Bahagia, merasa lega, tenang dan rileks secara alami yang mempengaruhi tingkat stress, kecemasan dan halusinasi pada seseorang (Nurlinawati & Yuliana, 2020a).

Dari pembahasan tersebut maka peneliti memiliki solusi intervensi tambahan yang dapat diberikan untuk mengurangi gejala dan akibat yang ditimbulkan akibat Halusinasi pada pasien Skizofrenia dengan memberikan terapi Psikoreligi sebagai terapi tambahan. Dan dalam hal ini peneliti memilih terapi Psikoreligi dalam bentuk Shalat Dhuha sebagai terapi tambahan. Oleh karena itu, peneliti ingin mengetahui adakah pengaruh terapi Psikoreligi Shalat Dhuha terhadap penuunan Halusinasi pada pasien Skizofrenia di Pondok 99 yang terletak di Kecamatan Kemlagi, Kabupaten Mojokerto.

METHOD

Penelitian ini dilaksanakan di di Pondok 99 Kecamatan Kemlagi Kabupaten Mojokerto, pada bulan februari 2024. Desain penelitian ini menggunakan metode Pra Eksperimen dengan desain *one group pretest posttest.*

Populasi dalam penelitian ini adalah seluruh pasien skizofrenia yang mengalami halusinasi di Pondok 99 Kec. Kemlagi Kab. Mojokerto sebanyak 48 pasien. Pengambilan sampel pada penelitian ini dengan menggunakan *purposive sampling*. Sampel berjumlah 30 pasien.

Jenis instrumen yang digunakan untuk pengumpulan data dalam penelitian ini adalah kuisioner skala RUFA. Instrumen yang digunakan dalam kelompok terapi adalah SOP (tata cara) sholat dhuha.

Analisa data menggunakan uji normalitas dan uji hipotesis dengan menggunakan uji alternatif *paired t-test*.

RESULTS

1. Karakteristik Responden

Table 1. Distribusi Frekuensi Karakteristik Responden (n=30)

Karakteristik	n	%
Umur		
<20-40	23	76,7
41-60	5	16,7
>60	2	6,6
Jumlah	30	100

Pendidikan		
Tidak Sekolah	6	20
SD	5	16,7
SMP	4	13,3
SMA	12	40
Perguruan Tinggi	3	10
Jumlah	30	100
Pekerjaan		
Tidak Bekerja	16	53,3
Petani	5	16,7
Wiraswasta	6	20
Karyawan	2	6,7
PNS/TNI/POLRI	1	3,3
Jumlah	30	100

Berdasarkan tabel 1 menunjukkan bahwa sebagian besar (76,7%) pasien Skizofrenia di Pondok 99 berusia 20-40 tahun yaitu sebanyak 23 pasien dan sebagian kecil (6,6%) yaitu 2 pasien yang berusia >60 tahun. Tingkat Pendidikan pada pasien Skizofrenia yang mengalami halusinasi didominasi dengan tingkat Pendidikan SMA sebanyak 12 pasien (40%) dan sebanyak 3 pasien (10%) memempuh Pendidikan di perguruan tinggi. Status pekerjaan pada pasien sebagian besar yaitu sebanyak 16 pasien (53,3%) tidak bekerja dan 1 pasien (3,3%) yang sebelumnya bekerja sebagai TNI.

2. Tingkat Halusinasi Sebelum Dilakukan Terapi Psikoreligi Sholat Dhuha pada Pasien Skizofrenia

Tabel 2. Tingkat Halusinasi Sebelum Dilakukan Terapi Sholat Dhuha pada Pasien Skizofrenia

Tingkat Halusinasi	Frekuensi	Persentase (%)
Halusinasi Berat	19	63,3
Halusinasi Sedang	9	30
Halusinasi Ringan	2	6,7
Jumlah	30	100

Berdasarkan tabel 2 dapat diketahui bahwa sebagian besar (63,3%) pasien Skizofrenia di Pondok 99 mengalami Halusinasi Tingkat berat yaitu sebanyak 19 pasien dan sebagian kecil (6,7%) yaitu 2 pasien yang mengalami Halusinasi ringan.

3. Tingkat Halusinasi Sesudah Dilakukan Terapi Psikoreligi Sholat Dhuha pada Pasien Skizofrenia

Tabel 3. Tingkat Halusinasi Sesudah Dilakukan Terapi Sholat Dhuha pada Pasien Skizofrenia

Tingkat Halusinasi	Frekuensi	Persentase (%)
Halusinasi Berat	3	10
Halusinasi Sedang	11	36,3
Halusinasi Ringan	16	53,7
Jumlah	30	100

Berdasarkan tabel 3 dapat diketahui bahwa sebagian (53,7%) yaitu 16 pasien mengalami halusinasi ringan dan sebagian kecil (10%) yaitu 3 pasien Skizofrenia di Pondok 99 masih mengalami halusinasi berat.

4. Pengaruh Terapi Psikoreligi Shalat Dhuha terhadap Halusinasi pada pasien Skizofrenia

Tabel 4. Pengaruh Terapi Psikoreligi Shalat Dhuha terhadap Halusinasi pada pasien Skizofrenia

Variabel	N	Mean±SD	Median (Min-Max)	*P value*
Pre Test	30	8,57±6,887	7,50(0-25)	0,000
Post Test	30	20,27±6,443	21(7-30)	

Berdasarkan tabel 4 diperoleh hasil rata-rata skor halusinasi responden *pre-test* adalah 8,57 dengan nilai tengah 7,50 yang menunjukkan bahwa tingkat halusinasi pasien dalam kategori halusinasi Berat (tingkat halusinasi 1). Sedangkan hasil rata-rata skor halusinasi pasien post-test adalah 20,27 dengan nilai tengah 21 yang menunjukkan bahwa tingkat halusinasi pasien dalam kategori ringan (tingkat halusinasi 3).

DISCUSSION

Pada kasus pasien skizofrenia di pondok 99 Mojokerto banyak dijumpai berada pada tahap usia produktif. Pada usia 20-40 tahun termasuk dalam kategori dewasa muda yang secara resiko di usia tersebut tergolong lebih besar karena pada usia tersebut individu akan mengalami ketidakmampuan dalam mengatasi masalah sehingga akan mudah menyebabkan gangguan emosional (Afconneri & Puspita, 2020). Faktor usia penderita disertai dengan kurangnya dukungan dan kondisi kehidupan yang rentan dengan meningkatnya stres disinyalir menjadi salah satu faktor tingginya tingkat halusinasi pada pasien

Selain faktor usia terdapat pula faktor pendidikan penderita skizofrenia juga yang dapat mempengaruhi dalam hal kepatuhan menjalani pengobatan guna mengurangu tingkat gejala pada penderita skizofrenia, pada hasil penelitian yang dilakukan di Pondok 99 Mojokerto didapati hampir sebagian penderita berada pada taraf pendidikan SMA dan sebagian kecil penderita berada pada taraf Diploma atau sarjana, hal itulah yang dapat mempengaruhi kepatuhan dalam menjalankan pengobatan sehingga tingkat gejala penderita semakin memburuk (pebrianti, 2021).

Adanya temuan penelitian tersebut membuktikan bahwa tingginya gejala dari pasien skizofrenia juga dipengaruhi oleh usia dan status pendidikan penderita, sehingga peneliti berasumsi tingginya halusinasi pada pasien skizofrenia di pondok 99 Mojokerto memiliki karakteristik yang sesuai dengan pola hidup pasien dan kepatuhan berobat dari pasien yang di latar belakangi faktor usia dan status pendidikan pasien.

Pola karakteristik halusinasi yang membaik terlihat selama dilakukanya proses terapi pada pasien, penderita mengalami penurunan dalam segi tindakan yang dilakukan oleh penderita seperti perubahan gaya bicara, yang sebelumnya penderita halusinasi sering berbicara meracau dan sering melihat sesuatu hal yang tidak nyata pada keseharianya, setelah dilakukanya terapi gejala yang ditimbulkan oleh penderita menjadi lebih baik dan tertangani.

Setelah dilakukan terapi pasien skizofrenia mengalami penurunan tingkat halusinasi, hampir seluruh responden mampu bersosialisasi dan terjadi penurunan tingkat halusinasi dalam kurun waktu 14 hari setelah dilakukan terapi dengan cara melakukan terapi keagamaan sholat dhuha yang di laksanakan pada pagi hari setelah aktifitas pagi. Hal tesebut menjadikan individu pasien lebih tenang, rileks dan peningkatan konsentrasi sehingga pasien mampu mengontrol halusinasinya, menurut Nurlinawati & Yuliana, (2020), Suasana tenang, merupakan respon emosi positif yang didapatkan setelah melaksanakan ibadah shalat hal tersebutlah yang akan membuat sistem kerja saraf pusat menjadi lebih baik.

Hasil sudah dibuktikan dari wawancara sebelumnya dimana sebelum diberikan terapi sholat dhuha pasien merasakan perasaan terancam, panik, peningkatan denyut jantung, perasaan cemas, ketakutan, sulit berkonsentrasi karena adanya gangguan dari stimulus yang tidak nyata bahkan cenderung melakukan kekerasan. Dan setelah diberikan terapi pasien merasa tidak sulit berkonsentrasi, lebih tenang, rileks, dan mampu berkomunikasi dalam rentang perhatian yang lama. Dan dapat disimpulkan

bahwa banyak responden mengalami penurunan tingkat halusinasi. Hal ini sejalan dengan penelitian yang dilakukan oleh Rinjani et al., (2020), yang membahas mengenai efektivitas penggunaan terapi psikoreligius berupa terapi shalat dan dzikir pada penderita halusinasi, menunjukkan hasil bahwsanya terdapat pengaruh pemberian terapi psikoreligius shalat dan dzikir terhadap skala tingkatan penderita halusinasi.

CONCLUSION

Terapi psikoreligi sholat dhuha memberikan pengaruh yang bermakna terhadap penurunan halusinasi pada pasien Skizofrenia. Hasil yang positif ditunjukan oleh para penderita skizofrenia dengan tingkat halusinasi yang berat berkurang menjadi skala ringan, diharapkan terapi sholat dhuha ini dapat ditingkatkan pelaksanaanya dengan memperhatikan keamanan dan kenyamanan pasien selama pelaksanaan terapi tersebut.

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Research Article

The Effect of The Combination of Butterfly Pea Flower Tea and Dhikir on Blood Sugar Levels in Diabetes mellitus Sufferers

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ABSTRACT

Background: Diabetes Mellitus (DM) is one of the most prevalent health problems widely found in the community. DM is commonly caused by eating unhealthy foods and lack of physical activity. In addition to pharmacology, DM can also be performed with non-pharmacological therapies, one of which is the combination of butterfly pea flower tea and dhikr.

Objectives: The purpose of this study was to determine the effect of a combination of butterfly pea flower tea therapy and dhikr on blood sugar levels in patients with diabetes mellitus.

Methods: This study used a pre-experimental design with a one group pretest posttest design approach. A sample of 42 patients was obtained by purposive sampling technique. The instruments in this study were Standard Operating Procedure (SOP), blood sugar level observation sheet, demographic data sheet and Easy Touch GCU brand glucometer. The data were analyzed using the Wilcoxon test.

Result: The results showed that before being given a combination therapy of butterfly pea flower tea and dhikir the average blood sugar of respondents was 156,95 and after being given a combination therapy of butterfly pea flower tea and dhikir the average blood sugar of respondents was 131,83. With an average difference before and after being given therapy 25,12. The results of the Wilcoxon test obtained a significance value of p = 0.000 (p <0.05)

Conclusion: meaning that there was an effect on blood sugar levels in patients with diabetes mellitus before and after being given a combination of butterfly pea flower tea and dhikr therapy significantly. The relaxing effect and flavonoid contained in butterfly pea flower can help control blood sugar levels in patients with diabetes mellitus.

Keywords : Blood glucose, Butterfly pea flower tea, Dhikr, Diabetes mellitus

INTRODUCTION

DM disebabkan oleh perubahan gaya hidup masyarakat, serta kurangnya kesadaran akan deteksi dini penyakit DM, kurangnya aktivitas fisik, dan pengelolaan makanan yang tidak tepat. Gaya hidup yang dominan menjadi pemicu DM yaitu pola makan dan aktivitas fisik. Perubahan gaya hidup seperti mengonsumsi makanan tidak sehat dan kurang aktivitas fisik memiliki risiko tinggi terkena diabetes tipe 2 (Murtiningsih, 2021). DM ditandai dengan gangguan metabolisme akibat ketidakmampuan tubuh memproduksi cukup insulin atau menggunakan insulin yang diproduksi secara efektif, sehingga menyebabkan peningkatan kadar gula darah atau disebut juga hiperglikemia (Kementerian Kesehatan Republik Indonesia, 2018). Menurut WHO (World Health Organization), sekitar 422 juta jiwa di dunia menderita diabetes. Indonesia berada di peringkat ke-7 dengan prevalensi yaitu sebesar 10,7 juta jiwa (Kemenkes, 2020). Berdasarkan hasil survei awal data kunjungan yang ada di Desa Brumbun Kecamatan Maduran Kabupaten Lamongan mempunyai pasien Diabetes mellitus paling banyak 62 orang. Hal ini dibuktikan saat dilakukan penggukuran kadar gula darah dari 62 orang terdapat 38 atau 50% orang yang mempunyai kadar gula darah > 126 mg/dl. Berdasarkan data tersebut dapat disimpulkan bahwa masih cukup tinggi kadar gula darah yang belum bisa dikontrol pada pasien diabetes melitus di wilayah Desa Brumbun. Penelitian ini bertujuan untuk mengetahui pengaruh kombinasi terapi teh bunga telang dan dzikir terhadap kadar gula darah pada penderita diabetes mellitus di Desa Brumbun Kecamatan Maduran Kabupaten Lamongan.

METHOD

Desain penelitian ini menggunakan desain penelitian pra eksperimental *one group pretest-posttest design*, dengan sampel 42 penderita di Desa Brumbun pada bulan Februari 2023 yang daimbil secara purposive sampling. Instrumen penelitian ini menggunakan lembar observasi, lembar persetujuan, lembar data demografi, easy touch, lanset, acohol swab, sop.

RESULTS

Tabel 1.1 Distribusi Karakteristik Berdasarkan Data Umum Penderita Diabetes Mellitus di Desa Brumbun Kecamatan Maduran Kabupaten lamongan

Karakteristik Responden	Frekuensi	Presentase (%)
Usia		
26-31	5	11,9 %
32-38	13	31,0 %
39-45	24	57,1 %
Jumlah	42	100,0 %
Jenis Kelamin		
Laki-Laki	14	33,3 %
Perempuan	28	66,7 %
Jumlah	42	100,0 %
Pendidikan		
Tidak Tamat SD	5	11,9 %
SD	22	52,4 %

SMP	5	11,9 %
SMA	10	23,8 %
Jumlah	42	100,0 %
Pekerjaan		
Tidak bekerja	0	0,00 %
Wiraswasta	6	14,3 %
Petani	13	31,0 %
IRT	23	54,8 %
PNS	0	0,00 %
Jumlah	42	100,0 %
Obat		
Minum Obat	0	0,00 %
Tidak Minum Obat	42	100,0 %
Jumlah	42	100,0 %

Berdasarkan penelitian yang telah dilakukan oleh peneliti dapat dijelaskan bahwa dari 42 penderita diabetes mellitus di Desa Brumbun Kecamatan Maduran Kabupaten Lamongan sebagian besar (57,1%) berusia 39-45 tahun, sebagian besar (66,7%) berjenis kelamin perempuan, sebagian besar (52,4 %) berpendidikan SD dan sebagian besar (54,8 %) bekerja sebagai IRT dan seluruhnya (100%) tidak minum obat.

Tabel 1.2 Distribusi kadar gula darah responden sebelum dilakukan terapi kombinasi TEBUNGKIR (teh bunga telang & dzikir) pada Penderita Diabetes Mellitus di Desa Brumbun Kecamatan Maduran Kabupaten lamongan

Tingkat kadar Gula	Frekuensi	Presentase (%)
Belum DM	0	0,00 %
Belum Pasti Dm	0	0,00 %
Sudah Pasti DM	42	100,0 %
Jumlah	42	100,0 %

Berdasarkan penelitian yang telah dilakukan oleh peneliti dapat diketahui bahwa seluruh penderita yang memiliki diabetes mellitus memiliki kadar gula darah sudah pasti DM dengan presentase (100%) sebanyak 42 penderita

Tabel 1.3 Distribusi kadar gula darah responden sesudah dilakukan terapi kombinasi teh bunga telang & dzikir pada Penderita Diabetes Mellitus di Desa Brumbun Kecamatan Maduran Kabupaten lamongan

Tingkat kadar Gula	Frekuensi	Presentase (%)
Belum Dm	0	0,00 %
Belum pasti DM	31	73,8 %
Sudah Pasti DM	11	26,2 %
Jumlah	42	100,0 %

Berdasarkan penelitian yang telah dilakukan oleh peneliti dapat diketahui bahwa setelah diberikan terapi kombinasi teh bunga telang & dzikir sebagian kadar gula darah

menjadi belum pasti DM dengan presentase (73,8%) sebanyak 31 penderita diabetes mellitus dan yang memiliki kadar gula sudah pasti DM dengan presentase (26,2%) sebanyak 11 penderita diabetes mellitus.

Tabel 1.4 Distribusi kadar gula darah akibat setelah dilakukan terapi kombinasi TEBUNGKIR (teh bunga telang & dzikir) pada Penderita Diabetes Mellitus di Desa Brumbun Kecamatan Maduran Kabupaten lamongan

Kadar gula darah	N	Min-Max	Mean	SD	P *Value*
Pre Test	42	129-310	156,95	41,480	0,000
Post Test	42	110-225	131,83	26,768	

Berdasarkan penelitian yang telah dilakukan oleh peneliti dapat dijelaskan bahwa kadar gula darah sebelum diberikan teh bunga telang & dzikir nilai rata-rata 156,95 dan setelah diberikan teh bunga telang & dzikir kadar gula darah memiliki rata-rata 131,83. Dengan selisih rata-rata sebelum dan sesudah teh bunga telang & dzikir 25,12. Penurunan kadar gula darah pada penderita diabetes mellitus terjadi karena sudah diberikan teh bunga telang & dzikir.

DISCUSSION

1. Karakteristik Penderita Diabetes Mellitus di Desa Brumbun Kecamatan Maduran Kabupaten Lamongan

Berdasarkan penelitian yang telah dilakukan oleh peneliti dapat diketahui bahwa seluruh penderita yang memiliki penyakit diabetes mellitus sebelum diberikan terapi teh bunga telang & dzikir memiliki kadar gula darah tinggi dengan presentase (100%) sebanyak 42 penderita. Pada penderita diabetes mellitus hampir banyak berusia 39-45 tahun dan sebagian besar berjenis kelamin perempuan.

Hal ini sejalan dengan penelitian (Septiani,2020) Diabetes Mellitus (DM) merupakan penyakit tidak menular (PTM)yang bersifat kronik terjadi ketika pankreas tidak memproduksi insulin yang cukup. Insulin merupakan horman yang mengatur kadar gula darah. Hiperglikemia atau peningkatan kadar gula darah merupakan efek yang sering ditemukan pada diabetes mellitus (DM) yang tidak terkontrol. Diabetes mellitus yang tidak terkontrol pada waktu yang lama dapat menyebabkan komplikasi baik makrovaskular maupun mikrovaskular.

Menurut Fedarko (2020), pada usia 39-45 tahun merupakan tahap mulai terjadinya gejala penuaan yang sudah menunjukkan terjadinya tanda tanda penurunan fungsi fisiologis dalam tubuh yang dapat bermanifestasi pada berbagai penyakit. Penyakit degeneratif mulai terdiagnosis, aktivitas dan kualitas hidup berkurang akibat ketidakmampuan baik fisik maupun psikis yang sangat terganggu. Hormon estrogen dan progesterone memiliki kemampuan untuk meningkatkan respon insulin di dalam darah. Pada saat masa menopause terjadi, maka respon akan insulin menurun akibat hormone estrogen dan progesterone yang rendah. Faktor lain yang berpengaruh adalah berat badan perempuan yang sering tidak ideal sehingga hal ini dapat menurunkan sensitivitas respon insulin. Hal inilah yang membuat perempuan sering terkena diabetes daripada laki laki (Meidikayanti, 2021). Hal ini sesuai juga dengan pernyataan Taylor (2020), yang menyatakan bahwa penyebab utama banyaknya perempuan terkena diabetes mellitus karena terjadinya penurunan hormon estrogen terutama pada masa menopause. Menrut (Amelda 2022) pada ibu rumah tangga

kebanyakan terkena diabetes mellitus akibat kurangnya aktivitas fisik dibandingkan seseorang dengan pekerjaan dikantor atau tempat lain. Kurangnya aktivitas fisik terutama olahraga cenderung dapat meningkatkan resiko kegemukan sehingga bisa menyebabkan kadar gula meninggkat.

Berdasarkan penjelasan diatas, peneliti berpendapat bahwa banyaknya penderita diabetes mellitus di Desa Brumbun Kecamatan Maduran Kabupaten Lamongan masih banyak yang mempunyai kadar gula darah tinggi, karena ada beberapa faktor yang mempengaruhi diabetes mellitus yaitu faktor genetik (keturunan), obesitas, usia, aktifitas fisik, stress. Hal ini ditandai dengan meningkatnya kadar gula darah yang tinggi yang dipengaruhi oleh kurangnya aktifitas fisik. Seseorang yang mempunyai diabetes mellitus dapat dilihat saat penderita melakukan cek kadar gula darah menggunakan glukometer.

2. Kadar Gula Darah Pada Penderita Diabetes Mellitus Sebelum Diberikan Terapi Kombinasi Teh Bunga Telang Dan Dzikir

Berdasarkan penelitian yang telah dilakukan oleh peneliti dapat diketahui bahwa setelah diberikan teh bunga telang & dzikir hampir sebagian penderita yang memiliki penyakit diabetes mellitus memiliki kadar gula darah sudah pasti DM dengan presentase (26,2%) sebanyak 11 penderita dan hampir sebagian besar kadar gula menjadi belum pasti DM dengan presentase (73,8%) sebanyak 31 penderita.

Hal ini sejalan dengan penelitian menurut (Migliorini , 2019) Ekstrak air bunga telang mengandung senyawa Antosianin yang merupakan metabolit sekunder yang berasal dari golongan flavonoid yang memiliki sifat antioksidan dan antidiabetik. Senyawa antioksidan terdapat pada tumbuhan yang mengandung fenol dan flavonoid. Kandungan flavonoid bunga telang *(Clitoria ternatea)* sebesar 4,88% dan kandungan fenolik total sebesar 16,2% (Widowati et al., 2022). Sedangkan menurut (Jannahand Pohan, 2022) Terapi dzikir dapat memberikan efek relaksasi dan ketenangan jiwa dengan cara merangsang batang otak untuk mengaktifkan hipotalamus melalui sumbu HPA *(Hypothalamic Pituitary Adrenal)*, yang merangsang penurunan kadar CRF *(costicotropin-releasing factor)* di hipotalamus, yang pada akhirnya merangsang di kelenjar hipofisis anterior untuk menurunkan kadar ACTH *(Adrenocorticotropic hormone)* untuk mengontrol pelepasan kortisol ke dalam darah, yang menyebabkan rendahnya gula darah dan stres pasien. Ketika kadar kortisol dalam darah berkurang, hal itu merangsang penyerapan dan penggunaan glukosa dalam sel jaringan dan mencegah pemecahan protein untuk membantu proses glukoneogenesis dan lipolisis sebagai pengganti glukosa, sehingga menurunkan glukosa darah. Dengan dasar teori-teori tersebut adanya perubahan yang diharapkan terjadi, maka akan berpengaruh terhadap kontrol perubahan kadar gula darah pada penderita diabetes mellitus.

Berdasarkan penjelasan diatas, peneliti berpendapat bahwa setelah dilakukan teh bunga telang & dzikir dan di tes menggunakan glukometer pada penderita diabetes mellitus terdapat perubahan dimana penderita diabetes mellitus memiliki penurunan kadar gula darah sesudah diberi terapi sebanyak 29 penderita dan 13 penderita yang masih mengalami kadar gula darah tinggi, dan dapat simpulkan bahwa teh bunga telang & dzikir dapat menurunkan kadar gula darah yang tinggi karena kandungan flavonoid.

3. Pengaruh Kombinasi Terapi Teh Bunga Telang Dan Dzikir Terhadap Kadar Gula Darah Pada Penderita Diabetes Mellitus

Berdasarkan penelitian yang telah dilakukan oleh peneliti dapat dijelaskan bahwa kadar gula darah sebelum diberikan teh bunga telang & dzikir nilai rata-rata 156,95 dan setelah diberikan teh bunga telang & dzikir kadar gula darah memiliki rata-rata 131,83. Dengan

selisih rata-rata sebelum dan sesudah teh bunga telang & dzikir 25,12. Penurunan kadar gula darah pada penderita diabetes mellitus terjadi karena sudah diberikan teh bunga telang & dzikir. Penurunan kadar gula darah terhadap diabetes mellitus terjadi karena sudah diberikan teh bunga telang & dzikir yang dilakukan dalam 1 hari 1 kali pada pagi hari selama 2 minggu dengan durasi kurang lebih 10 menit.

Penelitian ini sejalan dengan (Migliorini , 2019) teh bunga telang memiliki kandungan flavonoid untuk menurunkan kadar gula darah. Kandungan flavonoid bunga telang *(Clitoria ternatea)* sebesar 4,88% dan kandungan fenolik total sebesar 16,2% dan penelitian menurut (Tamrin, 2020) terapi dzikir untuk relaksasi untuk menurunkan kadar ACTH *(Adrenocorticotropic hormone)* untuk mengontrol pelepasan kortisol ke dalam darah, yang dapat menyebabkan rendahnya gula darah pasien. Menurut (Jannahand Pohan, 2022) Ketika kadar kortisol dalam darah berkurang, hal itu merangsang penyerapan dan penggunaan glukosa dalam sel jaringan dan mencegah pemecahan protein untuk membantu proses glukoneogenesis dan lipolisis sebagai pengganti glukosa, sehingga menurunkan glukosa darah.

Berdasarkan penelitian diatas menunjukan bahawa intervensi teh bunga telang & dzikir dapat membantu penderita untuk menurunkan kadar gula darah. Perubahan kadar gula darah pada responden bisa menurun saat melakukan teh bunga telang & dzikir sehingga kadar gula darah bisa berkurang. Dengan adanya intervensi teh bunga telang & dzikir, diharapkan dapat diaplikasikan oleh responden dalam kehidupan sehari-hari sebagai penanganan nonfarmakologi yang dapat dilakukan secara mandiri tanpa efek samping dalam menurunkan kadar gula darah.

Dalam penelitian ini memiliki banyak keterbatasan, diharapkan bagi peneliti selanjutnya dapat melakukan penelitian lanjutan dengan membandingkan antar kelompok yang menggunakan Farmakologi dengan Non-Farmakologi sehingga akan tampak jelas apakah ada perbedaan yang terjadi pada responden akibat dari perlakuan yang diberikan

CONCLUSION

Berdasarkan penelitian yang dilakukan di Desa Brumbun Kecmatan Maduran Kabupaten Lamongan pada bulan Februari 2024 dengan menggunakan sampel penderita dan di observasi kadar gula didapatkan fakta bahwa mayoritas penderita diabetes mellitus umur 39-45 tahun, berjenis kelamin perempuan dan sebagian besar bekerja sebagain ibu rumah tangga (IRT).

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Research Article

The Effect of the Make a Match Method on Teenegers Knowledge and Attitudes about Early Marriage

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ABSTRACT
Early marriage is a concern in Indonesia, because it can cause several risks such as death, mental unpreparedness, and marital failure. The aim of this research is to determine the effect of the make a match method on teenagers' knowledge and attitudes about early marriage. The method used in this research is pre-experimental design with a one group pre test post test design approach. The population in this study were teenagers aged 11-18 years. Using total sampling with a sample size of 40 respondents. This research data was taken using a questionnaire. This research was explained using the Wilcoxon test. Wilcoxon test results with significance level p = <0.05. The research results showed that before being given education, almost all (80%) had a level of knowledge in the poor category and after being given education, almost all (87.5%) had knowledge in the good category. attitudes before being given education almost all (80%) had attitudes in the negative category and after being given education almost all (82.5%) had attitudes in the positive category. Based on the results above, the significance is p = 0.000, which means that there is an influence of the make a match method on teenagers' knowledge and attitudes about early marriage. Make a match is a recommended method for increasing teenagers' knowledge and attitudes about early marriage.

Keywords
Attitudes,Early Marriage,knowledge

INTRODUCTION

Early marriage is a form of violence. Children who are forced to marry under the age of 18 will have greater vulnerability in terms of access to education, quality of health, the potential to experience violence, and live in poverty (Azinar, 2022). Early marriage is currently a concern for all groups in developing countries, Indonesia is one of them. This is also a determinant for policies and program planning carried out by the government because early marriage can cause several risks such as death, mental unpreparedness, and marriage failure for those who do it (Fahria, 2019).

According to the United Nations Population Fund (UNFPA), Indonesia ranks eighth in the world, with the number of early marriages reaching 1,220,900 in 2018(Anindika Sari & Raja Hamonangan Sitorus, 2020). Based on data from the National Population and Family Planning Agency (BKKBN), the rate of early marriage in East Java province is 39.43% higher than the national average of only 25% of the total 64,000 cases of early marriage in Indonesia in 2021. Based on data from the Lamongan Regency Central Statistics Agency, there were 426 cases of early marriage in 2021, which was an increase compared to 2020, namely 415 cases of early marriage (Lestari & Herawati, 2022).

Based on the results of a preliminary study conducted by researchers on December 22 2023 in Sukorejo village, Turi sub-district, Lamongan district, using interview techniques the results showed that 7 out of 10 teenagers lacked knowledge about early marriage. with a percentage of 70% with poor knowledge, 20% with sufficient knowledge and 10% with good knowledge. It can be concluded that the majority of teenagers in Sukorejo village still have little knowledge about early marriage. Factors that influence early marriage are based on Lawrence Green's theory which is divided into three. The first factor, namely predisposing factors which consist of knowledge, attitudes, culture and norms. Second, enabling factors, such as income, environment and exposure to pornography. Third, reinforcing factors include parental aspects, namely knowledge, education, attitudes and parental income (Sari & Sitorus, 2020). Prevention efforts are very important, one of which is by increasing teenagers' knowledge through health education. Health education is a conscious effort made to bring about changes in healthy living behavior both in the community and social environment. Health education is very important as a basis for activities in improving the level of public health towards a healthy society both physically, psychologically, socially and economically (Rosamali & Arisjulyanto, 2020). Providing health education can be done using several methods, one of which is the Make a Match method. The Make a Match learning method is a cooperative learning model which aims to enable teenagers to play an active role in a fun learning process and discuss problems with other individuals. The discussion process causes a persuasive communication process which aims to change a person's beliefs, attitudes and behaviour (Fauhah & Rosy, 2020).

METHOD

This type of research is quantitative research with a pre-experimental research design using a one group pretest posttest design approach. The sampling technique was non-probability sampling using total sampling, with a research sample of 40 teenagers from Sukorejo village, Turi sub-district, Lamongan regency. This research was carried out in March 2024.

RESULTS

a. Level of Knowledge and Attitudes of Adolescents

Table 1. Frequency distribution table of adolescent knowledge levels before and after being given health education.

criteria	Pre-Test Knowledge		Post-Test Knowledge	
	Frequency	Persentase (%)	Frequency	Persentase (%)
Good	3	7,5	35	87,5
Enough	5	12,5	3	7,5
Not Enough	32	80	2	5
Total	40	100 %	40	100 %

Based on table 1 above, it shows that before being given health education using the make a match method, almost all teenagers (80%) had a level of knowledge in the poor category and very few (7.5%) had a level of knowledge in the good category. Meanwhile, after being given health education on the make a match method to teenagers, almost all (87.5%) had a level of knowledge in the good category and very few (5%) had a level of knowledge in the poor category.

Table 2. Frequency distribution table of adolescent attitudes before and after being given health education

Criteria	Pre-Test Attitudes		Post-Test Attitudes	
	Frequency	Persentase (%)	Frequency	Persentase (%)
Positif	8	20	33	82,5
Negatif	32	80	7	17,5
Total	40	100 %	40	100 %

Based on table 2 above, it shows that before being given health education using the make a match method, almost all teenagers (80%) had attitudes in the negative category and very few (20%) had attitudes in the positive category. Meanwhile, after being given health education using the make a match method, almost all teenagers (82.5%) had attitudes in the positive category and very few (17.5%) had attitudes in the negative category.

b. Bivariate analysis of the effect of the make a match method on knowledge and attitudes
Table 3. Analysis of knowledge and attitude levels before and after being given the make a match method

variabel	Z	P value
Knowledge	-5.526[b]	0,000
Attitudes	-5.125[b]	0,000

Based on the results of data analysis carried out using the Wilxocon signed rank test statistical test using the computer software program Statistical Product and Service Solution (SPSS) 27.0 for Windows in the pre-test and post-test on the knowledge and attitude variables, it was found that the significance value was p=0.000 with the standard significance p = < 0.005 so H1 is accepted, which means there is an influence after being given make a match method health education on the knowledge and attitudes of teenagers in Sukorejo village, Turi sub-district, Lamongan district.

DISCUSSION

According to Darsini (2019) One of the factors that influences knowledge is education. Education means direction or guidance given by someone to another person so that that person can understand something or the knowledge given. someone who is highly educated tends to more easily receive and understand information so that the more knowledge they have. On the other hand, if someone has low education then it will be

more difficult or hinder the reception of information. Education is a basic effort to develop personality and abilities inside and outside school and lasts a lifetime. This is also in accordance with Sukarni's (2019) theory which states that education is directly related to a person's knowledge, so it is assumed that the higher a person's level of education, the higher the person's knowledge is expected to be. A low level of knowledge indicates that respondents lack health information and education. One strategy for changing behavior is providing information to increase knowledge so that awareness arises and ultimately people will behave in accordance with their knowledge. Changes in attitudes are basically influenced by factors of knowledge and belief or belief obtained from sensory results, one of which is obtained through education or the learning process (Sinta 2019) According to Sari (2020) The make a match method of learning is one type of cooperative learning model, namely a form of learning in which respondents learn and work in small groups collaboratively whose members consist of four people with a heterogeneous group structure. When providing health education using this method, teenagers behave cooperatively. Factors that influence increasing knowledge are external factors such as experience and the environment where a comfortable environment without noise can increase a person's learning focus in understanding something new and absorbing it.

CONCLUSION

a. Almost all teenagers before being given health education had a level of knowledge in the poor category and almost all teenagers after being given health education had knowledge in the good category.

b. Almost all teenagers before being given health education had attitudes in the negative category and almost all teenagers after being given health education had attitudes in thepositive category.

c. There is an influence of the make a match method of health education on increasing teenagers' knowledge

d. There is an influence of the make a match method of health education on improving adolescent attitudes.

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Research Article

The Relationship Between Parenting Patterns and The Level of Online Game Addiction in School Age Children

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ABSTRACT

Online game has become a popular form of entertainment, especially among children and teenagers. Online game addiction can have a significant negative impact on a child's life, including physical, mental and social health problems. The purpose of the study was to analyse the relationship between parenting patterns and the level of online game addiction in school-age children. The research design used by researchers in conducting research is descriptive quantitative research design using a cross sectional approach. The population was 50 children in grades 5 and 6, using a total sampling technique. This research data was taken using a parenting questionnaire and an online game addiction questionnaire. The results showed that 42% of parents applied democratic parenting and 48% of children experienced high online game addiction. Based on the results of the Spearman Rho test, it shows that there is a significant positive relationship between addiction and type of parenting ($\rho = 0.393$, $p = 0.005$). The results of this study are expected that parents with democratic parenting patterns should always accompany their children if they want to play online games and choose the types of online games that are good and suitable for children, and although permissive parenting tends to provide greater freedom, it is important to set some basic rules regarding the use of online games such as providing time limits in playing.

Keywords

Children, Online Game Addiction, Parenting

INTRODUCTION

Online games are games that appear in cyberspace in a format similar to video games (Burleigh et al., 2020). Online games can be played or accessed using a computer or other device connected to a network, such as a LAN (Local Area Network) to display visual- based games (Prameswara and Lestari, 2021).

The prevalence of online game addiction in Indonesian adolescents continues to increase so that Indonesia in the world ranks 6th with a percentage of 112.6% in 2020 so that this

condition can have an impact on a person (APJIL, 2020). Online game addiction can have significant impacts, ranging from physical, mental and social effects. Mental health disorders can include difficulty controlling impulsivity, drastic emotional changes, and fear of missing out (FOMO). Meanwhile, online game addicts are prone to experiencing sleep disorders, fatigue, posture problems and carpal turner syndrome due to excessive use. Social aspects are also affected, causing an inability to focus, decreased achievement and productivity, and can even be seen in anti-social attitudes.
in children, such as curiosity without playing, boredom, lack of ability to set priorities, lack of self-control, uncontrolled environment, lack of good social relationships, and lack of parental supervision and communication with children (Nadiasih, 2021).
So the role of parents in providing parenting patterns that suit the child's character is very important to develop good disciplinary behavior in them. Several things can be implemented to reduce online game addiction. First, make a special schedule for playing games and limit playing time. Second, it is important to supervise and limit children's play time. Next, divert children's attention with healthier activities such as light exercise, reading books, or doing other activities that are beneficial for children (Ulya et al, 2021).

METHOD

The research design used by researchers in conducting research is descriptive quantitative research design using a cross sectional approach. The population was 50 children in grades 5 and 6, using a total sampling technique. This research data was taken using a parenting questionnaire and an online game addiction questionnaire. Based on the results of the Spearman Rho test, it shows that there is a significant positive relationship between addiction and type of parenting ($\rho = 0.393$, $p = 0.005$).

RESULTS

Table 1. shows that most of the 30 (60.0%) students were male. This study also showed that most of the 35 (70.0%) children were aged between 11 and 12 years. The table can be seen as follows:

Table 1. Child Characteristics

Child Characteristics	**n**	**%**
Gender		
Male	30	60%
Women	20	40%
Total	**50**	**100%**
Age		
9 - 10 Years	15	30%
11- 12 Years	35	70%
Total	**50**	**100%**

Table 2. shows that the majority of 28 (56.0%) parents have a high school education. This study also shows that almost 21 (42.0%) parents work as self-employed.

Table 2: Characteristics of parents

Parent Characteristics	n	%
Parental Education		
Not in School	7	14%
SD	10	20%
Junior High School	4	8%
Senior High School	28	56%
Undergraduate	1	2%
Total	**50**	**100%**
Parent's Occupation		
Not Working	8	16%
Farmers	11	22%
Self-employed	21	42%
PNS	3	6%
Miscellaneous	7	14%
Total	**50**	**100%**

Table 3. shows that in the parenting pattern variable, almost 21 (42.0%) parents choose democratic parenting and a small proportion of authoritarian parenting is found in 13 children (26.0%). In the *online game* addiction variable, almost some 24 (48.0%) students have a high level of online *game* addiction, and a small proportion of students who have a low level of *online game* addiction as many as 9 (18.0%).

Table 3. Distribution of Parenting and *Online Game* Addiction

Variables	n	%
Parenting		
Authoritarian	13	26%
Democratic	21	42%
Permissive	16	32%
Total	**50**	**100%**
Online Game Addiction		
High	24	48%
Medium	17	34%
Low	9	18%
Total	**50**	**100**

The cross tabulation that has been done can be seen in table 4 which shows that almost some parents choose democratic parenting and children who have a high category of *online game* addiction, namely as many as 14 children and parents (28.0%), in the table obtained a 2 tailed sig value (p) = 0.005 where p <0.05. These results mean that there is a relationship between parenting patterns and the level of online game addiction. These results can be interpreted that there is a relationship between parenting patterns and the level of *online game* addiction.

The level of relationship between the two variables is included in the moderately strong category, with a *Spearman* correlation coefficient (rs)=0.393. The direction of the correlation shows a positive value, which means that the higher the *online game* addiction score, the higher the Parenting type score. This suggests that certain types of parenting can increase the risk of online game addiction.

Table 4. Cross Tabulation of Parenting and *Online Game* Addiction

Parenting	***Online Game Addiction***						**Total**	
	Low		Medium		High			
	N	%	N	%	N	%	N	%
Authoritarian	2	4%	10	20%	1	2%	13	26%
Democratic	6	12%	1	2%	14	28%	21	42%
Permissive	1	2%	6	12%	9	18%	16	32%
Total	9	18%	17	34%	24	48%	50	100%
Spearmant Rho Test				*rs* = 0.39 3			P = 0,005	

DISCUSSION

This study shows that there is a relationship between parenting patterns with the highest frequency, namely democratic with *online game* addiction. It can be interpreted that the better and more appropriate parenting patterns will affect the level of *online game* addiction in children.

The above statement is in line with research by Tiwa et al. (2019) that democratic parenting can also cause *online game* addiction in children. Research Widi (2023) that the type of permissive parenting can also affect the level of online game addiction in adolescents. The two statements above are reinforced by the results of research by Triswahyuning, (2019) that there is a relationship between parenting patterns and *online game* addiction, which is caused by exposure to the subjects as well as exposure from parents and school guidance teachers.

From the results of research that has connected the dimensions of the two variables, it can be explained that the type of parenting is one of the factors that influence *online game* addiction (Irawan & Siska W., 2021). Ganestya's research, (2016) the role of parents in efforts to overcome *online game* addiction is important because children easily understand what parents want to apply to them.

The reason why children are addicted to *online games* can be caused by often seeing their parents using gadgets, inappropriate parenting methods and environmental factors (Alia & Irwansyah, 2018). The development of technology in the scope of children must be under the supervision of adults so that technology does not have a negative impact on children (Baharun & Finori, 2019).

The type of democratic parenting in children will provide opportunities for children to carry out activities without parental care so that there is a high risk that children will experience addiction to *gadgets* or *online games* (Jauharoh, 2022). The type of democratic parenting by parents will result in children tending to experience addiction *to gadgets* or *online games* (Fauziah et al., 2024).

Permissive parenting is actually more susceptible to online gaming addiction levels because parenting styles that neglect control, are less demanding and do not punish adolescents tend to allow adolescents to do everything. Parenting plays an important role

in the development of adolescents (Martini et al., 2019).

In permissive parenting, there is less concern for the child. Parents provide very loose supervision. Parents do not interfere in the lives of teenagers. Parents give their children the opportunity to do things without sufficient supervision from them (Yosephine & Lesmana, 2020).

Based on the results of this study, it is found that the types of democratic and permissive parenting are related to the level of *online game* addiction because parents provide space for children to participate in decision making. However, if not balanced with appropriate limits and guidance. Based on this, children feel they are often given freedom and can cause loss of control over activities such as playing *online games*, which can lead to addiction.

CONCLUSION

Almost all parents of MI Muhammadiyah 02 Kendal, Sekaran District, Lamongan Regency adopt a democratic type of parenting. Almost some of the students at MI Muhammadiyah 02 Kendal, Sekaran District, Lamongan Regency are addicted to online games in the high category. There is a significant positive relationship between online game addiction and the type of parenting style of school-aged children at MI Muhammadiyah 02 Kendal, Sekaran District, Lamongan Regency.

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Research Article

Team Games Tournament on Adolescent Boys' Knowledge about Signs of Puberty

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ABSTRACT

Background: Puberty is a very important stage for all adolescents, both girls and boys. Puberty is a change from childhood to adulthood. These changes include physical changes, cognitive changes, emotional changes, and social changes. Objectives: This study aims to determine the effect of health education using the team games tournament method on male students' knowledge of recognizing the signs of puberty at SDN Kendung 3, Kedungadem, district. Bojonegoro. Methods: The design of this study used a pre-experimental with one group pre-test-post test. The sample of this study were 31 male students using the Total Sampling technique. Data were collected using a knowledge questionnaire, then analyzed using the Wilxocon test with a significance level of α <0.05. Results: The results showed that almost all of the male students' knowledge was good (54.8%). Results of data analysis p=0.000 where p≤0.05 so that H1 is accepted, which means that there is an effect of health education on the knowledge of male students at SDN Kendung 3 Kedungadem district. Bojonegoro. Conclusion: Health education is very influential on the level of knowledge of male students about recognizing the signs of puberty. The teachers are expected to be able to provide learning material in a fun way and be able to use the team games tournament method which will make students more enthusiastic.

Keywords

Keywords : Health Education; Knowledge; Puberty; TGT

INTRODUCTION

Adolescent problems are often related to growth changes, some teenagers do not have sufficient knowledge of the process during puberty, so at that time there is a lot of anxiety, confusion and lack of self-confidence (Husain & Subur, 2018). Puberty is a very important stage for all teenagers, both girls and boys. Puberty will result in a change from childhood to adulthood. These changes include hormonal changes, physical changes, psychological and social changes, puberty occurs because of hormones which are influenced by the pituitary or the center of the body's entire hormone-producing gland system. The problem experienced by teenagers today is ignorance of the changes experienced during puberty, especially in adolescent boys, due to a lack of health education regarding the signs and symptoms they experience, so that adolescent boys feel that they are lacking in spiritual practice (Idayanti et al., 2022).

Data obtained from the World Health Organization (WHO, 2018) shows that teenagers aged 15-19 years number 1.2 billion or 18% of the world's population of 7.2 billion. The results of the Indonesian Demographic Health Survey (SDKI, 2012) show that males aged 15-19 experience physical changes such as muscle changes, voice becoming bigger, hair growing around the armpits, arms, genitals, chest, legs, wet dreams, protruding Adam's apple, and nipples harden. Data obtained from the Population and Family Planning Agency (BKKBN, 2019) shows that teenagers aged 15-19 years in Indonesia number 64 million or 27.6% of the total population of Indonesia.

As many as 11.1% of male students did not know the signs of physical changes in themselves out of a total of 225.6% of the signs of physical changes. Indonesian Adolescent Health Survey (SKRRI, 2022). Data obtained from the data and information center of the Ministry of Health of the Republic of Indonesia (MOH RI, 2014) in Palembang, teenagers aged 15-19 years amounted to 74,931 people out of a total of 3,627,000 people in South Sumatra. The results of research conducted by (Suprapti, 2018) at SMP Negeri 2 Andong Boyolali on children aged 11-16 years with a sample of 42 boys, found that the respondents' knowledge about low puberty was 23 (26.7%). Based on the results of the initial survey conducted by researchers on February 4 2023 at SDN Kendung 3 Kedungadem Bojonegoro, it was obtained data that out of 15 students, 14 (90%) students lacked knowledge about recognizing signs of puberty.

Reproductive health in adolescents will be influenced by different factors including information, mentality, guardian's work, media, peers, and adolescent school climate. The young age group is very easily influenced by bad things that can affect health. The absence of good information about adolescents and correspondence between guardians and adolescents regarding poor mental health, the introduction of globalization which encourages data disclosure through extensive communication, and the task of schools and adolescent regenerative welfare administration in providing data on regenerative welfare that can influence development dangerous behavior related to conceptual well-being in young people (Anggella, 2021). The impact of the problem of students' lack of

knowledge about recognizing the signs of puberty will result in a lack of self-confidence, anxiety, doubt and feeling confused about the changes that occur (Husain & Subur, 2018). The flow of information, which is increasingly easy to access, can have quite widespread negative impacts on various groups of puberty teenagers (Idayanti et al., 2022).

Students' knowledge about recognizing the signs of puberty regarding the meaning, changes and consequences that occur during puberty is the result of the lack of information that students get about this matter. There is still a lack of students, counseling and books being at school makes students not understand what they are experiencing (Mustafidah et al., 2019). Providing health education to teenagers by providing education through play media will help to improve knowledge, attitudes and behavior. Based on the description above, this research aims to find out whether there is an influence of health education using the team games tournament method on teenagers' knowledge about recognizing signs of puberty.

METHOD

This research uses a pre-experimental design with a one group pre-post test design approach. The total sample of 31 teenagers was obtained using total sampling technique. The research was conducted at SDN Kendung 3, Kedungadem District, Bojonegoro Regency in April 2023. Research variables were carried out in 2x meetings. Data were collected using a knowledge questionnaire created by researchers with validity and reliability tests with a duration of 45 minutes per meeting. Data analysis used the Wilcoxon singed rank test with a value of α=0.05. Commission ethics study University Muhammadiyah Lamongan in matter it has riviewed and approved the study, making it as “pases” study ethical “or” ethical approval “with certificate number 300/EC/KEPK-52/06/2023 on 27 June 2023.

RESULTS

Based on table 1, data shows that of the 31 respondents, the majority (71%) were 22 students aged 11 years and almost half (29%) of the 10 year old students were 9 students, almost the majority (29%) were 9 students in grade 6. , almost the majority of class 5 students (38.7%) were 12 students, and almost the majority of class 4 students (32.3%) were 10 students. (See Table. 1)

Characteristics Respondent	Frequency	Percentage (%)
Age		
a. 10 Years	9	29
b. 11 Years	22	71
Amount	31	100
Class		
a. 6	9	29
b. 5	12	38,7
c. 4	10	32,3

Amount	31	100

Table 2 Adolescent Knowledge Before and After

Knowledge	Health Education			
	Before		After	
	N	%	N	%
a. Baik	0	0	17	58,2
b. Cukup	13	41,9	14	45,2
c. Kurang	18	58,1	0	0
Total	**31**	**100**	**31**	**100**

Based on table 2, data shows that the majority of respondents have insufficient knowledge because respondents have not previously received health education, where health education has benefits such as providing understanding, increasing knowledge and improving their own health (Suprayitno & Dian Permatasari, 2021).

Table 3. Analysis of the Effect of Education

Pengetahuan	N	Mean±SD	Min-Max	P
Pre Test	31	1.42±.502	**1-2**	**0,000**
Post Test	31	2.55±.506	**2-3**	

Based on table 3, the data shows that there is an influence before and after being given Health Education with a significant value of p = 0.000 where the p value is smaller than α (0.05) so it can be concluded that there is an influence on knowledge.

DISCUSSION

This research showed that most teenagers did not know enough about recognizing the signs of puberty. This is in accordance with previous research (Rosita et al., 2023) which showinwg teenagers' knowledge regarding recognizing the signs of puberty and dealing with physical changes, it is very necessary to take action or intervention through providing health education.

The factor that influences teenagers' lack of knowledge about recognizing signs of puberty in this study is the lack of health education they have received. Health education itself has various benefits, one of which is to obtain information and deepen knowledge. Health education is a process that can increase awareness, expand knowledge and change people's behavior regarding health for the better. Health education aims to make people aware and know how to maintain health, avoid or prevent things that are detrimental to health and how to seek appropriate treatment (Faisal, 2021). According to Ariel (2018) providing health education can increase knowledge because the material presented can be received through the five senses and sight. Almost all teenagers are in class XI. The level of education has a level, the higher a person's level of education, the more knowledge they have (BKKBN, 2019). So the higher a person's level of education, the easier it is to receive information so that they have more knowledge (SKRRI, 2022).

The factor that influences knowledge is age. Some of the teenagers in this study were 11 years old, with 11 year olds entering early adolescence. With increasing age a person will experience aspects of psychological and psychological (mental) changes. Broadly speaking, there are 4 categories of physical growth, namely: changes in size, proportion, loss of old characteristics and the emergence of new characteristics. This matter occurs due to the maturity of organ function. In psychological and mental aspects, a person's level of thinking becomes more mature as they mature. And if someone gets older, their level of maturity and strength will be better in thinking and working (Sabarina, 2020).

This research shows that good knowledge results increase after receiving information. Namely by carrying out Health Education using the Team Games Tournament (TGT) method. This increases students' interest in learning, because sometimes students will understand and comprehend what health workers convey better than their own friends. Differences in the level of knowledge between each student and other students are caused by many factors including education, interests, age, surrounding environment, and the information obtained. by that person. The more information obtained and the learning environment that supports it, the greater a person's knowledge will be (Ninggolan, 2018).

Team Games Tournament (TGT) can be applied at all levels of education because most people will be more active in learning and can also increase students' enthusiasm for learning, and can compete with each other in a healthy manner. The Team Games Tournament method of health education is an effective source of information for increasing students' knowledge so that it can increase students' level of understanding (Hikmah, et al 2018).

The factor that influences knowledge is age. The results showed that almost half were 11 years old, where 11 year olds were entering early adolescence. With increasing A person's age will experience aspects of psychological and psychological (mental) changes. Broadly speaking, there are 4 categories of physical growth, namely: changes in size, proportion, loss of old characteristics and the emergence of new characteristics. This occurs due to the maturity of organ function. In psychological and mental aspects, a person's level of thinking becomes more mature as they mature. And if someone gets older, their level of maturity and strength will be better in thinking and working. Changes in the level of knowledge that occur in male students about recognizing signs of puberty with the Team Games Tournament (TGT) media are because the information provided can increase students' knowledge about recognizing signs of puberty. Where health education is carried out and provided for students, the aim is to provide knowledge about recognizing signs of puberty (Fitriani, 2021). This is supported by research conducted by Anggraeni, et al (2022) that health education influences a person's level of knowledge. Namely, students can know and understand the importance of recognizing the signs of puberty.

Based on the results of research conducted by researchers in accordance with previous research, namely Septiana (2018), it was concluded that knowledge about recognizing signs of puberty in male students showed that the respondent's level of knowledge before being given health education was in the poor category.

This research shows that knowledge results increased after health education was carried out using the Team Games Tournament (TGT) method. So that There are differences before and after being given health education using the Team Games Tournament (TGT) method.

According to previous research (Santosa, 2018), health education using the Team Games Tournament method is very effective and efficient in increasing knowledge and also increasing students' interest in learning. Another advantage of the Team Games Tournament (TGT) is that it is also easy to apply at all levels of education because most people will be more active in learning and can also increase enthusiasm for learning, and can compete with each other in a healthy manner. (Hikmah, et al 2018).

The Team Games Tournament (TGT) health education method in this research was carried out in 2x meetings, this is in accordance with previous research that providing health education during 2x meetings can increase participants' knowledge so that they can achieve optimal learning outcomes within a duration of 45 minutes per meeting.

CONCLUSION

The conclusion from the results of this research is that there is an influence of health education on male students' knowledge about recognizing signs of puberty. These results indicate that the Team Games Tournament is effective in increasing students' knowledge. It is hoped that this research can provide input for further research. Nurses are expected to be able to apply health education using the Team Games Tournament method to children aged 10-11 years in maintaining health.

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Research Article

The Effect of Cervibook Education on Knowledge and Attitudes Adolescents in Facing Menstrual Cycle Irregulaties at SMA Muhammadiyah 2 Sumberrejo

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ABSTRACT
Menstruation is one of the indicators of puberty that teenage girls may experience. Ovarian hormones (progesterone and estrogen) fluctuate in amount near the conclusion of the ovarian cycle, causing the endometrium to release (desquamate) and cause menstruation. Feedback disruptions with consistently high estrogen levels prevent FSH levels from reaching their maximum, which is the root cause of menstrual cycle abnormalities. Pre-experimental with pre-post test design is used in the research methodology. With n = 32, the sampling strategy is a non-probability sample using a purposive sample approach technique. The statistical software package Statistical Product and Service Solutions (SPSS) 27.0 For Windows is used for data analysis, specifically the Wilcoxon test. The results of the analysis showed that there was a significant difference in the knowledge of teenagers before and after they received Cervibook instruction (p value = 0.000). The results of the Wilcoxon sign significant test analysis showed that there was a difference in the influence of Cervibook education on knowledge and attitudes (p value = 0.000). Therefore, H1 was accepted, indicating that teens at SMA Muhammadiyah 2 Sumberrejo had a different level of knowledge when it came to dealing with irregular menstrual cycles. Using Cervibook media is more efficient than using media on its own. As a result, it is more successful to increase teens' knowledge and attitudes during health counseling or education in health services or in the community when video stories and booklets are merged into one medium rather than utilizing one medium alone.

Keywords
Education; knowledge; attitude; menstrual cycle

INTRODUCTION

Adolescence will experience growth and development, this can also be called puberty. Signs of puberty that can be seen in teenage girls include menstruation, breast growth, pubic hair growth, changes in bone mass, softer voice, oily and sweaty skin which sometimes causes acne and body odor, enlarged waist circumference, and emotional changes (Toumeluk et al., 2023). Menstruation occurs due to the process of shedding (desquamation) of the endometrium due to ovarian hormones (estrogen and

progesterone) which experience changes in levels at the end of the ovarian cycle, often starting on the 14th day after ovulation. Women usually have a menstrual cycle of between 21-35 days and the normal length of the menstrual period is between 4-8 days (Fadilah, 2023). Menstrual cycle disorders are caused by feedback disturbances in estrogen levels which are always high so that FSH levels never reach peak levels. This situation has an impact on changes in the menstrual cycle or loss of the menstrual cycle (Oktavia & Amelia, 2022)

According to WHO in (Hidayat, 2023) menstrual problems are experienced by 75% of teenagers. Teenagers often experience menstrual periods irregular, especially occurs in the first year after menarche. About 80% of women experience delayed menstruation for one to two weeks, while 7% experienced menstruation early due to the absence of ovulation. Based on the research results of Lim et al in Yolandiani et al., (2021)19.4% of Korean adolescents were examined experiencing menstrual cycle irregularities. The level of weight control, amount of regular exercise, stress level, and length of sleep are all contributing factors against menstrual cycle irregularities. The Indonesian Ministry of Health reports that the age at which menstruation first occurs has decreased. In Indonesia, 70% to 90% of teenage girls experience irregular menstrual cycles (Hidayat, 2023). The prevalence of menstrual cycle irregularities in each country is different. Hold by World Health Organization (WHO) 18% of teenagers experience menstrual cycle irregularities. Meanwhile, in Indonesia there are as many as 10 million girls aged 10-10 years. 19 year olds experience menstrual cycle problems around (13.79%). In East Java, the incidence of menstrual cycle irregularities in adolescents is 13.1% (Wahyuni et al., 2022). Based on survey results introduction through interviews with female students at SMA Muhammadiyah 2 Sumberrejo on November 3 2023, there were 66.7% of female students who said they often experienced menstrual cycle irregularities and 73.3% of them said they did not understand the causes of irregularities menstruation. Where teenagers should have knowledge about the menstrual cycle >75%. It can be concluded that the majority of female students at SMA Muhammadiyah 2 Sumberrejo still have little knowledge of menstrual cycle irregularities.

Factors related to the menstrual cycle include: such as lack of knowledge, body weight, diet, physical activity, emotional changes, environmental exposure and working conditions. Lack of knowledge can influence a person's thought process, anxiety and condition. This condition refers to teenage anxiety which can result in failure in the production of Follicle Stimulating Hormone-Luitenizing Hormone (FSH-LH) in the hypothalamus affects the production of estrogen and progesterone which causes menstrual cycle irregularities (Handayani & Febrianti, 2023)

According to Rohan in Yolandiani et al., (2021) the impact that arises from menstrual cycle irregularities that are not handled immediately and correctly is that there are problems with women's fertility, the body loses too much blood, thus triggering cases of anemia characterized by body that gets tired easily, pale, lack of concentration, fatigue, lethargy, and other signs of anemia. Menstrual cycle irregularities are also an important indicator to show the presence of female reproductive system disorders which may later be associated of various with an increased risk diseases in the reproductive system, including uterine cancer, cysts, and infertility. Changes in the menstrual cycle must be given more attention, because they can affect the quality of life of young women in the

future. Efforts to prevent menstrual cycle irregularities are very important, namely by providing health education to all young women have experienced menstruation, where prevention starts with knowing the factors that influence menstrual cycle irregularities in order to form a good attitude.

To take a positive stance, it is important to focus on prevention by providing health education to all adolescent girls who menstruate, rather than preventing menstruation and identifying the factors that influence it. So, if a young woman knows several factors that cause irregularity menstrual cycle, for example the trigger for menstrual irregularities, then the teenager or individual will take preventive measures to prevent the condition from occurring. If there is a disturbance in the menstrual cycle during adolescence, this will affect the teenager's life. Health education here uses two media combinations, namely video stories and booklets (cervibook). Cervibook education expressed in interesting words and visuals, so that female students receive an education that is not boring. In level Adolescent knowledge regarding reproductive health is not only the responsibility of a few parties, but is the responsibility of all parties, especially families, schools, society and health services (Wulandari, 2020).

Based on the background above, researchers are interested in conducting research on "The Effect of Cervibook Health Education to Knowledge and Attitude Adolescents in Facing Menstrual Cycle Irregularities at SMA Muhammadiyah 2 Sumberrejo".

METHOD

This kind of research uses a one group pre-post test design approach, experimental design, and pre-experimental design. It begins with a survey given to 15 female students at SMA Muhammadiyah 2 Sumberrejo. Two interventions are then observed before and after the respondents as part of the research process. A purposive selection approach was used in conjunction with non-probability sampling to choose a research sample of thirty-two young women who signed an agreement to participate in the study as respondents. This study was carried out at Muhammadiyah 2 Sumberrejo Senior High School in the Sumberrejo District of the Bojonegoro Regency between November 2023 and February 2024.

The inclusion criteria for this quantitative research sample included female students who had gone through menstruation, female students who were willing and interested in being respondents, and female students who engaged in the entirety of the Cervibook health education program. However, female students who did not participate in educational activities or who did not attend classes were excluded from the research sample.

RESULTS

Table 1. Distribution of Young Women by Age at SMA Muhammadiyah 2 Sumberrejo in February 2024

Characteristics Respondent	Frequency	Percentage (%)
Age		
15	5	15,6
16	13	40,6
17	9	28,1

18	5	15,6
Amount	32	100
Class		
10	8	25
11	9	28,1
12	15	46,9
Amount	31	100

Based on the table 1. shows that a small portion (40.6%) of adolescents are 16 years old and a small portion (46.9%) of 12th grade adolescents. As one gets older, one's memory and thinking patterns develop, so one becomes quicker at receiving information. According to Notoatmodjo in Iswari (2022)revealed that age is something that can influence a person's cognitive level. Because as one gets older, a person's level of maturity and capacity will become more mature in terms of thinking and working so that the information and experience they can gain will be greater. In terms of public trust, someone who is more mature is trusted more than someone who is less mature.

Table 2. Distribution of knowledge levels and attitudes of adolescents before being given Cervibook health education.

Dependent Variable	Pretest	
	Frequency	Percentage (%)
Knowledge Level		
a. Good	3	9,375
b. Enough	16	50
c. Less	13	40,625
Amount	32	100
Attitude Level		
a. Positive	4	12,5
b. Negative	28	87,5
Amount	32	100

Table 2 above shows that before being given cervibook education, a small percentage of teenagers (40.625%) had a poor level of knowledge, half of teenagers (50%) had a sufficient level of knowledge, very few teenagers (9.375%) had a good level of knowledge, Almost all teenagers (87.5%) have negative attitudes, and very few teenagers (12.5%) have positive attitudes.

Table 3. Distribution of knowledge levels and attitudes of teenagers after provided health education cervibook.

Dependent Variable	Postest	
	Frequency	Percentage (%)
Knowledge Level		
d. Good	28	87,5
e. Enough	4	12,5
f. Less	0	0
Amount	32	100

Attitude Level		
c. Positive	26	75
d. Negative	6	25
Amount	32	100

Table 4.3 above shows that after being given education cervibook, almost all teenagers (87..5%) still have knowledge good category, very few teenagers (12.5%) have knowledge of the category enough, the majority of teenagers (75%) have a positive attitude category, and a small proportion of teenagers (25%) have a negative attitude category.

DISCUSSION

1. Identify the level of knowledge and attitudes of teenagers before being given cervibook education at SMA Muhammadiyah 2 Sumberrejo

Based on the research results, it was found that before being given educatiocervibook health in adolescents, half of adolescents have a level category knowledge is sufficient, a small percentage have a level of category knowledge less, and very few teenagers have a good level of knowledge. Meanwhile, the attitude of teenagers before being given Cervibook education was obtained. The results are that almost all teenagers have negative attitudes, and very few teenagers have a positive attitude in dealing with menstrual cycle irregularities. Teenagers' lack of knowledge can be caused by lack of exposure information. Knowledge can be influenced by several factors, according to factors that influence a person's level of knowledge, namely education, information sources, environment, experience and age (Darsini et al., 2019). This matter, It could also be caused by a lack of information. Where according to Andini (2021) Several things that influence attitudes include personal experience, the influence of other people, mass media, educational institutions, and emotional factors. Education is one form of intervention that can be done to achieve this change knowledge and attitudes so that health levels can improve.

In line with research conducted by Handayani & Febrianti (2023) shows that health education can improve the level of knowledge of young women about the menstrual cycle so that it will changing the behavior of adolescent girls during menstruation and providing readiness adolescent girls when dysmenorrhea occurs. There is also research conducted by Rodiyah et al. (2023) also explains that health education can also be done increase knowledge. The same is true of research conducted by Setiawati et al. (2022) shows that health education can improve one's attitude. Like research by Solehati et al. (2022)that Health education is effective in improving a person's knowledge and attitudes. Research from Mawardika et al. (2019)also said that education Health can improve a person's knowledge and attitudes.

Based on the explanation above, the researcher believes that education Health services are very effectively provided to improve knowledge and attitudes somebody. Where from several studies that have been carried out by several Researchers have proven that health education can increase knowledge and a person's attitude. If an individual has good knowledge then he will motivate the individual to have a positive

attitude. As an example Teenagers still don't understand and don't care when they experience it menstrual cycle irregularities, without knowing the causes and effects can result from irregularities in the menstrual cycle. Can be concluded that The results obtained were differences in teenagers' knowledge and attitudes in dealing with the problem irregularity of the menstrual cycle.

2. Identify the level of knowledge and attitudes of teenagers after being given cervibook education at SMA Muhammadiyah 2 Sumberrejo

Based on the research results, it was found that after being given education cervibook, research results show that almost all teenagers have The level of knowledge is in the good category, and very few teenagers have this level sufficient category knowledge. This shows that there is change significant increase in knowledge in adolescents after being given education health through cervibook media. Meanwhile, teenagers also experience attitudes changes where almost all teenagers have a positive attitude and very few teenagers still have negative attitudes. Health education is an effort to empower society especially teenagers in order to improve cognitive abilities and attitudes of teenagers so that their health condition can be maintained. According to Notoatmodjo in Ishariani et al. (2023) there are various media and methods in learning, starting from large group methods, small groups, lecture methods, discussions, demonstration, assisted by audio-visual media and props. One of The media that can be used for education is cervibooks.

Research that conducted by Juniah et al. (2020) obtained results by combining the two Educational media can increase a person's knowledge and attitudes more effectively. There is also similar research, namely by Purwasi (2022) which showed that The combination of video and booklet educational media is effective in increasing knowledge family about dietary management of diabetes mellitus. This is in line with previous research conducted by Ishariani et al. (2023) influences the cognitive abilities and attitudes of parents. There is other research conducted by Kurniatin (2023) stated that video education and Booklets are highly recommended in improving one's knowledge and attitudes. The results of the research carried out were that education combined animated videos and booklets are effective in increasing reproductive health knowledge. There are also Similar research conducted by Muyassaroh & Isharyanti (2020) shows that health education through animated videos and booklets can improve knowledge and attitudes of adolescents.

Based on the research conducted, the researcher believes that after given cervibooks there is an increase in knowledge and attitudes in teenagers related to menstrual cycle irregularities. This is obtained through election the right medium. This is because through cervibook teenagers can obtain information related to preventing bullying by using appropriate media contains elements of sound and images, which are in the process of absorbing information involves the senses of sight and hearing so that the process conveying information becomes more effective. Cervibook has the capability good and clear because of its ability to display images consistently directly and supported by the ability to produce sound.

3. Analyzing the effect of cervibook education on knowledge and attitudes of teenagers in dealing with menstrual cycle irregularities at SMA Muhammadiyah 2 Sumberrejo

Tabulation of data during the pre-test shows that the majority respondents have less knowledge and negative attitudes in dealing with irregularity of the menstrual cycle. Providing education using cervibook media influence on teenagers' knowledge and attitudes. have a level of knowledge in the good category with significance value in the Wilcoxon signed statistical test ranks test p=<0.001. This shows that there is a cervibook influence on the level of knowledge and attitudes of adolescents in dealing with irregularities menstrual cycle at SMA Muhammadiyah 2 Sumberrejo.

According to Roger in Safitri (2019), if a person will be formed if already have knowledge and interest. At this stage, respondents can accept or reject stimuli in the form of information about irregularities menstrual cycle. Respondents who refuse will give rise to no knowledge increase and negative attitudes, while those who receive it can give rise to it increased knowledge and positive attitudes. Participants were enthusiastic during the pre-test test and follow the rules given. Good knowledge has no effect towards a positive attitude. This can be seen in respondents number 18 and 30, second The respondent has good knowledge but the respondent's attitude negative. This also happens to respondents who have sufficient knowledge. However, the respondents' attitudes were negative, namely respondents number 3, 5, 12, 13, 15, 16, 22, 24, 26, 28, and 32. In respondents number 8, 10, 19, 20, and 29 there was an increase good knowledge and significant attitude scores. Individual knowledge or cognition is influenced by its formation the individual's attitudes and behavior. High or sufficient knowledge adolescents can influence their behavior to protect their health.

According to Adri et al. (2022) as for the factors that influence the level of knowledge a person, namely education, sources of information, environment, experience and age that individual. One of the education obtained through educational methods is one form of intervention that can be done to achieve this change knowledge and attitudes so that health levels can improve. The formation of attitudes and behavior of each individual is greatly influenced by knowledge or cognition possessed by the individual (Fadhilah et al., 2022). This research is similar to research conducted by Pratiwi (2024) who got the results that before being given combined education (video and booklet) in the control group obtained knowledge p = 0.221 and after given education in the control group, the knowledge result was p = 0.000 whereas in the intervention group, results were obtained before education was given knowledge p = 0.434 and after being given education the result was p = 0.000 It can be concluded that H1 is accepted, which means there is a combined educational influence videos and booklets on the knowledge of mothers with stunted children. There are also another similar study by Solehati et al. (2022) that before being given educational video stories and booklets obtained standard deviation knowledge results 10,536 and attitude 14,441 while after being given education the results were obtained standard deviation of knowledge 7.481 (p=0.000) and attitude 8.322 (0.001) can It was concluded that H1 was accepted, which means there was a combined educational effect of video and a booklet on teenagers' knowledge and attitudes towards sexual harassment. Another similar study was also conducted by Silalahi et al. (2018) that in The results were obtained in the control and intervention groups before being given education knowledge (p = 0.90) and attitude (0.99) and after being

given education on The intervention group obtained knowledge results (p = 0.000) and attitudes (p = 0.000) it can be concluded that H1 is accepted, which means there is Audiovisual Effectiveness and Booklet as an Educational Media to Improve IVA Screening Behavior.

From the explanation above, the researcher believes that providing education Cervibook is very effective in increasing the knowledge and attitudes of teenagers dealing with menstrual cycle irregularities. Where there is improvement knowledge and attitudes of adolescents are significant. This is because one of the factors that can influence a person's level of knowledge is by providing education, one of which is educational methods. By therefore, cervibook education is very influential in increasing knowledge and attitudes of teenagers. And the information from the ervibook education can be useful for teenagers facing menstrual cycle irregularities.

CONCLUSION

a. Half of the teenagers had sufficient knowledge and almost all teenagers had negative attitudes before being given Cervibook education.
b. Almost all teenagers have good category knowledge and most teenagers have positive category attitudes after being given Cervibook education.
c. There is an influence of cervibook education on teenagers' knowledge and attitudes in dealing with menstrual cycle irregularities at SMA Muhammadiyah 2 Sumberrejo.

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Research Article

The Effect of Occupational Therapy Planting Vegetables on Depression Levels in Mental Disorder Patients at Griya Cinta Kasih Foundation, Sumbermulyo Village, Jogoroto District, Jombang Regency

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ABSTRACT

Mental health is often discussed by the public. Depression is a mental disorder characterized by feelings of sadness, loss of interest, and feelings of inferiority. The purpose of this study was to determine the effect of occupational therapy planting vegetables on the depression levels of patients with mental disorders at Griya Cinta Kasih Foundation. This study used a pre-experimental design using the One Group Pre-Post Test Design approach. The population was 70 patients and the sample was 30 patients with purposive sampling technique. The instrument used in this research is the DASS 42 scale questionnaire. This study was conducted twice a week for a month and the post-test was conducted 2 days after the 8th meeting. The result of this study showed that the average depression score before being given occupational therapy was 25.03 and the average depression score after being given occupational therapy planting vegetables was 19.37. So that after being given occupational therapy planting vegetables, the patient's depression decreased by 5.66. The results of the paired t-test obtained a significant value of p=0,000 showed that there was an effect of occupational therapy planting vegetables on the level of depression in patients with mental disorders.Occupational therapy planting vegetables is recommended for non-pharmacological therapy in mental disorder patients who experience depression. Because with a new activity, the depression sufferers will not brood and like to take care of their plants.

Keywords : *Occupational Therapy, Planting Vegetable, Depression, Mental Disorder*

INTRODUCTION

Currently, mental health has become a topic that is often discussed by society. From events in a person's life that are full of pressure from those closest to them, conflicts with friends, humiliation, and economic problems which are becoming long-term problems at this time. People often associate mental health problems with mental disorders or schizophrenia.

Schizophrenia is a brain disorder that can affect a person's thinking process and problems in communicating (Fathoni et al., 2022). Mental disorders are people who experience disturbances in thoughts, behavior and feelings that are difficult to talk about so that they can influence behavior and cause suffering and obstacles for the person in carrying out the functions of human life (Tumanduk et al., 2018). The suffering experienced by people with mental disorders will cause prolonged mood changes for the sufferer and also a lack of interest in carrying out activities that are often done every day. Depression as a clinical syndrome has been commonly discussed since more than 2,000 years ago. Despite this, depression is still widely discussed today. The term depression is very popular in society and everyone knows it, including people who are laypeople in the fields of health and psychology. However, the precise meaning of depression is still difficult to determine precisely defined. Depression is a serious problem discussed by society so that depression is the 4th disease in the world, around 20% of depression is experienced by women and 12% is experienced by men (Harista et al., 2015). Depression is a mental disorder characterized by feelings of sadness, loss of interest or pleasure, decreased energy, feelings of low self-esteem, sleep and appetite disturbances, lack of concentration and symptoms of anxiety that can interfere with daily activities (Aziz, 2020).

According to the World Health Organization (WHO), in 2019 the number of cases of mental disorders reached approximately 478.5 million people with mental disorders spread across the world and 264 million people experienced depression. Meanwhile in Indonesia, the prevalence of mental disorders has increased significantly to 7 per household mile, which means that for every 1,000 households there are 7 households that have family members with mental disorders, so it is estimated that there are 450 thousand people with mental disorders in Indonesia (Ministry of Health of the Republic of Indonesia, 2019).

According to the East Java Health Service (2021), the number of mental disorders in East Java reached 0.19% (75,427 people with mental disorders) of the total population in East Java of 39,872,395 and approximately 19,900 cases of people experiencing depression. From this data, of course it is spread across the East Java region, one of which is Jombang Regency. Cases of mental disorders in Jombang Regency were stated to have increased from 2015 to 2018, in 2015 the number of people suffering from mental disorders was 1,086 people, then in 2016 the number of people suffering from mental disorders increased by 1,884 people, in 2017 people suffering from mental disorders became 2,343 people and increased to 2,701 people. in 2018 (Ministry of Health, 2019). The high number of cases of mental disorders in East Java is number 12 in Indonesia. This high figure is of course not only the responsibility of the health service. However, several foundations in East Java can also help accommodate and rehabilitate patients with mental disorders (East Java Health Office, 2021).

Based on an initial survey from interviews with the management of the Jombang Regency Griya Cinta Kasih Foundation on November 11 2023, data on the total number of patients with mental disorders was approximately 197 patients, of which approximately 70 patients experienced depressive disorders. Based on the results of interviews with 10 patients, it was found that 8 out of 10 patients stated that they were rarely visited by their families, were often taken advantage of and were also isolated by

their roommates. So, from this incident, the patient thinks a lot about what he did wrong, feels sad and ends up depressed. From this statement, it was found that there are still many patients who experience levels of depression that have not been resolved.

According to Haryanto et al., (2015), the factors that cause depression are artificially divided into biological factors, genetic factors and psychosocial factors. Biological factors show that age is one of the causes of depression because as people get older their activity will decrease, from genetic factors family relationships are one of the causes of people experiencing depression, and from psychosocial factors the factors that cause depression are the loss of loved ones, loss of social roles, and decreased self-confidence.

People with depression start from feeling lonely and feeling isolated by society or what is most felt is being ostracized by those closest to them. People who feel isolated will have negative thoughts and end up thinking a lot or what is usually called overthinking. At this stage, people with depression will have reduced self-esteem and self-confidence, feel guilty about everything, and feel useless. So it can cause impacts such as loss of energy and interest, feelings of guilt, difficulty in communicating, loss of appetite, even having thoughts of hurting yourself and even committing suicide (Zainuddin et al., 2021).

The impact that occurs on depressed patients is having a negative outlook which will lead to feelings of low self-esteem (Sany, 2022). Other impacts if depression is not treated include different behavior, emotional disturbances, decreased concentration, quick despair, loss of hope, and feelings of wanting to commit suicide (Ardi et al., 2021). In general, people with depression need some therapy to overcome it. Therapies given to depressed patients include administering antidepressant drugs which cause side effects such as discomfort or can become new problems for the patient, and non-pharmacological therapies such as psychotherapy, ECT therapy, CBT therapy, and interpersonal therapy (Lutfiani et al. , 2019). One alternative that can be given to patients with depression is occupational therapy (Sulistyaningsih, 2016).

Occupational Therapy is a combination of art and science to direct sufferers to more useful activities and direct patients in carrying out certain tasks. Occupational therapy is a form of supportive psychotherapy that creates independence, creativity and education to adapt to the environment and improve the patient's physical and mental health. The focus in occupational therapy is recognizing a person's skills and shaping that person into an independent and confident person (Oktadinanta et al., 2023).

Based on research conducted by Wahyuningsih et al., (2023) it shows that occupational therapy can have an impact on improving life abilities and people with mental disorders become more independent in carrying out their tasks. Apart from that, similar research conducted by Krissanti et al., (2019) showed an increase in planting activities after being given occupational gardening therapy. Similar research was also conducted by Malau et al., (2014) with results of a reduction in depression levels after providing occupational therapy.

METHOD

This research is quantitative research with a pre-experimental research design using a one group pre test post test design approach. The sampling technique used in this

research is non-probability sampling using a purposive sampling technique. Starting with a survey with 10 patients, then the research was carried out by observing for 1 week twice in 1 month. The sample for this study used 30 patients with mental disorders who experienced depression who were willing to be respondents. this research. This research was carried out in November 2023- March 2024 at the Griya Cinta Kasih Foundation, Jombang Regency. This research has been declared ethically sound by the Ethics Committee of Muhammadiyah Lamongan University on April 4 2024 with No.049/EC/KEPK-S1/04/2024.

The inclusion criteria for this study were patients who experienced mild, moderate, severe and very severe depression, patients who were rarely visited by their families, patients who were willing to participate in therapy, and patients who were able to follow directions from start to finish. The exclusion criteria in this study were patients who were uncooperative, patients who were not present at the time of the study, and patients who were sick.

RESULTS

Table 1. Patients Characteristics

Characteristics	n	%
Gender		
Male	8	26,7
Female	30	73,3
Age		
15-24 Years Old	1	3,3
25-34 Years Old	10	33,3
35-45 Years Old	14	46,7
46-55 Years Old	5	16,7
Educational Background		
Elementary School	4	13,3
Junior High School	7	23,3
Senior High School	11	36,7
College	5	16,7
No School	3	10,0
Employment History		
Farmers/ Fishermen	6	20,0
Self-Employed	9	30,0
Civil Servants	1	3,3
Others(House Wife)	14	46,7
Marriage Status		
Married	25	83,3
Not Married Yet	2	6,7
Divorced	2	6,7
Death Divorced	1	3,3

Based on table 1 above, it is known that at the Griya Cinta Kasih Foundation, Jombang Regency, the majority (73.3%) of the patients were female, 22 patients and almost half (26.7%) were male, 8 patients. In the table above, almost half (46.7%) of the

patients at the Griya Cinta Kasih Foundation, Jombang Regency, were 14 patients aged 35-45 years, and a small portion (3.3%) were 1 patient aged 15-24 years. In the table above, almost half (36.7%) of the patients at the Griya Cinta Kasih Foundation, Jombang Regency, of which 11 patients had a history of high school education, and a small portion of the patients (10.0%) as many as 3 patients had a history of no school education. In the table above, Nearly half (46.7%) of the patients at the Griya Cinta Kasih Foundation, Jombang Regency, 14 of whom had a work history as housewives, and a small portion (3.3%) of which 1 patient had a work history as a civil servant. Then, Almost all (83.3%) of the patients at the Griya Cinta Kasih Foundation, Jombang Regency, of which 25 patients had marital status, were married, and a small percentage (3.3%) of which 1 patient had a history of divorce and divorce.

Table 2. Custom Data

Characteristics	n	%
Depression Levels Before Intervention		
Mild Depression	1	3,3
Moderate Depression	4	13,3
Major Depression	18	60,0
Very Severe Depression	7	23,3
Depression Levels After Intervention		33,3
Mild Depression	19	63,3
Moderate Depression	8	26,7
Major Depression	3	10,0

Variabel	N	Mean±SD	Median (Min-Max)	*p value*
Pre Test	30	25,03±5,372	25(11-36)	0,000
Post Test	30	19,37±3,045	19(10-26)	

Based on the table above, it can be seen that the majority (60.0%) of the patients at the Griya Cinta Kasih Foundation, Jombang Regency, who were 18 patients, had a severe level of depression and a small portion (3.3%) of which 1 patient had a mild level of depression. Based on the table above, it can be seen that the majority (63.3%) of the patients at the Griya Cinta Kasih Foundation, Jombang Regency, who were 19 patients, had a mild level of depression, and a small percentage (10.0%) of 3 patients had a severe level of depression. Based on the table above, it shows that before being given the occupational therapy intervention for planting vegetables, the average score was 25.03 for severe depression with a minimum score of 11 and a maximum score of 36. After being given the occupational therapy intervention for planting vegetables, the average score was 19.37 for moderate depression with a minimum score of 10. and the maximum score is 26. The average difference between the pre-test and post-test is 5.66.

DISCUSSION

Based on the research results, it can be explained that before being given Occupational Therapy for Planting Vegetables, the majority (60.0%) of mental disorder patients experienced severe depression, namely 18 patients. In the age table of patients with mental disorders who experience depression, almost half (46.7%) are aged 35-45 years, totaling 14 patients. In the gender table, the majority of mental disorder patients who experience depression are female (73.3%) with 22 patients. In this study it can be concluded that depression is more common in women than men and every age group can be affected by depression. Apart from that, in this study, from the educational history table, it is known that almost half (36.7%) of the 11 patients had a history of high school education. In the marital status table, it can be seen that almost all (83.3%) of the 25 patients whose marital status was married were married. In the work history table, it can be seen that almost half (46.7%) of the 14 patients had a work history as housewives.

Research conducted by Sulistyaningsih et al., (2019) found that 92 people (67.6%) of 136 patients experienced depression. Depression in the study by Sulistyaningsih et al., (2019) occurred in postpartum patients who did not expect delivery, especially those in their first pregnancy. The reasons are economic factors, problems with in-laws, not having expectations about the gender of the child, and unplanned pregnancies.

This research is in line with research conducted by Putri (2018) that female patients are susceptible to experiencing depressive disorders compared to male patients. Women will experience depression due to changes in hormones such as estrogen and progesterone which can affect the part of the nervous system related to mood, therefore many patients are silent and often ruminate. The demands of being a woman who must be able to play multiple roles, such as working and being a housewife, can also make women more vulnerable to experiencing depressive mental disorders.

This research is in line with research conducted by Abidin & Axelta, (2022) that depression is more common in adolescent girls (76.9%) as many as 166 students in the 15-16 year age range which includes high school students (87.0%) as many as 188 students out of 216 students were respondents. According to this research, high school students' depression factors are divided into 3 factors, namely the first, female teenagers who have a higher degree of depression compared to male teenagers, the second is psychosocial factors, for example differences in pocket money between friends, and the third is teenagers who have problems or bad relationships. with parents.

The results of this research are in line with research conducted by Maisya (2021) which states that a married woman has the role of wife, mother and homemaker (domestic worker). Therefore, some women prefer not to work and only be housewives to avoid multiple role conflicts and socio-cultural demands as women. In carrying out duties as a housewife, difficulties are often experienced, namely the large number of household tasks that are done and must be completed every day, difficulty managing

family finances which are not enough to meet needs, the emergence of new household tasks, and lack of time and energy.

The theory of Hankin et al., (2015) reveals that depression in high school girls has a prevalence that is twice as high as in boys. The increase in women's depression is influenced by hormonal and physiological factors. Women have more biological vulnerabilities and difficulties in dealing with physiological changes during the transition from childhood to adulthood. Since the beginning of puberty, women are more likely to develop clinical depression compared to men. The risks experienced by women include changes in views of body image, the way they build social relationships, and society's "feminine" stigma towards women. When experiencing situational pressure or stressors, women have a tendency to use feelings.

The results of the study showed that after being given occupational therapy, planting vegetables, mental disorders in patients with mental disorders experienced a decrease in the level of depression, the majority (63.3%) of the patients who experienced mild depression were 19 patients out of 30 patients. This shows that there was a decrease in depression levels because patients participated very well when the research was conducted. After being given occupational therapy intervention in planting vegetables, the average score was 19.37 for moderate depression with a minimum score of 10 and a maximum score of 26. The average difference between the pre-test and post-test was 5.66 (from 25.03-19.37).

This research is in line with Widyastuti's (2014) research that there is an effect of gardening therapy on the level of depression in the elderly at the Griya Asih Lawang Nursing Home, Malang with an increase in the mean difference of 5.95 (from 19.78-13.83). The effect of providing gardening therapy on average results in decreased levels of depression.

Occupational therapy growing vegetables or gardening is a good physical activity and it has been proven that gardening is very helpful in interventions for patients with depressive mental disorders. Gardening activities from planting, caring for them to harvesting are very beneficial for a person's mood and increase social interaction, reduce symptoms of depression, develop free time, and reduce fear of new activities (Utami, 2018).

Gardening therapy is a form of active therapy. Gardening therapy has become an important part because it can improve the health of the body, mind and spirit as well as the quality of life. This therapy is a unique therapy because it can make individuals connect with living creatures, namely plants (Efendi & Purbasari, 2021). The activity of growing vegetables or gardening is one method that can be used as a suitable alternative for a healthy lifestyle because it is based on Hobbies are easier because they are not actually a burden or a need that burdens the patient (Maghfirah & Fariki, 2018).

Reducing depression levels by using occupational therapy to grow vegetables is very effective because light activities and caring for plants and harvesting one's own vegetables can improve a person's mood. Previously, mental disorder patients at the Griya Cinta Kasih Foundation, Jombang Regency who experienced depression had never

received occupational therapy intervention to grow vegetables. So in this study, after giving occupational therapy, planting vegetables showed that there was a decrease in the level of depression carried out for 1 week twice for 1 month and this could provide a new experience for mental disorders patients.

Based on the results of the Paired t test, it shows a p value of 0.000 ($p<0.05$) so that H1 is accepted, which means there is an effect of occupational therapy growing vegetables on the level of depression in mental disorder patients at the Griya Cinta Kasih Foundation, Sumbermulyo Village, Jogoroto District, Jombang Regency.

This research is in line with research conducted by (Ayudia et al., 2017). The results showed that moderate depression became mild depression in 30 elderly people and from mild depression to normal depression in 8 patients. The results of this study used the Wilcoxon statistical test with a p value of 0.000 ($P<0.05$), which means that H1 is accepted or there is an influence of occupational therapy (handicrafts) on the level of depression in the elderly at UPT PSTW Jember.

Occupational therapy is very useful for patients who experience depression because it is a science and art of directing someone to carry out a certain task to improve their abilities and make it easier to interact with other friends. And occupational therapy can increase productivity and improve a person's health status (Ayudia et al., 2017).

In research conducted by Ridfah et.,al., (2021) occupational therapy can provide a relaxed and happy feeling in mental disorders patients and can help the patient's memory and focus by continuously reminding the patient of plants and the patient's weekly activities by watering the plants.

According to Purwanto in Ridfah et.,al., (2021) occupational therapy is a science and art that directs a person's participation in carrying out certain tasks. Occupational therapy is a form of supportive psychotherapy in the form of activities that create independence, creativity and education for the environment and improve the patient's physical and mental health. Occupational therapy focuses on recognizing skills in a person and improving the formation of a person who is independent and does not depend on the help of others.

CONCLUSION

Based on the explanation above, researchers are of the opinion that occupational therapy, planting vegetables or gardening, is a non-pharmacological therapy that is equally effective in reducing the level of depression in mental disorder patients who experience depression because patients with mental disorders need new activities and a fresh atmosphere outside to relieve their boredom. However, researchers believe that it would be better and more effective if this therapy did not use just one vegetable (water spinach) but could use different vegetable plants and planting methods.

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Research Article

The Effect of Qur'anic Healing Therapy on the Level of Hallucinations in Schizophrenia Patients at the Griya Cinta Kasih Foundation in Jombang Regency

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ABSTRACT
Schizophrenia is a complex of various types of mental disorder symptoms which persist for approximately 6 months including hallucinations, delusions, chaotic thought processes, and behavioral chaos called positive symptoms, while negative symptoms appear such as socializing, decreased motivation, and self-care deficits. This study aimed to analyze the effect of Qur'anic Healing therapy on the level of hallucinations in schizophrenia patients at the Griya Cinta Kasih Foundation in Jombang Regency. This study used a pre-experimental design with a one group pretest-posttest design approach. The population in this study were 30 patients, and the sample was obtained by total sampling. This research instrument utilized a RUFA scale observation sheet. Then, the data was analyzed using paired t-test.
This study was conducted for 6 consecutive days delivered for 15 minutes per day. Posttest was conducted after the intervention. The results showed that before being given Qur'anic Healing, the average hallucination score was 11.83, while after being given Qur'anic Healing therapy, the average score was 20.60. After being given the Qur'anic Healing, the patient's hallucination level decreased. Paired t-test results indicated a p value of 0.000 ($p < 0.05$), meaning that there was an effect of Qur'anic Healing therapy on the level of hallucinations in schizophrenia patients. Qur'anic Healing therapy can effectively decrease the level of hallucinations so that it can be applied as a complementary in schizophrenic patients.

Keywords
Qur'anic Healing therapy, Hallucination, Schizophrenia

INTRODUCTION

Schizophrenia is a collection of various types of symptoms of mental disorders that last approximately 6 months, such as hallucinations an delusions, disorganized thought processes and behavioral disorders are called positive symptoms that appear include socializing, decreased motivation and self-care deficits. According to WHO (World Health Organization), in 2020 there were around 397 million people affected by mental disorders or schizophrenia. In the United States, among data I was 3,789 people, 1,249

(33.0%) people experienced hallucinations (Forester et al. 2022). Meanwhile, according to (Ministry of Health, 2021) 135 million people experience hallucinations, it is estimated that 2-3% of the Indonesian population suffers from mental disorders souls, namely around 1 to 1.5 million people experience hallucinations. Nationally, 7% per 1000 people in Indonesia suffer from schizophrenia (Maryati et al. 2022). In East Java schizophrenia with auditory hallucinations is ranked 4th in Indonesia with a percentage of 0.19% or around 75,427 of the population every year (Riskesdas, jatim 2020). Based on the initial survey and the results of interviews with the chairman of the Foundation at Griya Cinta Kasih, Jombang Regency on November 9 2023, it was found that the total number of patients was 197 patients with clinical schizophrenia, including 25 patients with violent behavior, 70 patients with anxiety, and patients with hallucinations. There were 30 patients The causes of hallucinations are several factors, including developmental, sociocultural, chemical factors, psychological factors, the environment and also parenting patterns.

The process of hallucinations is caused by several factors, namely predisposing factors and precipitation factors, predisposing factors, namely factors caused by a person, such as biological, psychological and socio-cultural factors, where these three factors can cause hallucinations, while precipitation factors are trigger factors. The occurrence of hallucinations includes several factors such as biological factors where there is communication disruption, there are stressors such as stress in the environment, a source of coping which influences the individual's response to stressors (Anggarawati et al. 2022).

The impact that can be caused to patients with hallucinations is that they will harm themselves, other people and the environment because they have lost self-control, which in this situation, if patients with hallucinations are not treated immediately, they will be able to injure themselves and even kill themselves or injure other people. others, or joining someone in life who is already dead (Ines, Z, and Juwita 2021).

There are several types of therapeutic management that can be given to hallucinating patients to reduce or reduce the level of hallucinations in schizophrenic patients. These include non-pharmacological therapy, Quranic healing therapy is a therapy that has benefits, one of which is reducing the symptoms of schizophrenia so that positive symptoms are controlled more quickly and can shorten the treatment period. This therapy is given for 15 minutes or even 30 minutes for 10 consecutive days. Listening to the chanting of the holy verses of the Koran can have a positive impact on a person's body by having intention and belief. This therapy will provide a relaxed and calm response to the body. This therapy has become a new alternative as relaxation therapy (Febrita et al. 2021). This study aimed to analyze the effect of Qur'anic Healing therapy on the level of hallucinations in schizophrenia patients at the Griya Cinta Kasih Foundation in Jombang Regency.

METHOD

This study used a pre-experimental design with a one group pretest-posttest design approach. The population in this study were 30 patients, and the sample was obtained by total sampling. This research instrument utilized a RUFA scale observation sheet. Then, the data was analyzed using paired t-test. Paired t-test results indicated a p value of 0.000 ($p < 0.05$), meaning that there was an effect of Qur'anic Healing therapy on the level of

hallucinations in schizophrenia patients. Qur'anic Healing therapy can effectively decrease the level of hallucinations so that it can be applied as a complementary in schizophrenic patients.

RESULTS

Table 1. Patient Characteristics

Characteristics	N	%
Gender		
Male	8	26,7
Female	22	73,3
Total	30	100,0

Age	N	%
<20 Year	1	3,3
20-44 Year	17	56,7
45-54 Year	10	33,3
55-59 Year	2	6,7
Total	30	100,0

Educational Bakcground	N	%
No School	1	3,3
Elementary School	22	26,7
Junior high School	10	33,3
Senior High School	9	30,0
College	2	6,7
Total	30	100,0

Employment History	N	%
Farmer	4	13,3
Civil servants	2	6,7
Housewife/others	13	43,3
Self employed	8	26,7
No working	3	10,
Total	30	100,0

Marital status	N	%
Maried	26	86,7
Divorced	2	6,7
Single	2	6,7
Total	30	100,0

DISCUSSION

It can be seen that the majority of patients who experience hallucinations at the Griya Cinta Kasih Foundation, Jombang Regency, are mostly female, namely 22 (73.3%) patients and almost half are male, 8 (26.7%) patients. Women are more likely to experience hallucinations because women more often face stress and often hide the problems they experience. This can cause someone to withdraw, making them experience hopelessness in their life. Based on table it can be seen that schizophrenia patients with hallucinations at the Griya Cinta Kasih Foundation, Jombang Regency. The majority were aged 20-44 years, namely 17 (56.7%) patients and a small proportion were aged <20 years, only 1

(3.3%) patient. Ages 20-44 years are included in the young adult age category. Young adults are indeed at greater risk and have a higher incidence of mental disorders, especially hallucinations because this phase of life is often faced with various levels of stressors and greater responsibilities because at this age a person will experience greater changes and more mature development both in terms of cognitive, physical, psychosocial and emotional (Mansen et al. 2023).

It can be seen that almost half of the 10 (33.3%) patients who experienced hallucinations at the Griya Cinta Kasih Foundation, Jombang Regency had junior high school education and a small portion who experienced hallucinations were not in school, namely (3.3%) 1 patient.

Education is an ability both inside and outside school that lasts a lifetime. Where the higher a person's education level, the easier it will be for someone to get information, in this case education and knowledge are very closely related (Mubin et al. 2023).

It can be seen from the work history table that almost half worked as housewives/others, 13 (43.3%) patients, and a small portion worked as civil servants, 2 (6.7%) patients.

It is known that almost all of the Schizophrenia patients who experienced hallucinations at the Griya Cinta Kasih Foundation, Jombang Regency were married, as many as 26 (86.7%) patients and a small number were unmarried and divorced, as many as 2 (6.7%) patients.

Based on the explanation above, researchers can conclude that patients who are at risk of experiencing hallucinations are female. As in the table above, the age most susceptible to experiencing hallucinations is 20-44 years old. So the researchers invited patients to carry out Qur'anic Healing therapy by listening to the Al-Qur'an murotal Surah Ar-Rahman at the Griya Cinta Kash Foundation, Jombang Regency.

Table 2. Frequency Distribution of Hallucination Levels Before Giving Qur'anic Healing Therapy to Schizophrenia Patients Experiencing Hallucinations at the Griya Cinta Kasih Foundation, Jombang Regency in March 2024.

Hallucination Levels	N	%
Mild Hallucination	3	10,
Moderate Hallucination	12	40,0
Severe Hallucination	15	50,0
Total	30	100,0

Based on the table above, it can be seen that the level of hallucinations in schizophrenia patients who experience hallucinations at the Griya Cinta Kasih Foundation, Jombang Regency. Before being given Qur'anic Healing therapy, half of 15 (50.0%) patients had severe hallucinations and a small number of patients had mild hallucinations before being given therapy.

Table 3. Frequency Distribution of Hallucination Levels After Giving Qur'anic Healing Therapy to Schizophrenia Patients Experiencing Hallucinations at the Griya Cinta Kasih Foundation, Jombang Regency in March 2024.

Hallucination Levels	N	%
Mild Hallucination	16	53,3
Moderate Hallucination	13	43,3

Severe Hallucination	1	3,3
Total	30	100,0

It is known that the level of hallucinations in schizophrenia patients who experience hallucinations at the Griya Cinta Kasih Foundation, Jombang Regency. Most of the hallucinations were mild after being given Qur'anic Healing therapy as many as 16 (53.3%) patients and a small number of severe hallucinations after being given therapy were 1 (3.3%) patient.

Tabel 4. Frequency Distribution of Pre and Post Data on Hallucination Levels in Schizophrenia Patients at the Griya Cinta Kasih Foundation, Jombang Regency, March 2024.

	N	Mean±SD	Median (Min-Max)	*P Value*
Pretest	30	11.83±4.549	11.00 (4-22)	0,000
Postest	30	20.60±4.484	21.00 (10-30)	

The table above shows that there is a significant influence between the provision of Qur'anic Healing therapy on the level of hallucinations in schizophrenia patients at the Griya Cinta Kasih Foundation, Jombang Regency. This is proven by the average score after being given Qur'anic Healing therapy which has a higher average score than before being given therapy. The average score before being given Qur'anic Healing therapy was 11.83, minimum score 4 and maximum score 22. Meanwhile, after being given Qur'anic Healing therapy, the average score was 20.6, minimum score 10 and maximum score 30.
From the results of the analysis using the Pired T test using the SPSS program 26.0 for windows obtained a significant value (P sign = .000), meaning there is a significant influence, which means (P sign <0.05) H1 is accepted so it can be concluded that there is an average difference between the pretest and posttest scores, which means there is an influence providing Qur'anic Healing therapy to the level of hallucinations in schizophrenia patients at the Griya Cinta Kasih Foundation, Jombang Regency in 2024.

CONCLUSION

1) Most of the levels of hallucinations before Qur'anic Healing therapy at the Griya Cinta Kasih Foundation, Jombang Regency were severe hallucinations.
2) Most of the levels of hallucinations after being given Qu'ranic Healing therapy to schizophrenia patients at the Griya Cinta Kasih Foundation, Jombang Regency were mild hallucinations.
3) There is an influence of Qur'anic Healing therapy on the level of hallucinations in schizophrenia patients at the Griya Cinta Kasih Foundation, Jombang Regency.

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regarding the effect of Qur'anic Healing therapy on the level of hallucinations in schizophrenia patients.

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Research Article

Formulation And Stability Deodorant Roll on Moringa Leaf Extract (*Moringa oleifera* L.)

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ABSTRACT

Background: Deodorant is a topical preparation that can be used to overcome body odor problems. However, the continuous use of deodorant will be bad for the body because it contains synthetic chemicals such as aluminum chloride salts which can increase the risk of breast cancer. In this study, a roll-on deodorant preparation formulation was made with the active ingredient moringa leaf extract as an antibacterial agent so that it can be used to inhibit and kill the growth of bacteria that cause body odor. **Objectives:** Physical quality evaluation was carried out to determine the physical characteristics and physical stability of roll on deodorant preparations with the addition of moringa leaf extract concentrations of 0% (FO), 2% (F1), 4% (F2), and 8% (F3). **Methods:** Physical characteristics and physical stability observed include organoleptics, pH, dispersion and viscosity tests. The results of the organoleptis test were analyzed descriptively, while the results of pH, dispersion and viscosity test data were statistically analyzed using the One Way Anova method and physical stability using the Repeated Measure Anova method. **Results:** The addition of moringa leaf extract concentration affected the results of organoleptics, pH, dispersion and viscosity. The results of the physical stability evaluation showed that the viscosity value decreased in F1 and F2 and the dispersion value increased in F1, but was still within the range of viscosity and dispersion value of the preparation. **Conclusion:** The addition of moringa leaf extract concentration affects the physical characteristics of the preparation and has good stability during storage.

Keywords: Deodorant Roll On, Moringa Leaf Extract, Stability.

INTRODUCTION

Bad body odor is very related to the process of a person's sweat secretion and the presence of microorganism growth factors. Sweating is a natural body reaction to regulate human body temperature, so it is difficult to avoid for some people during

activities (Fitriani, 2020). Bacteria that cause body odor can arise simultaneously with unpleasant odors can be caused by bacterial activity, types of bacteria include *Staphylococcus epidermidis* (Nurhaini et al., 2022). Along with the times, various developments in therapeutic modalities can be used. One of them is the use of topical preparations such as deodorants.

Deodorant is a topical preparation that has the ability to overcome body odor problems by inhibiting the decomposition of sweat mixed with bacteria. Type deodorant form Roll On is still very liked and is the main choice because it is more practical in using it so that it makes the user feel comfortable (Nurhanifah & Sukmawati, 2018). However, the continuous use of deodorant will have bad consequences for the body because deodorant generally contains synthetic chemicals such as aluminum chloride salts which can increase the risk of breast cancer (Fajri et al., 2019). Reviewing the side effects caused by the use of synthetic deodorants, a safer alternative material is needed with the use of natural ingredients as traditional medicines to prevent body odor problems. One of the alternative natural materials that can be used to prevent body odor is the moringa plant (Moringa oleifera L.) (Ajeng et al., 2019).

Utilization of moringa plants (*Moringa oleifera* L.) especially on the leaves can be used as an inhibitor and kill the growth of bacteria *Staphylococcus epidermidis* causes of body odor. According to Mursyid's research *et al*., (2019) Moringa leaf extract has antibacterial activity with an average diameter of 9.3 mm – 14 mm at a concentration of 2 – 8%. The content of compounds such as flavonoids, tannins, and alkaloids in moringa leaves has a role as a compound that can inhibit antibacterial activity (Zahran et al., 2022). Based on the literature studies that have been carried out, researchers want to develop and formulate deodorant preparations Roll On from moringa leaves (*Moringa oleifera* L.).

METHOD

Tool

Plastic bottles containing roll-on balls, digital pH meter (Iutron pH-201), brookfield viscometer (Ametek), Erlenmeyer (Pyrex Iwaki), beaker glass (AGC Iwaki), analytical scale (Durascale), porcelain cup (Pyrex), Beaker glass (Pyrex), Rotary evaporator (RV 10 Digital-V), 366 nm UV lamp (Uvwavetek, China).

Ingredients

Moringa Leaf Extract *(Moringa oleifera L.)*, Carbopol (Brataco®, Indonesia), Triethanolamine (Brataco®, Indonesia), alcohol 96% (JRP, Indonesia), Methylparaben (Brataco®, Indonesia), Prophylparaben (Brataco®, Indonesia), Propylen Glycol (Brataco®, Indonesia), Aquadest (Brataco®, Indonesia), sweet orange peel oil, quercetin (Sigma Aldrich, Amerika), Silica gel GF_{254} (Supelco, Germany), n-butanol (Supelco, Germany), Acetic Acid (Medika Farma, Indonesia), $AlCl_3$ (Sigma Aldrick, Amerika)

Research Sample

The research sample used was moringa leaves (*Moringa oleifera* L.) purchased from PT. Palapa Muda Perkasa taken from Bogor Gardens.

Extraction

The maceration method is used for the extraction process of moringa leaves (*Moringa oleifera* L.), starting with 500 g of moringa leaf powder put into the maceration container, followed by the addition of 1500 mL of 96% ethanol solvent. The solvent is

added little by little until the whole powder is wet. Next, the mixture is left for 3x24 hours, while stirring occasionally and continued with the remaging process 1 time. After the soaking process is complete, the resulting mixture is filtered to obtain the filtrate. The extract obtained is then evaporated using a rotary evaporator so that a concentrated extract is obtained. The next evaporation is carried out using a water bath until a thick extract is obtained.

Thin layer chromatography (TLC) Test

Secondary metabolite identification testing with TLC test was carried out by notifying quercetin and moringa leaf extract on GF gel silica plates254. It is diluted using the motion phase of n-butanol : acetic acid : aquadest (4:1:5). Then stain spots were observed on 366 nm UV light. The TLC plate is then sprayed with reagent $AICI_3$ to see the color change in the resulting spots and re-observe under 366 nm UV light (Pratiwi et al., 2023).

Formula Making

Table 1. The Formulation of Moringa Leaf Extract Deodorant Roll On

Ingredients	Concentration (%)			
	F0	F1	F2	F3
Moringa Leaf Extract	0	2	4	8
Carbopol 940	0,5	0,5	0,5	0,5
Triethanolamine	0,5	0,5	0,5	0,5
Butylated hydroxytoluene (BHT)	0,01	0,01	0,01	0,01
Methylparaben	0,18	0,18	0,18	0,18
Prophylparaben	0,02	0,02	0,02	0,02
Propylen Glycol	15	15	15	15
Sweet Orange Peel Oil	0,5	0,5	0,5	0,5
Aquadest ad	100	100	100	100

Carbopol is dispersed with hot aquadest until it expands. Then a mixture of propylene glycol and aquadest is made to dissolve moringa leaf extract (*Moringa oleifera* L.), butylated hydroxytoluene, Methylparaben, and Prophylparaben until homogeneous. The mixture is put in carbopol 940 which has expanded and stirred until homogeneous. Next, triethanolamine is added to the mixture followed by the addition of orange peel oil and stirred until homogeneous until a gel is formed.

Evaluation of Moringa Oleifera Extract Deodorant Roll On

1. Organoleptic Test

The organoleptic test is carried out visually by observing the texture, color, and aroma of the deodorant roll on (Razak & Ervianingsih, 2019).

2. pH Test

The pH test was carried out using a pH meter by weighing 1 gram of preparation dissolved in 10 ml of aquadest. Next, electrodes are dipped in the preparation solution. The pH of topical preparations is between 4.5-7 which is the same as the normal pH of the skin (Soediono et al., 2019).

3. Spread Power Test

A total of 0.5 grams of preparation is placed on the tester (glass 1). Place glass 2 on top of the preparation and apply a 100-gram load for 1 minute. The requirement for good dispersion is 3-7 cm (Falahi, 2022).

4. Viscosity Test

Viscosity testing is carried out using *viscometer brookfield* A sample of 300 g is placed in a Beaker Glass container and then rotated at a certain speed until the Brookfield viscometer needle shows on a constant scale (Farhamzah & Khofifah, 2023).

5. **Stability Test *(real time)***

The stability test was carried out to determine the stability of the preparation when placed in a room with a temperature of 30±2°C according to the climatic conditions of the storage place. Testing was carried out for 3 months (90 days) with test sampling carried out every day 0, 30, 60, 90. The aspects assessed in the stability test carried out are organoleptis (aroma, color, texture), pH value, dispersion value and viscosity value (Apriana et al., 2017).

6. Data Analysis

The data from TLC and organoleptic testing were analyzed descriptively while the data from the evaluation of the physical characteristics of the preparation (pH, Dispersibility, and Viscosity) were analyzed using the Statistical Program for Social Science (SPSS) using *the* One Way ANOVA method. The stability test results were analyzed using *the* Repeated Anova method to determine the difference in the measurement results that were carried out repeatedly.

RESULTS

Extraction

The viscous extract obtained is then calculated the yield value. Thus, the yield of moringa leaf extract was obtained by 33.50%. The yield value can be said to be good if it is more than 9.2% (Depkes RI, 2017).

Table 2. Results of Moringa Leaf Extract Yield

Simplisia Weight	Extract Weight	Rendement
500.76 grams	167.77 grams	33,30%

Identification Quartzetine Using the TLC Method

The results of the qualitative test were carried out by observing stains from moringa leaf extract and quercetin on the KLT GF254 silica gel plate with the motion phase of n-butanol: acetic acid: aquadest (4: 1: 5) which was observed using 366nm UV light. The results obtained are shown in Figure 1.

Information:
E: Moringa leaf extract sample
K: Comparator of Quercetin

Picture 1. Chromatography Results of Moringa Leaf Extract

Based on the results of the calculation of the Rf value in the moringa leaf extract sample and the quercetin comparator, it is presented in Table 4.1

Table 3. TLC Results of Flavonoid Compounds in Moringa Leaf Extract

Sample	Rf Value	
	Rf	hRf
Comparator of Quercetin	0,91	91
Moringa Leaf Extract	0,94	94

Based on the results obtained in Figure 1 and the Rf and hRf values calculated in Table 3, it can be concluded that moringa leaf extract contains the compound quercetin. If the Rf values of the comparator and the sample are the same or almost the same, it can be shown that the compound has the same characteristics (Sopiah et al., 2019).

Organoleptic Test

Organoleptic test is carried out by observing changes in texture, color, and aroma of roll on deodorant preparations containing variations in the concentration of moringa leaf extract (*Moringa oleifera* L.). Observations are carried out every month for 3 months (90 days) of storage. The results of the organoleptis test can be seen in Table 3.

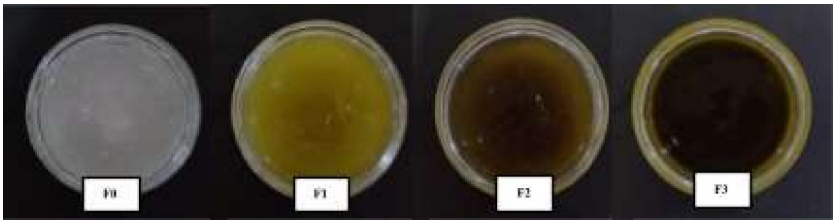

Figure 2. Results of Roll On Deodorant Formulation of Moringa Leaf Extract

Table 3. Results of Organoleptis Stability Evaluation

Formula	Organoleptic	Day			
		0	30	60	90
F0	Color	PK	PK	PK	PK
	Texture	AK	AK	AK	AK
	Aroma	MJ	MJ	MJ	MJ
F1	Color	KK	KK	KK	KK
	Texture	AK	AK	AK	AK
	Aroma	MJ	MJ	MJ	MJ
F2	Color	H	H	H	H
	Texture	A	A	A	A
	Aroma	K	K	K	K
		MJEK	MJEK	MJEK	MJEK
F3	Color	HP	HP	H	HP
	Texture	AK	AK	P	AK
	Aroma	EK	EK	A	EK
				K	
				EK	

Description: F0; Formula for roll-on deodorant preparation without moringa leaf extract F1; Formula for roll-on deodorant preparation of moringa leaf extract concentration 2%, F2; formula for roll on deodorant preparation of moringa leaf extract concentration 4%, F3; The formula for the deodorant preparation rolls on moringa leaf extract with a concentration of 8%. PK; yellowish white, AK; Somewhat thick, MJ; Typical Orange Oil, KK; Greenish Yellow, MJEK; Typical Orange Oil and Moringa Leaf Extract, HP; Pak Teng, EK; Typical Moringa Leaf Extract.

Based on the results of the evaluation of the organoleptis characteristics of the

preparation for 90 days, it was known that F0, F1, F2 and F3 did not change in terms of shape, aroma and color.

pH Test

The pH test is carried out to determine the acidity level of the deodorant Roll On made without causing skin irritation. A good pH range for the skin is 4.5-7 (Soediono et al., 2019). pH test results of deodorant Roll On Moringa leaf extract for 90 days can be seen in Figure 3.

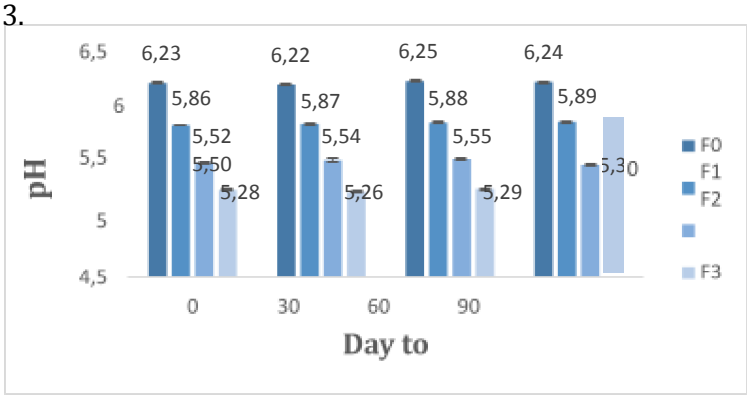

Figure 3. Results of pH Stability Evaluation

Based on the results of the analysis of One Way Anova, it is known that the value of sig. 0.000 (<0.05) means that there is a difference in pH values between different formulas. A follow-up analysis (Post Hoc Tukey) was carried out to find out the differences between formulas. The results of the analysis showed that there was a difference between F0, F1, F2, and F3. The results of the observation of the stability of the pH test for 90 days using the Anova Repeated Measures method showed that the value of sig. >0.05 for each formula, which indicates that there is no significant difference in pH in each formula.

Spread Power Test

The diffusion test was carried out to determine the ability of the speed of spread on the skin. The value of spreading power in easy application is 3-7 cm (Falahi, 2022). Results of the dispersibility test of deodorant Roll On Moringa leaf extract for 90 days can be seen in Figure 4.

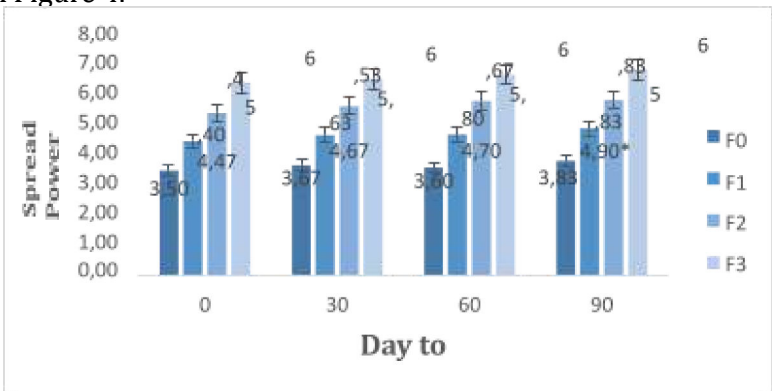

Figure 4. Results of Spread Power Stability Evaluation

Based on the results of the analysis of One Way Anova, it is known that the value of sig. 0.000 (<0.05) means that there is a difference in the value of dispersion between different formulas. A follow-up analysis (Post Hoc Tukey) was carried out to find out the differences between formulas. The results of the analysis showed that there was a difference between F0, F1, F2, and F3. The results of the observation of the stability of

the spread power test for 90 days using the Anova Repeated Measures method showed that the value of sig. <0.05 which indicates that there is a significant difference. Based on the results of statistical analysis, it is known that there is no significant difference between F0, F2, and F3. F1 has a significant difference between day 0 and day 90.

Viscosity Test

Viscosity tests are carried out to determine the viscosity of deodorant Roll On. This test was carried out using spindle no 06 at a speed of 100 rpm. The viscosity value for gel preparations is 500-20,000 cP (Hidayat et al., 2024). Results of viscosity testing of deodorant Roll on Moringa leaf extract for 90 days can be seen in Figure 5.

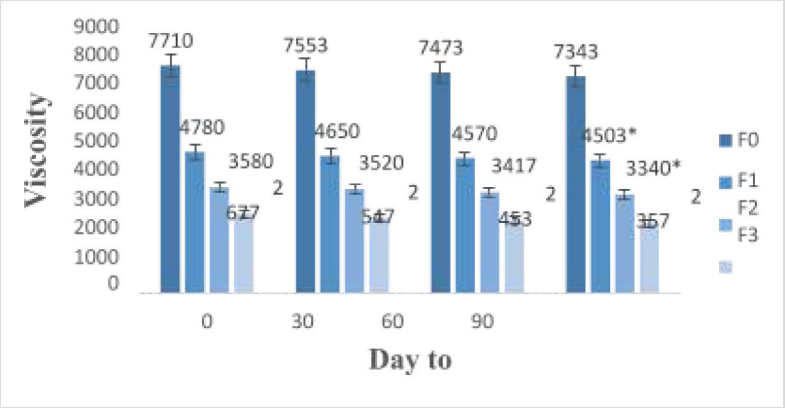

Figure 5. Results of Viscosity Stability Evaluation

Based on the results of the analysis of One Way Anova, it is known that the value of sig. 0.000 (<0.05) means that there is a difference in viscosity values between different formulas. A follow-up analysis (Post Hoc Tukey) was carried out to find out the differences between formulas. The results of the analysis showed that there was a difference between F0, F1, F2, and F3. The results of the observation of the stability of the viscosity test for 90 days using the Repeated Measures Anova method showed that the sig. <0.05 which indicates that there is a significant difference. Based on the results of statistical analysis, it is known that there is no significant difference between F0 and F3. Meanwhile, F1 and F2 have a significant difference on day 0 and day 90.

DISCUSSION

This research was conducted by formulating moringa leaf extract (*Moringa oleifera* lamp) into the deodorant Roll On as active ingredients with varying concentrations, namely F0 (without moringa leaf extract), F1 (containing 2% moringa leaf extract), F2 (containing 4% moringa leaf extract), and F3 (containing 8% moringa leaf extract). In this study, moringa leaf extraction (*Moringa oleifera* Lamk) uses the maceration method with a 96% alcohol solvent. The use of alcohol 96% as a solvent was chosen because of its level of safety and ease when evaporated as well as its ability to dissolve almost any substance and can optimally attract flavonoid compounds (Sulastri & Oktaviani, 2015). The yield value of a sample is useful to find out how much moringa leaf extract yield is obtained during the extraction process (Sobari et al., 2022). The yield value of moringa leaf extract (*Moringa oleifera* Lamk) obtained by 33.50%. The yield value can be said to be good if it is not less than 9.2% (Depkes RI, 2017).

The identification of quercetin compounds in moringa leaf extract (*Moringa oleifera* Lamk) was carried out by thin-layer chromatography (KLT) method which was

examined under 366 nm UV light. The Rf value can be used as evidence in identifying compounds, if the identification of Rf values has the same value, the compound can be said to have the same or similar characteristics. The comparative standard of moringa leaf extract used in this study is quercetin because it belongs to the group of flavonoid compounds that are most commonly found in moringa leaves and have the ability to act as an antibacterial (Kashyap et al., 2022). The results obtained after conducting KLT analysis in this study showed that moringa leaf extract was able to produce yellow fluorescent stains and had an Rf value of 0.94 and an hRf value of 94. Meanwhile, for the standard compound of the comparison of quercetin has an Rf value of 0.91 and an hRf value of 91 with a yellow fluorescence. The difference between the results of the analysis of this study is 0.03, the difference between the Rf value of the sample and the standard Rf value of the comparator can be declared positive if the Rf value ≤ 0.05 (Hanifah et al., 2021).

Evaluation of organoleptic characteristics is carried out to determine the color, aroma, and texture of the preparation that is visually observed. The results of the evaluation of organoleptis characteristics showed that there were differences in color, aroma, and texture aspects due to the difference in the addition of moringa leaf extract given in each formula. F0 has a yellowish-white color with a rather thick texture with the distinctive aroma of sweet orange oil due to the addition of sweet orange oil flavoring to the preparation so that the final result of the roll-on deodorant preparation has a distinctive sweet orange oil aroma. F1 has a slightly thick textured greenish yellow color with a distinctive aroma of orange peel oil, F2 has a textured green color with a mixed aroma of orange peel oil and typical moringa, F3 has a dark green color with a rather thick texture with a distinctive aroma of moringa because moringa leaves contain *The enzyme lipoxidase* which causes an unpleasant smell (Letlora et al., 2020). The results of the 90- day organoleptis stability evaluation showed that the preparation did not experience any changes in color, aroma, and texture. It can be concluded that the difference in the addition of moringa leaf extract concentration has no effect on the stability of the preparation organoleptically.

Evaluation of pH characteristics is carried out to determine the acidity level of the preparation in order to ensure that the preparation does not cause irritation to the skin. The pH results of the four formulas have a final preparation specification of 5.28 – 6.23. The results obtained meet the requirements of the skin pH value, which is 4.5 – 7 (Forestryana et al., 2020). The addition of many extracts to the preparation makes the pH value even lower (Pangestika et al., 2021). Due to the presence of acidic flavonoid compounds in moringa leaf extract, it resulted in a decrease in the pH of the preparation at F1, F2, and F3. The hydroxyl group (-OH) in the phenolic compound owned by the flavonoid will release H+ ions from the hydroxyl group so that the pH of the preparation to which the moringa leaf extract is added will decrease (Rikadyanti *et al*., 2020). As a result of the pH stability evaluation for 90 days, the four formulas have a final pH value specification of 5.26 – 6.25, the range of values has met the skin pH value requirements. It can be concluded that the addition of different concentrations of moringa leaf extract in each formula does not affect the stability of the pH value of the preparation during the storage period.

Evaluation of dispersion characteristics is used to determine the ability of the preparation to spread when applied to the surface of the skin. The results of the

dispersion power of the four formulas showed that the specification value of the final preparation was 3.50 – 6.37, the value of the dispersion power of the preparation in facilitating application was 3-7 cm (Falahi, 2022). The dispersion is related to the viscosity value of the preparation, if the viscosity is low, the dispersion power is greater so that the preparation can easily spread on the surface of the skin (Baskara et al., 2020).

The result of F0 has a higher dispersion value compared to F1, F2, and F3 because the preparation is not added with moringa leaf extract. Based on these results, it shows that the higher the concentration of moringa leaf extract, the higher the dispersion value of the preparation, because the higher the concentration of the extract can change the consistency of the preparation. This is in line with research conducted (Indarto et al., 2022) that an increase in extract concentration results in an increase in dispersion related to the viscosity value of the preparation. The lower the viscosity, the greater the dispersion and the easier it spreads to the skin. The presence of acidic compounds in moringa leaf extract can also increase the dispersion value of the preparation, thereby causing the development of carbopol structure and making the preparation thinner (Noviardi et al., 2018). The results of the evaluation of the stability of the spread power for 90 days of the four formulas have a specification of the final preparation value, which is 3.50 – 6.90 cm, this value has met the requirements for the spread power value. Based on the results of statistical analysis, it is known that there is a significant difference between day 0 and day 90 in F1 which shows that the spread power value has increased during the storage period but is still included in the range of spread power value requirements. This can be due to the increase in dispersion power directly proportional to the viscosity value indicated in each formula (Zam Zam & Musdalifah, 2022).

The evaluation of viscosity characteristics aims to determine the viscosity of a preparation measured using a viscometer. The viscosity test results of the four formulas showed that the specification value of the final preparation was 2677 – 7710 cP. The viscosity value for gel preparations is 500-20,000 cP (Hidayat et al., 2024). Preparations containing higher concentrations of extracts indicate lower viscosity values. The decrease in viscosity value can occur due to the presence of compounds in moringa leaf extract that are acidic so that in this condition the preparation will reduce the ability of carbopol and produce a thinner preparation (Irianto et al., 2020). As a result of the viscosity stability evaluation for 90 days, the four formulas had a final preparation value of 2357–7397 cP. Based on the results of statistical analysis, it is known that there is a difference between day 0 and day 90 for F1 and F2 which shows that the viscosity value has decreased during the storage period, but the viscosity value is still within the range of gel preparation requirements. Factors that may affect the decrease in the viscosity value of a preparation during storage are that the longer the storage period, the longer the formulation is exposed to the environment, such as room temperature during uncontrolled storage. The use of non-airtight packaging can also cause the preparation to absorb water from the outside, increasing the amount of water in the preparation and resulting in a decrease in viscosity value (Ida et al., 2016).

CONCLUSION

Based on the results of the research that has been carried out, it can be concluded that the physical characteristics of roll-on deodorant with an increase in the

concentration of moringa leaf extract (*Moringa oleifera* L.) affect the results of organoleptic tests, pH tests, dispersion tests and viscosity tests. The physical stability of the roll-on deodorant with the addition of moringa leaf extract (*Moringa oleifera* L.) showed good stability in terms of organoleptics, pH, dispersion, and viscosity during a storage period of 90 days.

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Research Article

The Relationship Between Dietary Restrictions and Emergency Hemodialysis in Patients with Chronic Kidney Disease (CKD) in The Hemodialysis Unit of The Lamongan Muhammadiyah Hospital

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ABSTRACT

Background: Dietary restriction is an important way that chronic kidney disease patients can prevent hemodialysis emergencies. This action is taken when the patient experiences an emergency due to azotemia or fluid overload. Objectives: The purpose of the study was to determine the relationship between dietary restrictions and emergency hemodialysis in chronic kidney patients at Muhammadiyah Lamongan Hospital. Method: The research design used a correlation analytic with a cross sectional approach, on 123 respondents who were taken with a purposive sampling technique, and used dietary restriction instruments and medical records. Data were analyzed using the spearman test. Results: The results showed that all emergency hemodialysis patients did not carry out dietary restrictions properly, 78% of regular hemodialysis patients did not restrict diets, and 22% of patients who restricted diets. The results of the analysis showed that there was a relationship (p=0.000) between dietary restriction and emergency hemodialysis with moderate correlation strength (r=0.664). Conclusion: Good dietary restriction can maintain the balance of electrolytes, fluids, and metabolic waste in the body. This condition will maintain the patient's health condition during hemodialysis. Therefore, hemodialysis patients must adhere to the recommended dietary restrictions.

Keywords: diets, emergency hemodialysis, and chronic kidney disease.

INTRODUCTION

Chromic Kidney Failure Disease (CKD) is a problem of decreased kidney function which results in the kidneys being unable to maintain the balance of body metabolism, fluids and electrolytes. This can result in uremia due to the retention of urea and other nitrogenous waste in the blood (Hasanudin. 2022). The accumulation of urea and waste in the blood in CKD patients is very dangerous for the patient's life and CKD patients must be treated immediately by performing hemodialysis or transplantation therapy.

Hemodialysis (HD) functions as a substitute for the kidneys in blood filtration. This condition allows metabolic waste substances in the blood to accumulate.

According to Bello et al (2022), CKD patients on hemodialysis account for 89% of the 4 million people in the world living with Chronic Kidney disease. According to the Indonesian Ranel Registry (2018), the total number of active hemodialysis patients in 2017 was 77,892 patients and increased dramatically in 2018 to 132,142 patients. Then according to data from Basic Health Research (RIKESDA) in 2018, the proportion of the population undergoing hemodialysis is 23.14%. Data from Muhammadiyah Lamongan Hospital in 2022 to 2023 saw an increase in CKD cases from 643 patients to 1654 patients. In addition, regular and emergency HD cases have increased from 2022 to 2023, namely for regular HD in 2022 as many as 11,366 cases increasing to 14,283 visits in 2023. The average number of cases of emergency HD patients each month is 24 cases and increased in 2022 from 222 cases to 258 cases in 2023. It can be concluded that emergency HD patients experienced an increase of 16.21% from 2022-2023.

The increase in CKD cases with HD emergency is influenced by the lack of patient selfrestriction in medication management, emotional management, and especially in dietary restrictions (Hanafi, 2022). Dietary restriction is the regulation of eating and drinking in someone who has a certain disease (Dzamaludin, 2022). Menurut Siregar (2020), tujuan diit pasien PGK yakni untuk mempertahankan status gizi optimal dengan memperhitungkan sisa fungsi ginjal, agar tidak memperberatkan kerja ginjal. Hal ini mecegah dan mengurangi progresivitas gagal ginjal dengan memperlambat turunya laju

filtrasi glomerulus dan mencegah meningkatnya kadar ureum dalam darah. Akibatnya cairan dan elektrolit dalam tubuh seimbang. Patients who lack dietary restrictions will cause a buildup of uremic toxins or waste in the body, disrupting the body's metabolic balance. Some foods that are consumed in limited amounts include foods containing salt, excess fluid, phosphorus and potassium. One of the key treatments to prevent HD emergency is by limiting the diet in CKD patients. Dietary restrictions in CKD patients are by regulating the patient's diet and drinking patterns by avoiding some restricted foods, such as: foods and drinks with high fluids and salt, electrolytes, and protein (Hanafi, 2022). This aims to prevent the kidneys from experiencing more severe damage due to excessive workload. So that patients do not experience metabolic disorders and accumulation of residual substances that require patients to HD emergency (Hasanuddin, 2022). Thus, it is necessary to identify dietary restrictions in CKD patients in order to prevent HD emergency.

Agustin's research (2023) analyzed the correlation between fluid intake and body weight (BW) of CKD patients. Another study conducted by Meliana (2019), also controls the compliance of fluid restriction with the incidence of overload in patients with HD. Then in Alhamad's research (2023), identifying factors of compliance of end-stage hemodialysis patients in undergoing hemodialysis therapy. Another study conducted by Naryati (2021), also identified factors associated with dietary compliance in patients with chronic renal failure with hemodialysis.

These studies only correlate and identify between fluid restriction and patient diet compliance with the incidence of overload in CKD patients with hemodialysis. Research on emergency HD is very limited, while the incidence of emergency HD is increasing every year. Researchers also have not found research on the correlation between dietary restrictions and the incidence of HD emergency in CKD patients. Thus, the researcher is interested in examining "The relationship between dietary restrictions and emergency hemodialysis in chronic kidney disease patients at Muhammadiyah Lamongan Hospital".

METHOD

The research design used a correlation analytic with a cross sectional approach, on 123 respondents who were taken with a purposive sampling technique, and used dietary

restriction instruments and medical records. Data were analyzed using the spearman test. In this study, the population was 180 regular and emergency hemodialysis patients at Muhammadiyah Lamongan Hospital. The sampling technique used Probability sampling with simple random sampling technique. Inclusive criteria are patients diagnosed with CKD with hemodialysis, patients can write and read, patients agree to informed consent.

Patients who perform emergency/non-emergency HD in the HD room and exclusion criteria are patients in unconscious/critical condition and experiencing health decline, patients who perform emergency HD outside the HD room. The independent variable in this study is dietary restriction with the intrepression of restricted and unrestricted results. The dependent variable is emergency HD.

The research instrument is a 20-question questionnaire about the patient's dietary restrictions on fluid, sodium, potassium, phosphorus, and protein. Researchers used the Guttman scale, because it is firm and consistent by giving a firm answer with the answer to the question right and wrong. The assessment is given with a score of 1 for the correct answer and a score of 0 for the wrong answer. After scoring, the question was calculated by means of a percentage (%) of the answer to the question, to determine the knowledge of the respondent using absolute criteria. After obtaining the results by means of calculations as described above, the final value is assumed into the limitation criteria as follows: If the limitation value $\geq$ 75%: good and if the limitation value $\leq$ 74%: less. The researcher obtained a research permit, before starting the research, it was ensured to explain in advance the purpose and objectives of the research to be carried out on the patient, then the researcher began to distribute demographic data sheets, dietary restriction questionnaire sheets. After the data was collected, the researcher processed it to be presented in the research results. For the diet restriction instrument, it was analyzed using the spearmen rho test through computer software with a significance level of 0.05. This research has been carried out ethical permission with number: 067 / EC / KEPK-S1 / 04/2024.

RESULTS

Table 1. General Data of Research Respondents on the Relationship between Diit Restriction and Emergency Hemodialysis in Chronic Kidney Patients in the Hemolysis Unit of Muhammadiyah Lamongan Hospital

Characteristic		Frequency	Percentage
Age	21-25 Years	3	2,40%
	26-45 Years	36	29,30%
	>46	84	68,30%
	Total	123	100,00%
Gender	Woman	59	48%
	Legal Law	64	52%
	Total	123	100.0%
Education	SD	38	30,90%
	SMP	26	21,10%
	SMA	35	28,50%
	PT	24	19,50%
	Total	123	100.0%
Work	TNI/POLRI/PNS/Pensiuna n	23	18,70%
	Wiraswasta	23	18,70%
	Farmers / farmers / breeders	24	19,50%
	Private	8	6,50%
	IRT	31	25,20%
	Other	14	11,40%

	Total	123	100.0%
HD Blade	<1 Year	35	27,20%
	1-5 Years	68	55,00%
	>5 Years	20	17,80%
	Total	123	100.0%
	Rata-Rata	1.88	
Diagnosis	PGK	93	75,60%
	PGK, Overload	18	14,60%
	CKD, Hyperkalemia	4	3,30%
	PGK, ALO	8	6,50%
	Total	123	100.0%

Table 2. Diit Restrictions for Chronic Kidney Patients in the Hemodialysis Unit of Muhammadiyah Lamongan Hospital

Category	**Frequency**	**Percentage**
Limited	72	58,5%
Unrestricted	51	41,5%
Total	123	100,0%

Table 4. Emergency Hemodialysis Patients in the Hemodialysis Unit of Muhammadiyah Lamongan Hospital

Category	**Frequency**	**Percentage**
Emergency	30	24,4%
Non-Emergency	93	75,6%
Total	123	100,0%

Table 5. Restriction Relationship of Emergency Hemodialysis Patients in the Hemodialysis Unit of Muhammadiyah Lamongan Hospital

No	Diit Restrictions	Hemodialysis					
		Emergency		Regular		Total	
		N	%	N	%	N	%
1	Limited	0	0	71	76,3	71	57.7
2	Unrestricted	30	100	22	23,7	52	42.3
	Total	30	100	93	100	123	100
Uji Spearmen's rho test P = 0,000 r = -0,664							

Based on Table. 1, it can be seen that the researcher took a sample of 123 chronic kidney patients (CKD) with hemodialysis at the Hemodialysis Unit of Muhammadiyah Lamongan Hospital. CKD patients with hemodialysis have an age range of more than 46 years as many as 84 (68.3%) people and the average age is 50 years. The most dominant gender is male as many as 64 (52%) people. In this study, many patients who had the last education graduated from elementary school as many as 38 (30.9%) people. Housewives are the most common occupation consisting of 31 (25.2%) people. Hemodialysis patients undergoing HD 1-5 years are 68 (55.3%) people. Then the cause of hemodialysis is mostly due to CKD of 93 people (75.6%) and CKD with overload of 18 patients (14.6%).

Based on the Table. 2 It can be seen that the Diit Restriction of Chronic Kidney Patients (PGK) in the Hemodialysis Unit of Muhammadiyah Lamongan Hospital is limited to 72 (58.5%) people, and there are 51 (41.5%) people who are not restricted.

Based on Table. 3, it can be seen that Emergency Hemodialysis Patients in the Hemodialysis Unit of Muhammadiyah Lamongan Hospital in the Emergency category are 30 (24.4%) people, and Non-Emegency is 93 (75.6%) people.

Based on Table. 4, it can be seen that based on the Sperman's rho test and analyzed using the SPSS 25 program, the value of r= -0.667 and p value=0.000 was obtained, which means that H1 is accepted, so there is a relationship between diit restriction and emergency hemodialysis in chronic kidney patients at the Hemodialysis Unit of Muhammadiyah Lamongan Hospital.

DISCUSSION

Based on the results of data analysis using SPSS 25 with the spearman rho parametric test, it shows that H1 is accepted with a value of r= -0.664 and p value = 0.000 which means that there is a relationship with moderate strength in diit restriction with emergency hemodialysis at the Hemodialysis Unit of Muhammadiyah Lamongan Hospital. This states

that the lower the diit restriction, the higher the occurrence of HD emergency. Based on the explanation above, in accordance with the Karmiyati (2022) pastor, who stated that a person who has undergone hemodialysis therapy and then does not undergo a proper diet program will have nutritional defoisiency, the balance of fluids and electrolytes will be disturbed and there will be an excessive accumulation of metabolic waste products (uremia) so that it will accelerate the therapy schedule and will aggravate the cost of therapy. Because it is very likely that patients who do not limit diit will experience HD emergency.

Then from the questionnaire indicators of fluid, sodium, potassium, phosphorus, and protein. Many patients experience several symptoms such as patients who do not limit fluids and sodium are usually characterized by weight gain which can cause other symptoms such as shortness of breath, and swelling of some parts of the body. Then in patients who do not limit potassium usually experience shortness of breath, especially in potassium contained in coconuts and bananas. In patients who do not limit diets on foods containing phosphorus, patients will usually complain of itching and bumps in the body area, especially in seafood shellfish.

This is similar to several studies, Shibata (2021), which states potassium levels before and after dialysis, acute changes in serum potassium levels during hemodialysis treatment can affect mortality in MHD patients. The arrhythmic risk of an increased serum-to-dialysate potassium gradient has been highlighted by early studies describing the clinical characteristics of patients who experienced cardiac arrest while in dialysis centers. Then in another study Luo, et al (2016), analyzed 55,266 subjects with an estimated glomerular filtration rate (eGFR) <60 ml/min per 1.73 m 2 and found that the adjusted mortality rate ratio in CKD patients with serum potassium levels <3.5 mmol/L and in patients with levels ≥6 mmol/L was more than three times higher than the reference group (4.5-4.9 mmol/L). In this case, the level of potassium levels must be kept in balance so as not to cause other symptoms that can lead to HD emergency or death. According to Montazeri's (2014) research, hemodialysis patients' knowledge scores regarding food sources of phosphorus and potassium were significantly lower than those of other sections. So, according to Abreu's (2023) research, reducing potassium and phosphorus intake is often recommended for adults suffering from chronic kidney disease.

Then in patients who experience excess fluid and sodium in research Herlina (2021), states that excess fluid (overload) can increase morbidity. Pada penelitian Wulan (2018), found that most patients did not do fluid and salt restriction. The low number of respondents who adhered to the indicator of avoiding non-recommended foods compared to setting salt (sodium) intake showed that patients were less willing and had difficulty limiting and avoiding foods high in salt and sodium, especially in flavorings and food preservatives. In addition, excess fluid volume can cause edema around the body. This condition will make

blood pressure increase and make the heart work harder and can also cause shortness of breath in patients. Then in the research of Loutradis (2021), volume overload in hemodialysis (HD) patients is associated with hypertension and cardiac dysfunction and is a major risk factor for all-cause and cardiovascular mortality in the research population. This causes hemodialysis patients to require immediate emergency HD treatment. If emergency HD is not performed, it will cause death to the patient.

In the consumption of phosphorus-containing foods, research by Thiang Hu (2019), stated that the prevalence of pruritus in hemodialysis patients was greater than in peritoneal dialysis patients. A total of 187 patients had xerodermia and 109 patients had pruritus at the same time. With effective and regular dialysis, pruritus was resolved in 40% of patients. The intensity of pruritus in the enrolled patients ranged from mild itching to irritability during the day and night. In addition, pruritus is intermittent or persistent, and/or limited to the generalized. Then according to the National Kidney Faundation (2024), high Phosphorus can also combine with calcium which can cause harmful buildup in the blood vessels, lungs, eyes, and heart. Over time, this can lead to an increased risk of heart attack, stroke, or death. In addition to these harmful effects, high phosphorus levels can directly harm the kidneys and cause loss of kidney function. This loss of function increases the risk of kidney failure and HD emergency. From the descriptions above, there is a strong relationship between dietary restriction and emergency hemodialysis in the Hemodialysis Unit of Muhammadiyah Lamongan Hospital.

CONCLUSION

There is a relationship between dietary restriction and emergency hemodialysis in chronic kidney patients at the Hemodialysis Unit of Lamongan Muhammadiyah Hospital. All emergency hemodialysis respondents in the Hemodialysis Unit of the Muhammadiyah

Lamongan Hospital did not limit their diets. And most of the non-emergency HD patients 78% limit the diet and 22% do not limit the diet. Of the 32 emergency HD patients, 18 regular patients experienced fluid overload so they had to perform hemodialysis before schedule. Then 14 emergency HD patients who were new patients, there were 4 patients who experienced emergency HD caused by CKD with ALO, and 8 emergency HD patients caused by CKD with hyperkalemia.

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Research Article

The Relationship between Parenting and Language Development in Preschool Children Aged 3-6 Years at ABA Payaman Kindergarten

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ABSTRACT

Background: Delays or genetic abnormalities in language development tend to occur in children. **Objectives:** The purpose of this study is to determine the relationship between parental parenting and language development in preschool children aged 3-6 years at ABA Kindergarten, Payaman Village, Solokuro District, Lamongan Regency. **Method:** The research design uses an analytical correlation design with a Cross Sectional approach. The population is 68 parents and children, using the simple Random Sampling technique, as many as 58 parents and children. The data of this study was taken using a closed questionnaire sheet and DDST (Denver Developmetal Screening Test). After tabulation was analyzed using the Spearman test (rho) with a significance level of p=< 0.05. **Results:** The results showed that parents almost entirely implemented democratic parenting (86.2%) and children had almost entirely normal language development (82.8%). Based on the above results, the significant value of p=0.001 and the value of rs=0.410 means that there is a relationship between parenting and language development in preschool-aged children at ABA Payaman Kindergarten. **Conclusion:** Parenting is the right solution in dealing with language development because providing the right and correct parenting style will ensure good survival in the future.

Keywords

Parenting, language development, preschoolers

INTRODUCTION

Speech delay in children at this age can affect language development in children to interact verbally with others, convey their feelings and needs, and be able to understand instructions in the social and educational environment (Fitrihartanto, 2021).

Lack of parental support, a child's language development can suffer greatly due to a lack of interest and support from parents or caregivers. To encourage language development in children, parents must actively respond and participate in conversations. Children may

lose interest in speaking and interacting verbally when they receive a little encouraging speech and interesting interactions. This can hinder the growth of their overall language skills (Putra et al., 2018).

According to the WHO (World Health Organization) in 2019 language development disorders around the world have a fairly high incidence rate, as many as 27.5% or equivalent to three million children experiencing disorders. The incidence of children's language development disorders is increasing in Asia and Africa. The incidence of language development delays in the United States ranges from 12-16%, Thailand 24% and Argentina 22% while in Indonesia it is between 13% and 18%.

Based on data from the Indonesian Ministry of Health in 2020, the number of toddlers in Indonesia was 23,475,758 people, consisting of 11,980,204 male toddlers and 11,495,554 female toddlers. The Ministry of Health of the Republic of Indonesia reported that 0.4 million (16%) children under five in Indonesia experience language development disorders.

Based on data from the North Sumatra Health Profile in 2019, the number of toddlers in North Sumatra is 1,501,845 people, consisting of 765,534 male toddlers and 737,3111 female toddlers, around 5 to 11.5% of toddlers are estimated to experience language development delays.

Based on a preliminary study conducted by preliminary survey researchers obtained at ABA Kindergarten, Payaman Village, Solokuro District, Lamongan Regency on November 11, 2023, by conducting the *Denver II test,* 10 cases of children with language development deficiencies were obtained with a percentage of 6 children (60%) with normal development, and 4 children (40%) with speech delay, indicating that there are still children who are not in accordance with language development.

The factors behind language development in children are based on the results of a study conducted by Suhadi and Istanti 2019 entitled Factors Related to the Rate of Speech and Language Delay in Children among several factors, the strongest gender factor related to children's language delay (Anggreyini & Salmarini, 2023). The long-term impact when children experience language delays is academic achievement, difficulty socializing and passivity (Muslimat et al., 2020).

Parenting is the right solution in dealing with language development because in providing the right and correct parenting will ensure good survival in the future, in parenting the role of parents is very important to supervise so that children can grow and develop properly. Parents are also the first and most frequent people to socialize

with their children before they socialize with other people so that whether they realize it or not, children are actually learning and getting learning from their parents (Rahmawati, 2022). The pattern of parental interaction in the family environment is very influential on their children's perspective, personality, and life in the future, as it is well known that the time spent by children is spent more at home with their family members, when compared to the outside environment (Rahmawati, 2022).

METHOD

This study uses a type of quantitative research and a Cross sectional approach. The design of this research used is an analytical correlation with a Cross sectional approach. Correlational research is a research that aims to determine the existence of a correlative relationship between variables. In this study, the population was 68 respondents, the population exceeded 30, so the researcher used a random sampling technique which amounted to 58 respondents which was taken as a research sample. The time of this study was carried out on May 2, 2024 and the place of this research was carried out at ABA Payaman Kindergarten, Solokuro District, Lamongan Regency.

The population used in this study is some parents and children aged 3-6 years at ABA Payaman Kindergarten. A sample is a portion taken from the entire object studied and is considered representative of the entire population (Notoatmodjo, 2018). The sample used in this study amounted to 58 parents and children aged 3-6 years. The inclusion criteria in this study are parents who are willing to be respondents and children aged 3-6 years. The exclusion criteria in this study are parents and children aged 3-6 years who are not willing to be respondents.

The research instrument for parenting patterns uses a questionnaire with 32 questions with answers of agree, strongly agree and disagree. Determining the validity test if r results > r table 0.361 then the question is declared valid. The r table value can be seen in the distribution of the r table value with a significance level of 0.05 or 5% with a total of 30 respondents, where N-2 = 30 – 2 = 28, namely 0.361. Testing the validity of the research instrument was carried out on the P Total variable. The following are the results of the validity test of the 32 questionnaire items which have been processed by researchers using the SPSS program. In the results of the reliability test, it was carried out by looking at the Cronbach Alpha value which was tested using SPSS. In the results of this reliability test it was found that the result was 0.731 and was called reliable, because a variable if the Cronbach Alpha value was > 0.60 was called reliable. And the language

development research instrument uses the Denver II Sheet.

RESEARCH RESULTS

The results of this study were carried out with the aim of describing the characteristics of each research variable. The results of the parenting research can be described as follows:

Table 1. Distribution of Parental Frequency Based on Gender in ABA Payaman Kindergarten, District Solokuro Lamongan Regency, May 2024

Characteristic	n	(%)
Gender of Parents		
Man	0	0
Woman	58	100

Based on table 1 above, it can be explained that of the 58 parents at ABA Payaman Kindergarten, Solokuro District, Lamongan Regency, a total of 58 parents (100%) who attended were female.

Table 2 Distribution of Parental Frequency Based on Age at ABA Payaman Kindergarten, Solokuro District, Lamongan Regency, May 2024.

Characteristic	n	(%)
Age of Parents		
20-35 Years	45	77,6 %
>35 Years	13	22,4 %

Based on table 2 above, it can be explained that of the 58 parents in ABA Payaman Kindergarten, Solokuro District, Lamongan Regency, almost all 45 parents (77.6%) are aged 20-35 years.

Table 3 Distribution of Parental Frequency Based on Education at ABA Kindergarten, Solokuro District, Lamongan Regency, May 2024.

Characteristic	n	(%)
Parent Education		
No School	0	0
SD	1	1,7
JUNIOR	11	19,0
SMA	33	56,9
College	13	22,4

Based on table 3 above, it can be explained that of the 58 parents in ABA Payaman Kindergarten, Solokuro District, Lamongan Regency, most of the 33 parents (56.9%) who had the last high school education, and none of the 0 parents (0%) did not go to school.

Table 4 Distribution of Parents' Frequency Based on Occupation at ABA Payaman Kindergarten, Solokuro District, Lamongan Regency, May 2024.

Characteristic	n	(%)
Parents' Work	43	74,1
Not Working/IRT		
Self employed	6	10,3
Private	3	5,2
Farmer	6	10,3
Fisherman	0	0

Based on table 4 above, it can be explained that of the 58 parents at ABA Payaman Kindergarten, Solokuro District, Lamongan Regency, most of the 43 parents (74.1%) have jobs as IRTs/do not work, and none of the parents (0%) have jobs as fishermen.

Table 5 Distribution of Children's Frequency Based on Gender in ABA Payaman Kindergarten, Solokuro District, Regency

Characteristic	n	(%)
Gender		
Man	33	56,9
Woman	25	43,1

Based on table 5 above, it can be explained that of the 58 children in ABA Payaman Kindergarten, Solokuro District, Lamongan Regency, most of the 33 children (56.9%) are male. Parents at ABA Payaman Kindergarten, Solokuro District, Lamongan Regency, were mostly 43 parents (74.1%) who had jobs as IRTs/did not work, and none of the parents (0%) had jobs as fishermen.

Table 6 Distribution of Children's Frequency Based on Age in ABA Kindergarten

Characteristic	n	(%)
Age		
3 Years	9	15,5
4 Years	11	19,0
5 Years	19	32,8
6 Years	19	32,8

Based on table 6 above, it can be explained that of the 58 children in ABA Payaman Kindergarten, Solokuro District, Lamongan Regency, almost a small part of 19 (32.8%)

children aged 5 years and 6 years, and almost a small number of 9 (15.5%) children aged 3 years.

Table 7 Distribution of Children's Frequency Based on Order at ABA Payaman Kindergarten, Solokuro District, Lamongan Regency, May 2024

Characteristic	n	(%)
Child Order		
1st	26	44,8
2nd	31	53,4
3rd	0	0
4th	1	1,7

Based on table 7, it can be explained that of the 58 children in ABA Payaman Kindergarten, Solokuro District, Lamongan Regency, most of the 31 children (53.4%) are the 2nd children, and none of the 0 children (0%) are the 3rd children.

1) Parenting Patterns at ABA Payaman Kindergarten, Solokuro District, Lamongan Regency

The frequency distribution based on parental parenting in ABA Payaman Kindergarten, Solokuro District, Lamongan Regency, is presented in the following form:

Table 8 Distribution of Frequency of Parenting in ABA Payaman Kindergarten, District Solokuro Lamongan Regency

Characteristic	n	(%)
Parenting Style		
Democratic Parenting	50	86,2
Authoritarian Parenting	6	10,3
Permissive Parenting	2	3,4

Based on table 8 above, it can be seen that of the 58 parents who were identified as implementing democratic parenting styles, as many as 50 parents (86.2%). While a small part of the implementation of parenting is a small part of permissive parenting with a total of 2 parents (3.4%).

2) Language Deveplomen in Preschool Children at ABA Payaman Kindergarten, Solokuro District, Lamongan Regency

Frequency Distribution based on language development in preschool-age children at ABA

Payaman Kindergarten, Solokuro District, Lamongan Regency.

Table 9 Distribution of Language Development Frequency in Preschool Children at ABA Payaman Kindergarten, Solokuro District Lamongan Regency

Characteristic	n	(%)
Language Development in Out-of-School Children		
Usual	48	82,8
Suspect	10	17,2

Based on table 9 above, it can be seen that almost all 48 children (82.8%) have normal language development skills.

1) The Relationship between Parenting and Language Development in Preschool Children at ABA Payaman Kindergarten, Solokuro District, Lamongan Regency

Table 10 Distribution of Frequency of Parenting Patterns in Relation to Language Development in Preschool Children.

Number	Parenting Style	Language Development of Preschool Children				Total	
		Usual		Suspect			
		N	%	N	%	N	%
1	Democratic	45	77,6%	5	8,6%	50	86,2%
2	Authoritarian	1	1,7%	5	8,6%	6	10,3%
3	Permissive	2	3,4%	0	0,0%	2	3,4%
Total		48	82,8%	10	17,2%	58	100%
Spearman Test Result *rho'* (rs) = 0.410 *p* = 0.001							

Based on table 4.10 above, it can be explained that parents who apply democratic parenting are almost all 50 children (86.2%) out of 58 children, and parents who apply permissive parenting have 2 children who have normal language development, while based on the table above parents who apply authoritarian parenting there are a small number of 6 children (10.3%) identified as suspects.

Based on the results of the calculation using the spearman rho test and analyzed using the SPSS program, it shows a significant level value where p = 0.001 <p = 0.05 then H1 is accepted and the value of rs = 0.410 which means that if the interval of 0.26-0.50 is

included in the level of sufficient relationship with the direction of positive or unidirectional correlation which means that the greater the value of one variable, the greater the value of

Other variables so that it is concluded that there is a relationship between parental parenting and language development of preschool-age children.

DISCUSSION

According to research (Sholiha Alfiatus, 2023), this democratic parenting style suggests that in this parenting style, children grow a sense of responsibility, able to act in accordance with the existing respect. Because parents provide positive encouragement for children so that their independence can be well organized, besides that children will be much more open and honest with what they feel because parents provide a space for discussion by listening to children's complaints. Children can also control their emotions well because parents with democratic parenting will provide stimulus and teachings on how to process emotions appropriately and directed to be able to resolve the conflicts they go through, this will have an impact on the social development of children.

According to research (Suririnah, 2019) Here it can be seen that children are cheerful, easy to get along with their friends and can communicate with others because they are given freedom and a sense of security from their parents, children feel interested in the surrounding environment, children often ask a lot of questions and actively find out so that they can easily adapt to their environment. In good language development, parents play a role in providing stimuli language development at each stage of its age. So that children are active and can communicate well. They actively ask about the events around them, they can also quickly adapt to the people in their environment. Because in the family environment, children are used to expressing their opinions. They are always asked for opinions related to issues that concern them.

Most preschoolers aged 3-6 years have normal language development. There are several children who have experienced suspect development. Preschoolers with normal language development are almost entirely raised by parents with democratic parenting, where There is a balance of thoughts, attitudes and actions between children and parents. Both parents and children have the same opportunity to convey an idea, idea or opinion to reach a decision. With democratic parenting, almost all children's language development is normal. In this case, democratic parenting is influenced by several

factors, one of which is education, and age. The highest percentage of parents' last education is mostly high school, while the highest percentage of parents' age is almost entirely between 20-35 years.

In children who experience suspect development, children find it difficult to interact with their peers, children find it difficult to communicate with their friends because children have difficulty composing words in order to communicate with their friends. They also don't understand what others are saying. This may be due to parenting patterns that tend to make children feel afraid or depressed. So that children tend to be quiet and find it difficult to interact with the surrounding environment.

The results of this study are in line with the research of Chayanti & Zulaikha (2020) showing that the development of school-age children is found mostly in the normal or developmental category according to the child's age. At the age of preschool (3-6 years old), children are generally able to pronounce words in language. This is also supported by the research of Argianti et al., (2019), that most children are 5-6 years old. Where at that age the child can speak clearly. Since newborns, language development has occurred, this ability develops rapidly during preschool age as an aspect of early childhood development. Language development can be an indicator for the development of other children. So, the age of the child can affect language development, because the older the child, the clearer the meaning of the child's speech.

Then a small number of children who experience suspicion are children with an average of less ability to write names and draw people in 4-6 parts and make box drawings, in a small number of children with the description of the child's age line is in the area of 75-90% where 75-90% of children have been able to do language skills in the Denver 2 trial but in this small number of children there are 2 cautions in each child, Where if 2 cautions are then categorized as suspects. At this point, they lack concentration in doing their language skills.

From the above research data, it can be concluded that the relationship between parental parenting and language development in children can be stated that the better the parenting style given, the more appropriate the language development in preschool-age children at ABA Payaman Kindergarten, Solokuro District, Lamongan Regency in 2024. Parents who maintain a level of knowledge and expand their knowledge about how to properly and appropriately care patterns, especially parents, must participate in a lot of counseling on how to stimulate language development, so that

it can be applied in daily life. Parents are the first people as a forum for child educators to create a good generation of children.

CONCLUSION

Most of the parenting styles of parents at ABA Payaman Kindergarten, Solokuro District, Lamongan Regency use a democratic type of parenting. Almost most of the language development of preschool-age children in ABA Payaman Kindergarten, Solokuro District, Lamongan Regency is in accordance with its development. Most of the language development of Preschool Children in ABA Payaman Kindergarten, Solokuro District, Lamongan Regency is in accordance with its development. There is a relationship between parental parenting and language development in preschool-aged children at ABA Payaman Kindergarten, Solokuro District, Lamongan Regency.

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Research Article

The Relationship of Gadget Playing Habits with The Picky Eater Behavior of Preschool Age Children at Th Raudhatul Athfal Sambogunung Village, Gresik Regency

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ABSTRACT

Background: Preschool children are children aged 4-6 years, at this age children's nutritional needs must be considered because they affect growth and development. One of the things that influence a child's growth and development is the eating behavior of children who have the habit of being picky about food (picky eater). **Objectives:** The purpose of this research is to find out the relationship between gadget playing habits with the picky eater behavior of preschool-age children at TK Raudhatul Athfal Sambogunung Village, Dukun District, Gresik Regency. **Method:** This research design uses correlation analysis with a cross-sectional approach, a population of 105 parents was taken using a simple random sampling technique obtained 83 parents. Data collection was done using a checklist sheet on playing gadget behavior and a Child Eating Behaviour Questionnaire (CEBQ) sheet. After tabulating the data was analyzed using Spearman's rho test with a significance level of α = <0,05. **Results:** The result of the research showed that most (53,0%) of children had a habit of playing gadgets>2 hours/day, and most (62,7%) of preschool children are picky eaters. The result of the statistical test obtained a p-value = 0,000 (p < α 0,05) with a correlation coefficient value of 0,407 which means there is a relationship between playing babits with picky eater behavior of preschool-age children at TK Raudhatul Athfal Sambogunung Village, Dukun District, Gresik Regency. **Conclusion:** Parents are expected to limit their children's time playing with gadgets so they can reduce picky eater behavior in preschool children.

Keywords
Gadget, Picky Eater, Preschool Children

INTRODUCTION

Preschoolers are children aged 4-6 years. At this age, nutritional needs that are in line with the development of physical needs must be considered. At preschool age, children tend to look at things from their perspective. They will ignore other people's perspectives. This can be seen from the child's unstable and uncontrolled behavior and often crying until their wishes are fulfilled. The characteristics of children at this age

include those who tend to spend their time playing and ignoring their meal times, so that children's nutritional adequacy cannot be met. This can cause nutritional problems in preschool children. One of the causes of balanced nutrition problems in children is the wrong eating habits (Syahroni et al., 2021).

Nutritional problems in children are caused by low nutrition entering the body which has an impact on their growth. One of the factors that influences stunted growth and development in children is the eating behavior of children who have the habit of being picky about certain types of food and refusing food or what is commonly called picky eaters (Adhani, 2019).

Picky eaters are defined as eating behavior in infants and children in the form of difficulty eating, which is generally in the form of refusing food. The most common forms of picky eaters are eating slowly, refusing certain types of food, especially fruits and vegetables, preferring sweet and fatty foods, not wanting to try new foods, only wanting to try certain types of food, and preferring snacks to main dishes (Angraini et al., 2022).

The prevalence of picky eating according to the World Health Organization (WHO) in 2018, picky eating occurred in 42% of the 15.7 million deaths of children under 60 months of age in all countries, most of which were caused by malnutrition. The prevalence of picky eaters in Indonesia occurs in children around 20%, and of picky eaters, 44.5% experience mild to moderate malnutrition, and 79.2% of the study subjects have experienced picky eating for more than 3 months (Azzahrah et al., 2023). The prevalence trend of nutritional status of toddlers in East Java province is known to be 2.4 million toddlers and 15% of them experience difficulty eating (Anggraini et al., 2021).

Based on the results of an initial survey conducted in December 2023 at Raudhatul Athfal Kindergarten, Sambogunung Village, Dukun District, Gresik Regency, on 10 parents, data was obtained on 6 or 60% of children with picky eater behavior. This shows that there are still many preschool children who experience picky eating.

The incident of picky eating can be caused by several factors such as external factors (parental behavior) including the status of working mothers, parenting patterns, exclusive provision of breast milk (ASI) and complementary foods (MPASI), parental eating habits, parity, and delays in introducing food; internal factors (child behavior) include the habit of playing gadgets ≥2 hours/day and duration of physical activity ≥1 hour/day, child sensory sensitivity, Attention Deficit Hyperactivity Disorder (ADHD) (Astuti et al., 2023).

The impacts that can arise in picky eater children are if the child has a certain type of food, there is a possibility of obesity, because he tends to choose high-fat and non-nutritious foods, has a lower possibility of mental development compared to children who have adequate nutrition, and is likely to experience chronic constipation. Children with picky eaters also have a serious impact on the development and growth of children so that it can cause stunting (short) and wasting (thin) (Idhayanti et al., 2022). Efforts that parents can make to deal with picky eater children are by not being late in giving solid food to children, controlling children's feeding, providing examples to

children in consuming healthy foods, not promising prizes (rewards) in the form of their favorite foods if children show good behavior, not giving certain foods to calm children's emotions, not forcing children to eat, paying special attention to children's food by getting children used to eating on time, serving food in an attractive form so that the child is interested and feels happy when the food given is varied (Fitriana et al., 2020).

METHOD

The research design used in this study is a correlation analytic design with a cross-sectional approach which aims to determine the relationship between gadget playing habits and picky eater behavior of preschool children at Raudhatul Athfal Sambogunung Dukun Gresik Kindergarten. The population in this study amounted to 103 respondents and the sample used was 83 respondents using a simple random sampling technique. The instrument used was a gadget playing habit checklist with 1 question item and a Child Eating Behavior Questionnaire (CEBQ) questionnaire with 35 question items. Data processing and data analysis used SPSS 25 then analyzed using the Spearman Rank test.

RESULTS

Table 1 Frequency Distribution of Characteristics of Age, Education, Parental Occupation, Child's Gender, Child's Age, Child's Order, Number of Siblings at Raudhatul Athfal Sambogunung Kindergarten, Dukun District, Gresik Regency (n=83).

Characteristic	n	%
Parental Age		
20- 35 years	44	53,0
>35 years	39	47,0
Parental Education		
Elementary School	6	7,2
Junior High School/Equivalent	13	15,7
Senior High School/Equivalent	44	53,0
Diploma	5	6,0
Bachelor's Degree	14	16,9
Postgraduate	1	1,2
Parental Occupation		
Not Working/Housewife	67	80,7
Civil Servant	1	1,2
Self-Employed	5	6,0
Swasta	2	2,4
Other	8	9,6
Child's Gender		
Male	39	47,0
Female	44	53,0
Child's Age		
3 years	5	6,0
4 years	25	30,1
5 years	18	21,7
6 years	35	42,2

Child's Care		
1st	30	36,1
2nd	39	47,0
3rd	8	9,6
>3rd	6	7,2
Number of siblings		
0	11	13,3
1	43	51,8
2	29	24,1
3	7	8,4
>3	2	2,4

Based on table 1, it can be seen that most parents are aged 20-35 years, namely 44 people (53.0%), most parents have a high school education, namely 44 people (53.0%), almost all parents work as housewives, namely 67 people (80.7%), most children are female, namely 44 children (53.0%), most children are 6 years old, namely 35 children (42.2%), most of the 2nd child order, namely 39 children (47.0), most of the number of siblings 1, namely 43 children (51.8%).

Table 2 Frequency Distribution of Children's Gadget Playing Habits at Raudhatul Athfal Kindergarten, Sambogunung Village, Dukun District, Gresik Regency (n=83).

Characteristics	n	%
Gadget Playing Habits		
1 Jam/Hari	17	20,5
2 Jam/Hari	22	26,5
>2 Jam/Hari	44	53,0

Based on table 2, it can be explained that of the 83 children, the majority (53.0%) of children have the habit of playing with gadgets >2 hours/day, as many as 44, and a small proportion (20.5%) of children have the habit of playing with gadgets 1 hour/day, as many as 17.

Table 3 Frequency Distribution of Picky Eater Behavior of Children at Raudhatul Athfal Kindergarten, Sambogunung Village, Dukun District, Gresik Regency (n=83).

Characteristics	n	%
Children's Eating Behavior		
Non- Picky Eater	31	37,3
Picky Eater	52	67,2

Based on table 3 above, it can be explained that of the 83 children, the majority (62.7%) of preschool children are picky eaters, as many as 52.

Table 4 Frequency Distribution of the Relationship between Gadget Playing Habits and Picky Eater Behavior of Preschool Children at Raudhatul Athfal Kindergarten, Sambogunung Village, Dukun District, Gresik Regency (n=83).

Gadget Playing Habits	**Children's Eating Behavior**					
	Non-Picky Eater		*Picky Eater*		Results	
	N	*%*	*N*	*%*		
1 Hours/Days	12	70,6	5	29,4	17	100%
2 Hours/Days	10	45,5	12	54,5	22	100%
>2 Hours/Days	9	20,5	35	79,5	44	100%
Total	31	37,3	52	62,7	83	100%
Spearman rho' Test Results (rs) = 0.407 *p* = 0.000						

Based on table 4 above, it can be explained that children who have a habit of playing gadgets >2 hours/day almost all (79.5%) children experience picky eaters, while children who have a habit of playing gadgets 1 hour/day almost all (29.4%) children experience picky eaters. Based on the results of statistical tests using the Spearman rho test, the p-value = 0.000 (p <α 0.05) was obtained, then H1 was accepted, which means that there is a relationship between the habit of playing gadgets and the picky eater behavior of preschool children at Raudhatul Athfal Sambogunung Kindergarten, Dukun District, Gresik Regency and the rs value = 0.407 where if the interval is 0.26 - 0.50 then there is a sufficient relationship with a positive or unidirectional correlation direction.

DISCUSSION

The results of this study indicate that there is a significant relationship between gadget playing habits and picky eater behavior in preschool children at Raudhatul Athfal Sambogunung Kindergarten, Dukun District, Gresik Regency. This indicates that the longer the time spent playing gadgets, the higher the risk of children experiencing picky eating.

Nowadays, gadgets are very popular among children because of the many entertainment features in them. However, continuous use of gadgets can have a negative impact on children. According to the American and Canadian pediatrician associations, children from newborns to 2 years old should not be introduced to gadgets, children aged 3-5 years are limited to 1 hour/day, and those over 6 years old are limited to 2 hours/day (Nuraini & Wardhani, 2023). According to Syarifah et al., (2017), several impacts that can occur if children have a habit of playing gadgets with high intensity are 1) children ignore their basic needs such as delaying meals or not eating at all, 2) withdrawing from socializing, 3) always talking about gadgets and being restless when they can't play gadgets, 4) forgetting to do schoolwork repeatedly.

The results of the study in table 1 show that most parents are aged 20-35 years. At that age, they are included in the early adulthood category. The age of parents is an indicator of a person's maturity, the older they are, the more mature their mindset in educating children will be (Riyadi & Sundari, 2020). However, in today's era, many parents have

introduced gadgets to children at preschool age for several reasons, such as calming children when they are fussy, making it easier for children to sleep or eat, as a learning medium, communication tool, play tool, diverting children's attention when they cry, and providing free time for parents to do housework or relax. In terms of education, it can be seen that most parents are at the high school level. Education level affects the mindset to receive new information and to learn things that can increase knowledge. The higher the education of parents, the more knowledge. Lack of knowledge can affect the mindset in raising children, and is also closely related to low education (Idhayanti et al., 2022).

Development and growth are closely related to children's eating behavior. If a child has a picky eater behavior, it is undeniable that the child can experience growth and development problems. Picky eater itself is defined as a problem that refers to the behavior of a child who does not want to eat or refuses to eat, only wants to consume certain types of food and does not want to try new foods. According to Fitriana et al., (2020), eating problems in children are different from eating problems in adults. Eating behavior problems that arise can vary from choosing certain foods, limiting the amount of food intake, overeating, to eating disorders that have an impact on growth and development disorders. Eating disorders if not addressed immediately will develop into eating difficulties later on.

The results of the study stated that almost all respondents had the habit of playing gadgets >2 hours/day and experienced picky eating, with the results of the p-value = 0.000 (π <α 0.05) and rs value = 0.407 so that there is a relationship between the habit of playing gadgets and picky eating behavior in preschool children at Raudhatul Athfal Sambogunung Kindergarten, Dukun District, Gresik Regency. The habit of playing gadgets affects changes in children's eating patterns such as the occurrence of picky eating behavior. This is in accordance with research conducted by Yohana & Mulyono (2021), which shows that there is a significant relationship between the intensity of gadget use and the behavior of difficulty eating in children.

The use of gadgets with excessive intensity every day can be a risk factor for the occurrence of difficult eating behavior in children as an impact of the current digital era. According to the Canadian Paediatric Society (2017), staring at gadget screens with excessive intensity can increase the risk of children becoming obese because it encourages children to consume or snack on unhealthy foods, children also move less when staring at gadget screens so that the risk of weight gain is greater. According to Yalcin et al. (2022), children who have the habit of using gadgets excessively also cause them to have unhealthy eating habits such as skipping breakfast because they are too focused and engrossed in gadgets, often consuming fast food, and also often eating sweets.

Excessive use of gadgets will make children tend to be more engrossed in using gadgets and if they are addicted, it will make it difficult for children's brains to develop because they are used to play gadgets every day. Parents should pay attention to how much time is allowed for preschool children to play gadgets, because the total duration of gadget use can affect children's development. Efforts that parents can make so that children do not

have the habit of playing gadgets excessively which can cause children to become picky eaters are by paying more attention and calculating children's gadget playing time, starting to limit children's time to play gadgets by diverting them to other activities, and always trying to teach healthy eating behavior such as modifying variations in children's food menus to increase children's appetite so that children do not become picky eaters.

CONCLUSION

From the results of the study, it can be concluded that most children in Raudhatul Athfal Sambogunung Kindergarten, Dukun District, Gresik Regency have the habit of playing gadgets >2 hours/day and experience picky eating. There is a relationship between the habit of playing gadgets and picky eating behavior of preschool children in Raudhatul Athfal Sambogunung Kindergarten, Dukun District, Gresik Regency with a sufficient level of correlation.

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Research Article

Analysis of Complaint Handling at Muhammadiyah Babat General Hospital

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ABSTRACT

Background: Patient complaints are a crucial phenomenon that hospitals must address as it directly impacts patients and influences the hospital's reputation. In response to this concern, hospitals should establish a dedicated complaint management unit, structured as an input, process, and output system. **Objectives:** This study aims to assess the management of patient complaints at Muhammadiyah Babat General Hospital. **Method:** This study used a qualitative approach with a descriptive methodology. Purposive sampling was employed to select key informants, including the head of the complaint management team, department heads, and team members involved in complaint handling. Data collection methods comprised interviews, observations, and document reviews. Analysis involved data reduction, display, and drawing conclusions. **Results:** The findings revealed deficiencies in the input system, where staff lacked specific training for enhancing their complaint handling competencies. Infrastructure included a suggestion box and designated room, while the Standard Operating Procedure (SOP) for complaint handling was under revision without an allocated budget for the complaint team. Regarding the process system, complaint handling at Muhammadiyah Babat General Hospital involved stages such as listening, understanding, clarification, aligning perceptions, providing explanations and apologies, proposing solutions, and ensuring follow-up. In terms of output, resolved complaints lacked formal documentation or archive as proof of resolution. **Conclusion:** Future recommendations include providing specialized training to enhance staff competence in complaint resolution and ensuring regular monitoring and evaluation by the complaint team to adjust and improve SOP implementation systematically.
Keywords: Complaint Management, Complaint Handling, Hospital

INTRODUCTION

Patient complaints constitute a significant phenomenon that hospitals must acknowledge due to their direct impact on patients and consequent influence on the hospital's reputation (Musu, 2020). According to Nangi (2020), patient complaints should not always be viewed negatively; rather, they reflect patients' concerns regarding hospital quality.

To address this issue, hospitals should establish a complaint management unit, which would greatly assist patients in channeling their grievances into constructive outcomes, thereby preventing damage to the hospital's reputation. The term "management," derived from the English word "manage," encompasses meanings such as to administer, oversee, control, strive, and lead (Marliana, 2017). In contrast, "complaint," according to Taliupan (2022), refers to the expression of dissatisfaction, discomfort, annoyance, and anger regarding services or products. Consequently, Meliala (2023) asserts that complaint management is a strategy employed by organizations to handle consumer grievances. Complaint management also represents the hospital's approach to collecting, responding to, resolving, and improving services, as well as preventing further complaints about service-related issues.

Complaints from patients or their families may be related to the untimeliness of medical services, a common issue with doctors at the hospital (Ariadi, 2019). According to Fuada (2022), service complaints can be classified into specific types, such as dissatisfaction with facilities or services, service failures in meeting customer expectations, and unfriendliness of service providers, among others. To restore trust, hospitals can implement the following strategy: Identify the core issue, assess the patient's problem and envision solutions, negotiate to reach a win-win solution, and take action (Makhlufah, 2023).

Complaint management can be viewed as a system comprising input, process, and output, where customer complaints serve as the input, handling processes are the process, and responses to customers are the output. According to Novitasari (2018), inputs in complaint management include the 4Ms: man, material, money, and method. The process of handling a complaint is generally divided into five stages according to Kaihatu (2015) as cited in Setyowati (2021): listening and understanding, clarification and aligning perceptions, explanation and apology, solution handling, and follow-up. The output, as described by Rachmi (2020), consists of the results or solutions that are promptly addressed during the complaint handling process, documented in the complaint book, and assigned a status of "closed".

Muhammadiyah Babat General Hospital, established in 2020 in the Babat District, has been progressively improving its service quality annually. The hospital facilitates direct and indirect channels for patients or their families to submit input or complaints. Direct complaints typically occur during operational hours and are directed to relevant unit officers, while indirect complaints can be submitted through online platforms such as Google Business for Muhammadiyah Babat General Hospital.

From January to December 2023, the hospital received a total of 28 cases through its criticism and suggestion box, comprising 22 criticisms, four suggestions, and two comments. Similarly, from January to May 2023 alone, there were 35 cases received, consisting of 22 criticisms, 11 suggestions, and two comments. The predominant customer complaints relate to outpatient waiting times, delays in pharmacy services, staff attitudes, facility adequacy, social media information updates, and response times of hospital staff, findings which align with Waine's research (2020). Based on the problems described above, the researchers are interested in researching “Analysis of Complaint Handling at the Muhammadiyah Babat General Hospital”.

METHOD

This research used qualitative research with a descriptive approach because this research was limited to efforts to reveal a situation (event) as it was or only disclosed facts. The research was conducted at the Muhammadiyah Babat General Hospital from January to May 2024. The informants in this study were the head of the complaint

management team, the head of medical services & support, and members of the complaint management team. The variable of this research was complaint handling. The data were collected using interviews, observation and document review. The analysis started with reducing data, displaying data, and conclusion/verification. The data validity test uses Abdussamad's theory (2021), which includes credibility, transferability, dependability, and confirmability.

RESULTS

1. Input

The elements that influenced the input variables in this study consisted of Man/Human Resources (HR), Material (tools & materials), and Money (Funds). Based on the results of in-depth interviews with informants, man/human resources element stated that the work experience of the complaint team of the Muhammadiyah Babat General Hospital was different. Two informants had a length of service of 4 years, and two informants had a length of service of 2 years since the existence of Director Decree No.812/KEP.DIR/IV.6.AU/A/2022 concerning the establishment of the Muhammadiyah Babat General Hospital complaints team. In addition, the educational background of the complaint team also varied, and the complaint management team had never attended special training to increase competence related to handling complaints:

"Never. If there is a plan, yes, but because there are not many trainings, we rarely meet training related to complaints. If there are many, maybe we will participate" (Informant B).

"We have never had formal training, yes, most of the time we participate in Zoominar related to handling complaints, but that's really rare." (Informant C)

Based on the results of the study, the Muhammadiyah Babat General Hospital provided a means to channel patient complaints. A suggestion box equipped with stationery strategically located on each floor. Complaints could be submitted through the Hospital's Google Business, Email, Social media (Instagram), and barcode. Another supporting infrastructure was a special room provided for officers to handle patient complaints to make it more effective and comfortable. The complaint team also stated that in carrying out its duties, the hospital has a Standard Operating Procedure (SOP) for handling complaints but was currently still in the revision stage by adjusting the existing conditions in the hospital. There was also a complaint handling flow in the form of a chart that shows the complaint handling process when the complaint could be resolved or unresolved.

In addition to the elements described above, the element that affected the input variable was money (Fund). It was known that the Muhammadiyah Babat General Hospital did not have a special budget for the implementation of complaint handling because the fulfillment of needs had been budgeted in the annual budget for the procurement of hospital goods.

"*For now, there is no planned fund, but when there is a complaint that will require costs, it will be issued by the hospital. So, for a special budget, we don't have one."* (Informant C).

2.Process

According to Kaihatu (2015) in (Setyowati, 2021), the process of handling a complaint can be broadly divided into five stages, namely listening and

understanding, clarification and equalization of perceptions, explanation and apology, handling solutions, and follow-up:

1) Listening and understanding

The results of the study stated that the way the officer listens to complaints depends on the input. If the complaint was received directly, then the officer invites the patient to sit quietly and convey the complaints he wants to convey or the problems experienced. There was no time limit for officers in listening to patient complaints.

"Sometimes it is situational if the complaint team is usually in the morning following working hours. Even if there are complaints in the units, we usually accommodate them first. The point is that there is no set time. We are flexible" (Informant A).
"If it is flexible according to the complaint case, there is no specific time to be completed within that time. As soon as possible, as long as there is an incoming complaint" (Informant D).

2) Clarification and Equalization of Perceptions

Based on interviews with officers, the clarification stage was always carried out by officers but depends on certain problems or cases. Meanwhile, perception equalization was carried out by asking again and ensuring what actually happened to be discussed or discussed in a meeting.

"Yes, we adjust to what the problem is, we ask again, and then we have a meeting; if it is a problem, we will go to the management, then the management will also discuss what the problem is, and then we will clarify and find a solution" (Informant A).

"Yes, we ask again and make sure. So, for example, this gentleman is disappointed in section A, expecting what we ask the complainant" (Informant C).

3) Explanation and Apology

At the explanation and apology stage, the results showed that in receiving complaints, the officer apologized for the inconvenience experienced by the patient because the officer was a representation of the hospital, and that was the key to the patient feeling appreciated.

"Actually, the mistake anywhere is definitely the one who apologizes here first, whether it is the patient's fault because of miscommunication or what the officer conveyed, it means that the officer is not good at conveying. So wherever the mistake is, it is still here first who apologizes. Because that is the key to patients feeling valued, yes" (Informant D).

4) Handling Solution

Based on the research results, the Informant said that providing solutions depends on the case or complaint. The officer asked the patient what solution he really wants. However, the hospital did not necessarily give what the patient wants because the team also looks at the conditions and capabilities

of the hospital.

"If that is true, we will definitely ask. Apart from apologizing, we also ask what you want, that will also be our input. Nevertheless, if what you want is unreasonable, we definitely do not use it; maybe it is just our view; the term is just enough to know that the community wants it like this" (Informant B).

5) Follow up

The results of in-depth interviews that have been conducted, it was known that the officer records the complainant's number and follow-up was carried out if the case was considered serious and requires follow-up.

"Yes, if we meet the person directly, we will definitely record their identity so that we know the origin of the patient" (Informant B).
"Yes, it depends on the complaint too. So, if the case is severe, we need to follow up. As long as we know the patient's identity" (Informant C).

3.Output

The output in this study was reviewed from the results of the handling process and the signature of complaint resolution. The results of the interview stated that the complaints submitted were resolved properly and immediately.

"In my opinion, some of the complaints have been handled, so the complaints are quite unraveled; for example, the congestion at the drug depot when the patient wants to go home, so it is delayed for a long time because the medicine is held there so it is faster." (Informant D)

Even so, there were still some unresolved complaints received on Google reviews because complainants were not cooperative in submitting details of their complaints in the email provided and some complaints in the suggestion box. After all, the recording was done once a month and complainants rarely put their identity on the complaint paper. In accordance with the following interview:

“What is clear is that we want all complaints to be resolved, but we also see the urgency of each complaint, if the complaint is submitted directly, we can trace and ask the patient directly as detailed as he wants. So, for complaints that are directly submitted, the hospital tries to resolve them immediately. However, suppose the complaint is submitted through the suggestion criticism box or Google review when the person is cooperative. In that case, they want to convey the details via email, so we will also convey the results of the follow-up like this, ma'am” (Informant C).

Based on research, the Muhammadiyah Babat General Hospital did not yet have a complaint resolution sheet, which was used as evidence or documentation that the complaint had been resolved.

“If that does not exist yet, as far as I know, maybe if it is needed, God willing, in the future it will also need to be like that so there is black on white, so to speak” (Informant B)

DISCUSSION

1. Input

The elements that influence the input variables in this study consisted of Man/Human Resources (HR), Material (infrastructure & SOPs), and Money (Funds). In the man element which was reviewed from work experience, education, and training, the results show that the complaint team had different work experience and education. According to Simatupang (2019), work experience is the skills, abilities, and knowledge that a person has gained from work or activities that he has done for a certain amount of time.

Related to the education process, Basyit (2020) argues that learning outcomes are the final results or accumulation of a person's scientific, expertise, and skills improvement process obtained through formal, informal, or non-formal education. Saidah (2016) states that officers who work in hospital management units, such as complaint management, must have a background in hospital management science. Different educational backgrounds make the competencies possessed by officers also different, so there are differences in officer skills in handling customer complaints. Moreover, the complaint team of the Muhammadiyah Babat General Hospital had never attended special training to increase competence related to complaint handling. Special training related to complaint handling is important. Because, complaint handling is a requirement of the minimum service standards provided in achieving good service quality. In practice in the field, the complaint handling team must be prepared with all forms of patient complaints and various patient conditions in submitting their complaints. Various conditions in the field make officers need more ability and skills in handling complaints. This is in line with Musu (2020), which states that training is one of the strategies used to develop existing human resources.

Muhammadiyah Babat General Hospital had provided a means of channeling complaints, namely a suggestion box strategically located on each floor, hospital Google business, email, social media (Instagram) and through barcodes. Other supporting infrastructure facilities were special rooms provided for officers to handle patient complaints. Infrastructure facilities were quite necessary for managing the handling of patient complaints. Therefore, hospitals need to provide adequate facilities that can support these activities so that complaints can be channeled properly. In line with research by Musu (2020), it is suggested that access is relatively easy and inexpensive, where patients can easily submit complaints and get attention from the hospital if there are adequate facilities.

In carrying out its main duties and functions, the hospital has guidelines or references in the form of Standard Operating Procedures (SOP). However, it is currently still in the revision stage by adjusting the existing conditions in the hospital. According to Nabilla (2022), Standard Operating Procedures (SOP) is a reference for employees that contains standard procedures used to ensure that activities carried out within the company run in accordance with company goals and can minimize errors. SOP (Standard Operating Procedure) consists of SOP for handling complaints directly to the relevant unit, SOP for handling complaints directly by telephone, and SOP for handling complaints indirectly (SMS/WA, letters, suggestion boxes, mass media). There is also a complaint handling flow in the form of a chart that shows the complaint handling process when the complaint can be resolved or unresolved.

The complaint team of the Muhammadiyah Babat General Hospital did not have a special budget because the fulfilment of its needs has been budgeted in the

annual budget for the procurement of hospital goods. In line with Yonasari's research (2018), it is suggested that to meet the needs, the source of funds used comes from the hospital's macro funding sources, namely the APBD and BLUD.

The researchers considered that the absence of a special budget for the complaint team did not make an obstacle or obstacle in the implementation of complaint management activities because the needs related to handling patient complaints were included in the hospital procurement budget. The existence of annual procurement funds was sufficient to meet the needs of handling complaints at the Muhammadiyah Babat General Hospital.

2. Process

The complaint handling process, according to Kaihatu (2015) and (Setyowati, 2021), can be divided into five stages, namely:

a. Listening and Understanding

Listening is the key to capturing what the customer needs, adjusted to the media where the complaint is submitted. (Setyowati, 2021). The main focus of the listening process is to explore the source of the problem complained about until, finally, there is a proper understanding of the complaint.

The team or officer who receives the complaint is expected not to interrupt when the complaint is submitted but may ask questions at the right time and in accordance with existing SOPs (for example: when did it happen, what caused it, how did it happen). In accordance with the complaint handling guidelines of the General Hospital of Muhammadiyah Babat, when getting a complaint, it was forbidden to use emotions, calm down anger first, and use logic. Did not just listen with one ear. As a response, the officer listened to the customer's complaint, repeated the customer's complaint and recorded it. That way, the customer would feel appreciated.

If the complaint was submitted on Google Business or a suggestion box, then the complaint team must understand the root of the problem through writing. The process of listening and understanding creates good communication between officers and complaining patients; from the patient's point of view, they feel valued and patients feel satisfied, in line with Kirana's research (2022), which suggests that at this stage of listening and understanding, customer service accommodates all types of complaints submitted and tries to understand the intent of the complaints submitted by customers.

b. Clarification and Equalization of Perceptions

According to Kaihatu (2015) in Setyowati (2021), the perceptions that have been obtained must be clarified to patients who file complaints to prevent errors in handling complaints.

The clarification stage of the complaint management team of the Muhammadiyah Babat General Hospital was carried out after the patient submitted his complaint and the officer understood the problem. The officer asked again about the actual problem. In accordance with the complaint handling guidelines, the questions asked focus on the core problems that cause customers to complain so that there was no miscommunication between patients and complaint management officers can view the complaint problem with one common perception. With this clarification process, the information

captured by the officer was in accordance with what the patient has experienced so that it would reduce customer disappointment with the services provided.

c. Explanation and Apology

In this explanation process, the company hope that it can create positive word of mouth for consumers. The explanation given should be delivered diplomatically and followed by an apology for the situation that occurred (Kirana, 2022).

In this study, it was known that in the implementation of complaint handling at the General Hospital of Muhammadiyah Babat, officers always explained the problems that occurred and which may be due to miscommunication. In addition, officers also did not forget to apologize for the situation and inconvenience experienced even though the fault was not from the hospital because the attitude of the officer was a representation of the hospital. According to existing guidelines, saying sorry did not mean admitting guilt but apologizing for customer inconvenience. Then, provide empathy, if possible, in the form of sharing feelings and experiences. In this explanation process, the complaint management officer should first seek information by coordinating with the unit related to the complaint problem submitted.

d. Handling Solution

When a complaint is submitted, understood, and clarified with the customer concerned, the complaint will be categorized and a handling solution provided depending on the type of complaint received, including mild, moderate, or severe. According to the complaint handling guidelines at the Muhammadiyah Babat General Hospital, the handling solution was carried out by providing a proposed solution and asking for customer support, which means that the customer had accepted the proposal submitted. The results of the study stated that the complaints team always asked what the patient wants. However, the hospital did not necessarily give what was desired, but also looks at the conditions and capabilities of the hospital. In line with the theory of Kaihatu (2015) in Saidah (2016), it is known that solutions are offered to customers in order to negotiate and find a middle ground so that the solution provided can be in accordance with the wishes of the customer and accordance with the applicable SOP.

e. Follow Up

After successfully responding to complaints submitted by patients, the next step, namely follow-up, is carried out as a benchmark regarding the success in handling customer complaints. The follow-up stage is a stage that is often forgotten or deliberately forgotten. However, this stage is very important because it includes building a good relationship with customers who have complained. Kaihatu (2015) in Setyowati (2021)

Based on the results of interviews with complaint management officers, it was known that the follow-up stage was not carried out in all cases or problems submitted. This stage was only carried out by officers in cases that are considered severe and require follow-up. According to existing guidelines, follow-up was carried out by calling or visiting the customer in the unit he got service and making sure the customer is satisfied.

3. Output

The output in this study was reviewed from the results of the handling process and the signature of the complaint resolution. The results showed that the complaints received had been resolved properly because, basically, the hospital wanted all complaints to be immediately resolved in order to maintain the quality of service and the image of the hospital. According to Yonasari (2021), the indicator of a complaint being handled is when the complaining customer receives an answer from the officer and is willing to sign a complaint resolution form. Based on the research results, the Muhammadiyah Babat General Hospital did not yet have a complaint resolution sheet, which was used as evidence or archive that the complaint had been resolved. This was because the implementation of complaint handling had not been orderly, and the settlement of complaints was only carried out by agreement between the two parties, which was done verbally without a settlement sheet as evidence.

CONCLUSION

The input of handling complaints at Muhammadiyah Babat General Hospital was characterized by differences in work experience and education owned by officers, the absence of special training related to handling complaints, the infrastructure owned was a suggestion box, a special room for handling complaints, and SOPs. Moreover, there was no special budget for handling complaints. The process of handling complaints begins with listening and understanding, clarification and equalization of perceptions, explanation and apology, handling solutions, and follow-up. The output of handling complaints could be resolved properly. However, in its implementation, the hospital did not yet have a signature on the complaint resolution sheet as proof that the complaint had been resolved. Complaints were completed only verbally between the two parties so that there were no documents or archives of complaint resolution.

It is hoped that the hospital will hold special training to increase competence related to handling complaints, and the complaint team will conduct monitoring and evaluation related to SOP adjustments so that implementation runs well and orderly.

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Research Article

Nursing Care for Stroke Patients with Impaired Physical Mobility Using Rubber Ball Therapy in Musdalifah, Aisyiyah Hospital, Bojonegoro

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ABSTRACT

Background: Cerebrovascular Accident (CVA) or stroke, results in the loss of brain function due to the interruption of blood supply, either due to blockage (ischemic stroke) or bleeding (hemorrhagic stroke). This impacts social, economic, and health aspects, with the global incidence reaching 101,474,558 cases in 2022. In Indonesia, the incidence of stroke is increasing, especially in East Java, due to risk factors such as hypertension, diabetes, and unhealthy lifestyles. Interventions such as rubber ball hand grip therapy become important to improve the physical mobility of patients after a stroke. **Objective:** to explore nursing issues in clients with stroke. **Method:** This study used a Case Report research design. The research variable was CVA patients with nursing issues related to physical mobility impairment who received rubber ball hand grip therapy. The population in this study consisted of 6 CVA patients treated in the Musdalifah room. Samples were selected using the convenience sampling technique, resulting in 2 patients. Data collection used the medical-surgical nursing assessment format from Universitas Muhammadiyah Lamongan. **Results:** The study results showed that patient 1 complained of a significant increase in right limb weakness with a GCS of 4 5 6, and patient 2 complained of an increase in left limb weakness with a GCS of 4 5 6. **Conclusion:** The study results showed that the intervention of rubber ball hand grip therapy for CVA patients with nursing issues related to physical mobility impairment was very effective, as within 3 days after receiving the rubber ball hand grip therapy, the patients' physical mobility improved according to the existing outcome criteria.

Keywords: CVA, Rubber Ball Grip, Impaired Physical Mobility

INTRODUCTION

CVA, or cerebrovascular accident, is the loss of brain function caused by the cessation of blood supply to a part of the brain. CVA includes two types: brain disease caused by a blockage that stops blood supply to the brain (ischemic stroke) or bleeding (hemorrhagic stroke) (Rizki, Santosa, Nur, & Trisnain, 2019). Non-hemorrhagic stroke is a disease that begins with a series of changes in the affected brain, which, if not treated promptly, results in the death of that part of the brain. CVA infarction has a socio-economic impact due to the high cost of medical care and treatment. Additionally, many post-CVA infarction patients cannot return to their previous condition due to impaired physical mobility in part or all of their body.

According to the World Stroke Organization (WHO, 2022), the global incidence of stroke in 2022 was 101,474,558 cases, with 12.2 million new stroke cases each year. Ischemic stroke accounted for 77,192,498 cases. In Indonesia, the incidence of stroke in 2023, according to the results of a basic health survey, shows a tendency for an increase in stroke cases, with a total of 1.7 million cases (Beyer et al., 2023), of which 471,480 cases were in East Java.

According to Setiawan (2020), several factors can cause CVA, including hypertension, diabetes mellitus (DM), hypercholesterolemia, smoking, alcohol consumption, obesity, lack of physical activity, illegal drug use, and oral contraceptive use. The psychological impact on stroke patients includes feelings of depression due to physical changes that make them feel isolated from others. Physical changes in stroke patients affect their ability to perform daily activities such as eating, dressing, personal hygiene, and toileting. The lack of these abilities affects the psychological condition of stroke patients (Hutagalung, 2021).

Physical mobility impairment is a limitation in the physical movement of one or more extremities independently (SDKI, 2017). The issue of physical mobility impairment requires proper management to prevent the patient's condition from worsening, one of which is by providing rubber ball grip therapy intervention.

The intervention for CVA patients involves performing range-of-motion (ROM) exercises using a rubber ball. These joint movement exercises allow for muscle contraction and movement, where the patient moves their joints according to normal movements, either actively or passively. Recovery of upper extremity function is slower compared to lower extremities. The ball used is made of rubber, round, spiky, elastic, and can be squeezed with minimal force (Magiyati, 2022).

Based on research conducted by Retno (2018), rubber ball grip exercises stimulate increased neuromuscular and muscular chemical activity. This increases the stimulation of muscle nerve fibers, especially the parasympathetic nerves, to produce acetylcholine, resulting in contraction. Gripping or clenching the hand moves the muscles, helping to restore brain control over these muscles.

METHOD

This study used a research design that is experimental case study. The study was conducted in November 2023 at Aisyiyah Hospital Bojonegoro. The dependent variable in this study is impaired physical mobility, and the independent variable is rubber ball

therapy. The population in this study consisted of patients treated in the Musdalifah ward with CVA. The sample in this study included 6 clients. The sampling technique used in this study was convenience sampling. The instrument used in the research was the medical-surgical nursing assessment form from Muhammadiyah University of Lamongan.

RESULT

Table 1. Nursing Assessment for CVA Patients in Musdzalifah Ward, RS Aisyiyah Bojonegoro

Identity	Case 1	Case 2
Name	Mr. A	Mr. F
Age	56	64
Gender	Male	Male
Ethnicity	Javanese	Javanese
Religion	Islam	Islam
Marital Status	Married	Married
Education	Elementary School	Elementary School
Occupation	Farmer	Farmer
Adress	Bojonegoro	Tuban
Medical Dx	CVA	CVA
Medical Record No.	xx.xx.xx	xx.xx.xx
History Of Present Illness	Weakness in the right limb	Weakness on the left side of the body
Past Medical History	Hypertension	Hypertension
Family History Of Disease	None	None
Medication History	None	None
Allergy History	None	None
Surgery History	None	None
General Condition	Weak	Weak

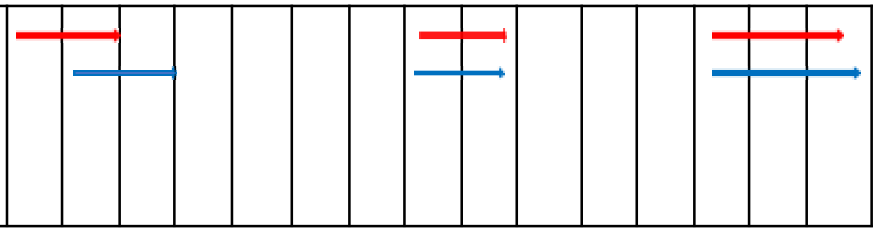
Table 1 shows that there are two male individuals (2 people, 100%). All respondents are aged between 56 and 64 years, are Muslim, married, and have an elementary school education. The intervention involving rubber ball grip therapy was conducted for 3 consecutive days at Aisyiyah Hospital Bojonegoro. Outcome criteria and evaluation are referenced in Table 2.

Nursing Diagnosis	Goal & Outcome Criteria	Interventions

<table>
<tr>
<td>Physical Mobility Impairment</td>
<td colspan="6">Physical Mobility (L.05042)</td>
<td rowspan="3">Mobilization Support
Observation:
- Identify the presence of pain or other physical complaints
- Identify physical tolerance for movement
- Monitor heart rate and blood pressure before mobilization
- Monitor general condition during mobilization
Therapeutic:
- Facilitate mobilization activities with assistive devices
- Facilitate movement as needed
- Involve family to help the patient increase movement untuk membantu pasien dalam meningkatkan p pergerakan
-
Edukasi :
- Jelaskan tujuan dan prosedur mobilisasi
- Anjurkan melakukan mobilisasi dini
- Ajarkan mobilisasi sederhana yang harus dilakukan</td>
</tr>
<tr>
<td>D.0054</td>
<td colspan="6">After 3 x 8-hour nursing interventions, physical mobility is expected to improve.</td>
</tr>
<tr>
<td rowspan="15">Definition:
Limitation in physical movement of one or more extremities independently</td>
<td colspan="6">Outcome Criteria:</td>
</tr>
<tr>
<td></td><td>Decreased</td><td>Fair</td><td>Moderate</td><td>Fairly Increased</td><td>Increased t</td>
</tr>
<tr>
<td>1</td><td colspan="5">Movement of extremities</td>
</tr>
<tr>
<td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td>
</tr>
<tr>
<td>2</td><td colspan="5">Muscle strength</td>
</tr>
<tr>
<td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td>
</tr>
<tr>
<td>3</td><td colspan="5">Pain</td>
</tr>
<tr>
<td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td>
</tr>
<tr>
<td>4</td><td colspan="5">Joint stiffness</td>
</tr>
<tr>
<td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td>
</tr>
<tr>
<td>5</td><td colspan="5">Limited movement</td>
</tr>
<tr>
<td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td>
</tr>
<tr>
<td>6</td><td colspan="5">Physical weakness</td>
</tr>
<tr>
<td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td>
</tr>
</table>

Table 3. Development Notes on Physical Mobility Levels for 2 Managed Patients

No	Indicator	Client Development														
		Hari ke-1					**Hari ke-2**					**Hari ke-3**				
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
1	Extremity Movement (increasing)															
2	Kekuatan Otot (meningkat)															
3	Pain (decreasing)															
4	Joint Stiffness (decreasing)															
5	Limited Movement (decreasing)															

6	Physical Weakness (decreasing)	

Description: Client 1 : Klien 2 :

RESULT

The results of the assessment obtained through observation and interviews reveal issues reported by both clients diagnosed with CVA. This is based on subjective and objective data; client 1 reports weakness in the right limb, and GCS.

3 5

3 | 5

This is consistent with Hutagalung's (2021) research, which shows that physical changes in stroke patients impact their ability to perform daily activities such as eating, dressing, personal hygiene, and toileting.

Patients with ischemic CVA exhibit many clinical manifestations, including decreased consciousness, weakness in the limbs, communication disorders, muscle mass reduction, physical disability or paralysis, muscle atrophy, contractures, and pressure sores. Psychologically, stroke patients may experience feelings of depression due to physical changes, leading them to feel alienated from others and their surroundings. They may believe they are no longer useful because their lives heavily depend on others (Putri, 2021).

Nursing Diagnosis

Based on the results obtained, it is explained that from the total respondents of CVA patients in the Musdzalifah ward of RS Aisyiyah Bojonegoro, both have the same nursing problem, which is physical mobility impairment due to decreased muscle strength, as evidenced by complaints of difficulty moving extremities and reduced muscle strength.

This aligns with the research by Charismah & Putri (2021), which identifies nursing problems that may arise in non-hemorrhagic stroke patients, including decreased intracranial adaptive capacity, physical mobility impairment, verbal communication disorders, risk of aspiration, risk of skin/tissue integrity issues, swallowing difficulties, nutritional deficits, and self-care deficits. Among these issues, the two main problems are decreased intracranial adaptive capacity and physical mobility impairment.

Nursing Interventions

The interventions provided for both patients 1 and 2 are mobilization support. The action plans given to both patients are identical, involving the same intervention: mobilization support as outlined in the Indonesian Nursing Intervention Standards (SIKI) guide, with the addition of a non-pharmacological therapy in the form of rubber ball grip therapy. This aligns with Ricko Armando's (2020) research on a similar intervention but with a different study subject, which focused on the effect of rubber ball grip therapy on muscle strength improvement in post-CVA infarct patients in the working area of Puskesmas Cukir, Diwek District, Jombang Regency. The study found a significant effect of the rubber ball grip therapy, with a p-value of 0.000.

One therapy that can be used for CVA patients is Range of Motion (ROM) exercises using a rubber ball. This joint movement exercise allows for muscle contraction and movement, where the client moves their joints through normal ranges, either actively or passively. Given that recovery of upper extremity function is slower compared to lower extremities, the ball used is made of rubber, is round, serrated, elastic, and can be squeezed with minimal force (Magiyati, 2022).

Nursing Implementation

Patients 1 and 2 received the same nursing implementation: mobilization support combined with rubber ball grip therapy. The implementation was carried out for 3 days, 3 times a day (each shift), with a duration of 10-15 minutes. This research is also supported by Rita Setiyasih's (2020) study on the effect of rubber ball exercises on muscle strength in stroke patients in the Asoka Ward of RSUD dr. Haryoto Lumajang. Her research showed a difference in muscle strength before and after rubber ball exercises, with a p-value of 0.001. Performing rubber ball grip exercises for 10-15 minutes, 3 times a day for 5-7 consecutive days can stimulate and enhance nerve and muscle activity in the extremities. Therefore, consistent and procedural rubber ball grip therapy will improve muscle strength.

Rubber ball grip exercises can stimulate increased neuromuscular and muscular chemical activity, thus enhancing nerve fiber stimulation, especially the parasympathetic nerves, to produce acetylcholine. This results in muscle contractions, as gripping or clenching the hand moves the muscles and helps to activate the brain's control over those muscles (Retno, 2018).

Based on the above explanation, the researcher believes that mobilization support combined with rubber ball grip therapy, conducted for 3 days, 3 times a day (each shift) for 10-15 minutes, is effective in improving muscle strength and enhancing the overall condition of the patients.

CONCLUSION

The results of the study on the application of rubber ball grip therapy for CVA infarct clients with physical mobility impairment show that the therapy is very effective. Within 3 days of receiving rubber ball grip therapy, patients' physical mobility improved according to the specified outcome criteria. This is evidenced by increased extremity

movement, improved muscle strength, decreased pain, reduced joint stiffness, decreased limited movement, and reduced physical weakness.

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Research Article

The Effect of *Brisk Walking* and Dhikr on Blood Glucose Levels in Diabetes Mellitus Patients in Sawahan Village, Rengel District

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ABSTRACT

Background: Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia, caused by abnormalities in insulin secretion, insulin action, or both. This disease is characterized by high levels of sugar in the blood. **Objectives:** The study was to determine the effect of *brisk walking* and dhikr in reducing blood glucose levels in patients with diabetes mellitus in Sawahan Village, Rengel District, Tuban Regency. **Method:** This research was used *Pre Experimental One-group pre-post test design*. The population was 54 people, using the *Cluster Sampling* technique obtained 50 people. For this research data, each respondent will be studied by *door to door* and previously the researcher submits an *informed consent* sheet *to* become a respondent. After tabulated using the *Wilcoxon Sign Rank Test*. **Results:** The study before intervention all patients had high blood glucose levels >200 mg/dl (100%). After intervention, most of them experienced a decrease in blood glucose levels (54%). The results of the *Wilcoxon Sign Rank Test test* obtained a significance value of p sign = 0.000 (<0.05) and a value of Z = -6.154. **Conclusion:** There is an effect of *brisk walking* and dhikr on reducing blood glucose levels in patients with diabetes mellitus in Sawahan Village, Rengel District, Tuban Regency. One alternative that can be used to control blood glucose levels is *brisk walking* and dhikr.

Keywords
Blood Glucose Levels*, Brisk Walking*, Dhikr.

INTRODUCTION

Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia caused by abnormalities in insulin secretion, insulin action, or both. This disease is characterized by high blood sugar levels called hyperglycemia and metabolic disorders of carbohydrates, fats, and proteins (Sari & Purnama, 2019). A person is said to have diabetes mellitus if they have a fasting blood sugar level > 126 mg/dL, a blood sugar

level 2 hours after the oral glucose tolerance test (TTGO) > 200 mg/dL and a current sugar level > 200 mg/dL (American Diabetes Association, 2015).

The International Diabetes Federation (IDF) organization predicts that at least 463 million people aged 20-79 years in the world will have diabetes in 2019, which equates to a prevalence rate of 9.34% of the entire population of the same age. According to gender, IDF predicts the prevalence of diabetes in 2019 to be 9.4% in women and 9.65% in men. The prevalence of diabetes is predicted to grow as the population ages to 19.94% or 111.2 million people aged 65-79 years. The number is expected to increase to 578 million by 2030 and 700 million by 2045 (IDF, 2019). The Southeast Asian region where Indonesia is located is ranked 3rd with a prevalence of 11.34%. IDF (*International Diabetes Federation*) projects the number of people with diabetes in the population aged 20-79 years in several countries in the world and has identified 10 countries with the highest number of sufferers. Indonesia ranks 7th among the 10 countries with the highest number of sufferers, which is 10.7 million. Indonesia is the only Southeast Asian country on the list (Indonesian Ministry of Health, 2022).

The results of the Riskesdas carried out in 2019, East Java province is in the top 10 with the highest prevalence of diabetics in Indonesia and ranks 9th with a prevalence of 6.8% and experienced the highest number of increases in 2019, namely 841.97 sufferers (Aulia Andrifahmi et al., 2023). In Tuban Regency, diabetes mellitus cases in 2021 reached 1,892 cases, while the results of data from the Rengel puskesmas working area show that Sawahan Village ranks 2nd in 2023 with 54 people with diabetes mellitus. Based on the results of the initial survey on January 17, 2024, data obtained from the Sawahan Village elderly posyandu, there were 38 patients suffering from diabetes mellitus, the average blood glucose level was 115.45 mg/dL, the maximum blood glucose level was 498 mg/dL, and the minimum was 83 mg/dL.

In patients with diabetes mellitus occurs due to a family history of diabetes mellitus, an unhealthy lifestyle such as a lack of awareness about the importance of physical activity in patients with diabetes mellitus in Sawahan Village is a contributing factor to increasing blood glucose levels in patients with diabetes mellitus, smoking and excessive nutritional intake and obesity. There are several dangers that threaten people with diabetes mellitus if the disease is not handled properly including diabetic coma, coronary heart disease and stroke which can threaten the patient's life, blindness due to retinopathy, diabetic neuropathy can cause acute kidney failure. Meanwhile, diabetic neuropathy can cause wounds to the feet of people with diabetes mellitus (Hasani et al., 2021).

Diabetes mellitus if uncontrolled can cause acute and chronic complications (Rahaman et al., 2017). Diabetes Mellitus disease management includes *pharmacological* and *non- pharmacological* therapies. *Pharmacological* therapy is a therapy that uses drugs while *non-pharmacology* without the use of drugs (American Diabetes Association, 2018). Diabetes mellitus management has 5 main pillars, namely education, food planning, physical exercise, *hypoglycemic* drugs and blood sugar checks. The first step in diabetes management is *non-pharmacological management in the* form of education, food planning and physical exercise (Sudoyo et al, 2016).

Unbalanced physical exercise is one of the factors in the onset of diabetes mellitus (Kasmad et al., 2022; Lumb, 2014). *Brisk walking* or brisk walking in patients with diabetes mellitus is one of the easy treatments because it can be done anywhere,

especially around the house (Ana and Anita, 2017). *Brisk Walking* in people with Diabetes Mellitus has an important role in regulating blood glucose levels. The main problem in Diabetes Mellitus is the lack of response to insulin (insulin resistance) so that glucose cannot enter the cell. Membrane permeability to glucose increases when the muscle is in contact because muscle contraction has insulin-like properties. Physical activity in the form of *brisk walking is* useful as a blood glucose controller, helps improve blood circulation in the legs, where this leg exercise can be useful for improving blood circulation (Azizil Fikri, 2018).

Patients with diabetes mellitus can receive additional therapies in addition to other physical exercise therapies. One such complementary alternative therapy is mind-body therapy, which aims to calm patients and improve their thinking ability (Priya & Kalra, 2018). Dhikr therapy can have a calming and relaxing impact on the soul, which can activate the HPA Axis and reduce cortisol production, thereby reducing blood sugar levels (Amir et al., 2018).

Based on the background above, the authors are interested in conducting research on "The Effect of *Brisk Walking* and Dhikr on Changes in Blood Sugar Levels in Patients with Diabetes Mellitus in Sawahan Village".

METHOD

The design that will be used in this research is *Pre-Experimental One-group pre-post test design*. The population was 54 people, using the *Cluster Sampling* technique obtained 50 people. For this research data, each respondent will be studied by *door to door* and previously the researcher submits an *informed consent* sheet *to* become a respondent. This research has been carried out an ethical feasibility test with letter number No.236/EC/KEPK-S1/07/2024. After that, it was tabulated using the *Wilcoxon Sign Rank Test*.

RESULTS

Table 1. Frequency Distribution Based on Classification of Blood Glucose Levels Before Being Given *Brisk Walking* and Dhikr to Reduce Blood Glucose Levels in Patients with Diabetes Mellitus in Sawahan Village, Rengel District, Tuban Regency.

No.	Classification of Blood Glucose Levels	Mean	Frequency (%)	Min-Max	Percentage
1	High Blood Sugar Level >200 mg/dl	272.90	201-441	50	100
		Total	50		100

Table 1 shows that all 50 respondents (100%) have high blood glucose levels (>200mg/dl).

Table 2. Frequency Distribution Based on Classification of Blood Glucose Levels after *Brisk Walking* and Dhikr on the Decrease in Blood Glucose Levels in Patients with Diabetes Mellitus in Sawahan Village, Rengel District, Tuban Regency.

No.	Classification of Blood Glucose Levels	Frequency	Percentage (%)
1	Normal Blood Sugar Level 90-199 mg/dl	27	54
2	High Blood Sugar Level >200 mg/dl	23	46
	Total	50	100

Table 2 shows that on average most of the 27 respondents (54%) had normal blood glucose levels of 90-199 mg/dl and almost half of the 23 respondents (46%) had high blood glucose levels >200.

Table 3. The effect of *brisk walking* and dhikr on reducing blood glucose levels *Pre Test* and *Post Test of* Diabetes Mellitus Patients in Sawahan Village, Rengel District, Tuban Regency.

Decreased Blood Glucose Levels	N	Mean ± SD	Min-Max	P	Z
Pre Data	50	272.90 ± 57.563	201-441	0,000	-
Post Data	50	210.70 ± 53.730	121-364		6.154[b]

Based on table 3 above, it shows that before being given *brisk walking* and dhikr, the *mean is* 272.90 with a *minimum* value of 201 and a *maximum of* 441. After being given *brisk walking* and dhikr, the *mean is* 210 with a *minimum* value of 121 and a *maximum of* 364. The *mean* difference between the *pre-test and post-test* difference is 62.2. The *positive ranks* value is greater (.00) than the *negative ranks* value (25.50).

The results of this study based on the *Kolmogorov-Smirnov* data distribution test showed a *significance* value of *p value* = 0.000 (<0.05) which means that the data distribution is not normal, then the *Wilcoxon signed rank* test statistical test was carried out which showed the Z count value = -6.154 and the *significance* value of p value = 0.000 (p <0.05), therefore H1 is accepted. This shows that there is an effect of *brisk walking* and dhikr on reducing blood glucose levels in patients with diabetes mellitus in Sawahan Village, Rengel District, Tuban Regency, May 2024.

DISCUSSION

Blood Glucose Levels in Patients with Diabetes Mellitus Before Being Given *Brisk Walking* and Dhikr in Sawahan Village, Rengel District, Tuban Regency.

Table 2 shows that from the data of 50 patients with diabetes mellitus before being given *brisk walking* and dhikr, it is known that most of the blood glucose levels are high >200 mg/dl (100%).

Patients with type 2 diabetes mellitus have a normal amount of insulin but the

number of insulin receptors found on the cell surface is less so that the sugar that enters the cell is small and the sugar in the blood increases. Sugar levels in diabetics are influenced by dietary factors, physical activity, drug use, and stress (Soegondo, 2015).
A person is said to have diabetes mellitus if the blood sugar level is above 200 mg/dL. Respondents in this study are people who have been diagnosed with diabetes mellitus so that they have previously experienced an increase in blood sugar levels above the value of 200 mg/dL, but when they are diagnosed, they will definitely get therapy in the form of drugs to lower blood sugar levels so that at the time of the study, not all respondents have blood sugar levels above 200 mg/dL so that respondents can be found with moderate blood sugar levels (90-199 mg/dL).

The majority of people with diabetes mellitus before being given *brisk walking* and dhikr had diabetes mellitus. This is related to the average age of respondents who are mostly 46-55 years old (46%), who have high blood glucose levels (>200 mg/dl).
The risk of developing sugar intolerance increases with age. Age >45 years should be checked for Diabetes Mellitus. Diabetes often appears after a person enters a vulnerable age, especially after the age of 45 in those who are overweight, so that their body is no longer sensitive to insulin. The existing theory says that a person ≥45 years old has an increased risk of developing Diabetes Mellitus and sugar intolerance caused by degenerative factors, namely the decline in body function, especially the ability of β cells to produce insulin (Betteng et al., 2014).

The high sugar levels of respondents are due to the fact that with increasing age, there will be a decrease in body functions including the function of the hormone insulin in controlling blood sugar levels, so that the respondents' sugar levels are still quite high, while in respondents whose age is easier, their blood sugar levels tend to be lower than those who are older. Diabetes Mellitus is more experienced by female respondents, namely 33 patients (66%) and it is known that almost all respondents work as self-employed, namely 23 patients (46%).

Lack of physical activity can also cause an increase in blood sugar levels. Physical activity is a movement produced by skeletal muscle contractions that requires energy that exceeds energy expenditure during rest (Soegondo, 2015). Respondents who do not work have less physical activity so that they have blood sugar levels that tend to be high compared to respondents who work because more activities are carried out by respondents who work so that more calories are burned and their blood sugar levels are lower where most are moderate (90-199 mg/dL) while those who do not work tend to be high (≥ 200 mg/dL).

Education is important for diabetes mellitus patients because one of the pillars of diabetes mellitus management is health education. Education for diabetes patients is education and training on knowledge and skills aimed at supporting behavior change to improve the patient's understanding of their disease, which is needed to achieve optimal health. Adjustment of the psychological state for a better quality of life. Education is an integral part of diabetes nursing care (Smeltzer & Bare, 2017).

Basic education makes respondents less aware of the importance of doing *brisk walking* and dhikr to control sugar levels. After explaining to the respondents about how to control blood glucose levels to prevent Diabetes Mellitus, recommending respondents to do *brisk walking* and dhikr in the hope that respondents experience changes. And respondents understand and want to do it so that blood glucose levels decrease.

The Effect of *Brisk walking* and Dhikr on Reducing Blood Glucose Levels in

Patients with Diabetes Mellitus in Sawahan Village, Rengel District, Tuban Regency

Based on the results of the above study, it shows that there are changes before and after being given *brisk walking and* dhikr to reduce blood glucose levels *pre test* and *post test*. In the *pre test as* many as 50 patients (100%) high blood glucose levels > 200 mg/dl and in the *post test* as many as 27 patients (54%) normal glucose levels 90-199 mg/dl. The results of this study were reinforced by SPSS for windows using the *Kolmogorov-Smirnov* data distribution test which showed a *significance* value of *p value* = 0.000 (<0.05), therefore the data distribution was not normal, reinforced by the *Wilcoxon signed rank test* and calculated with the SPSS 22 application.0 obtained *significance p value* = 0.000 with an error rate of p = <0.05, which means that H1 is accepted, Hl is accepted, meaning that there is an effect of *brisk walking* and dhikr on reducing blood glucose levels in patients with diabetes mellitus in Sawahan Village, Rengel District, Tuban Regency. Based on research that has been conducted for 1 time a day in the morning with a duration of 20 minutes and carried out one week 3 times in a row, the results of the study show a decrease in blood glucose levels, namely almost all respondents experienced a decrease in blood glucose levels.

In this study, the intervention provided was to provide *brisk walking*, in line with the results of research from (Ana and Anita, 2017) and dhikir, this is in line with research conducted (Jannah & Pohan, 2022), which shows the effect of *brisk walking* and dhikir on reducing blood glucose levels in patients with diabetes mellitus.

Brisk walking and dhikr can increase insulin binding to receptors on muscle cell membranes. Where insulin is actually a modulator of blood sugar level transportation during exercise and exercise that magnifies its effect. It is when there is a change in insulin and glucogan concentration that prevents a decrease in blood sugar levels during exercise, initially by stimulating *hepatic glycogenolysis* and then by increasing *hepatic gluconeogenesis*. There are several factors involved in the mechanism of absorption of blood sugar levels increased during and after exercise so as to increase the rate of blood flow to the muscles, namely exercise, changes in energy status of the muscles and increased insulin binding and cellular signaling mechanisms that also play a role in stimulating blood sugar transporters (Hasanuddin et al., 2017).

This is in accordance with the results of the study which showed that most respondents experienced a decrease in blood sugar levels after doing *brisk walking* and dhikr in 3 consecutive days in 1 week because in addition to doing *brisk walking* and dhikr, researchers also provided education to respondents to limit foods with a high glycemic index such as fried foods, foods made from flour, white rice, because the results of checking blood sugar levels on the first day showed that all respondents had high glucose levels> 200 mg/dL, this made researchers feel the need to provide education after doing *brisk walking* and dhikr. The decrease in blood sugar levels is different for each individual due to differences in age, causing differences in body function in secreting insulin and undergoing insulin function.

There are 23 respondents who remain in the same category of blood sugar levels, this does not mean that *brisk walking* and dhikr do not have an effect on diabetes mellitus patients, but the decrease experienced is not too much so that they are still in the same category, namely high (>200 mg/dL). The decrease is not too much due to differences in respondents in doing *brisk walking* and dhikr, respondents who cannot follow the rules of brisk walking cannot produce optimal blood loss, it can be caused by old age or also because they are not used to exercise so it is difficult to follow the *brisk walking* movement.

From the explanation above, the provision of *brisk walking* and dhikr is very

effective in reducing blood glucose levels in patients with diabetes mellitus, this is because *brisk walking and* dhikr can improve blood circulation and insulin. Therefore, it is hoped that people with diabetes mellitus will be able to do *brisk walking* and dhikr regularly, in order to lower blood sugar. In addition, people with diabetes mellitus must also pay attention to diet, lifestyle, exercise, and reduce fast food and excessive sugar so that blood sugar can be controlled.

CONCLUSION

The study concluded that brisk walking and dzikir can significantly lower blood glucose levels in patients with diabetes mellitus in the village of Sawahan, Rengel subdistrict, Tuban district. With an average difference pre-test and post-test is 62.2. Then it is recommended that diabetic patients, especially in the area of the village Sawahan, Rengel subdistrict, Tuban district to be motivated to do physical activity such as brisk walk and Dzikir as part of controlling their blood sugar levels as well asining physical fitness and overall health.

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Research Article

Endorphine Massage to Reduce Back Pain in Third Trimester Pregnant Women

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ABSTRACT

Background: Physical changes that often occur in third trimester pregnant women are back pain which causes discomfort during pregnancy. Endorphine massage is a light massage technique that can provide a feeling of calm and comfort to pregnant women. **Objectives**: This study aims to analyze the effect of endorphin massage on reducing back pain in third trimester pregnant women. **Method**: The research design used a pre-experiment using a one group pretest and post test nonequivalent control approach. The research sample was taken using a purposive sampling technique, namely 48 pregnant women in the third trimester who experienced back pain at the maternity clinic at the Muhammadiyah Gresik Hospital. Data were collected using a pain scale observation sheet which was analyzed using the Wilcoxon test. **Results**: The results of the study showed that before being given endorphine massage, more than half of pregnant women experienced moderate back pain (64.6%) after being given endorphine massage, more than half of pregnant women in the third trimester experienced mild pain (75%). From the results of the analysis using the Wilcoxon sign rank test, Z = -4.359, while the p value = 0.000, so p < £ H0 is rejected, which means that there is an influence of endophine massage on back pain in pregnant women in the third trimester. **Conclusion**: Endophine massage is an alternative non-pharmacological treatment that can relieve pregnant women's back pain, so that midwives can provide midwifery care to third trimester pregnant women who complain of back pain by doing endorphine massage**.**

Keywords: Endorphine Massage, Back Pain, pregnant women

INTRODUCTION

Pregnancy is defined as fertilization or the union of a spermatozoa and an ovum followed by nidation or implantation. When calculated from the time of fertilization until the birth of the baby, a normal pregnancy will last 40 weeks or 10 months or 9 months according to the international calendar. At this time the increasing size of the

pregnant woman's uterus, the mother must adjust her position and posture by relying on muscle strength because the center of gravity will move towards the front. fatigue that occurs in pregnant women is the effect of the improper position of the pregnant woman's body. Additional stretching and fatigue usually occurs in the spine or lower back of the mother. This can cause back pain in pregnant women, especially in the third trimester (Catur., & Atika, 2021).

The third trimester is one of the periods of pregnancy that requires special attention, where there are psychological changes that look more complicated and increased than the previous trimester. Pregnancy problems, especially in the third trimester, are low back pain due to an increase in the weight of the uterus, decreased sleep duration due to difficulty sleeping which will have an impact on sleep and rest for third trimester pregnant women (Palifiana., & Wulandari, 2018).

Problems in the third trimester are caused by hormonal and physical changes, one of which is sleep patterns and the quality of maternal sleep. In general, pregnant women say that back pain, heartburn, frequency of micturition, and diseases such as Restless Leg Syndro (RmLeS) are the main causes of difficulty sleeping and frequent waking during sleep (Gunduz et al, 2016).

Changes that occur in mothers during pregnancy can take place physiologically and pathologically. Physiological changes include back pain, low back pain, pelvic pain, nausea, and shortness of breath (Zulaikhah., & Widyaningsih, 2016). The prevalence of low back pain in pregnancy is reported to vary, from 50% in the UK and Scandinavia and 70% in Australia and reaching 60% to 80% in Indonesia, pregnant women experience back pain in pregnancy (Wulandari, 2017). As many as 47% of pregnant women experienced back pain out of 180 pregnant women in the study. It is estimated that 65% of 100% of pregnant women in East Java Province experience back pain (Mudayyah, 2015).

The results of an initial survey that researchers have conducted in the maternity clinic of Muhammadiyah Gresik Hospital on May 10 & 11, 2023 through interviews, found that 70% of 10 pregnant women experienced back pain during the third trimester. Back pain in pregnant women often occurs due to gestational age, age, parity, daily activities and body relaxation. The pregnant woman said that when the back pain lasted she immediately took a break from her activities, such as sitting and rubbing her back.

Musculoskeletal changes in the process of pregnancy often cause mothers to feel pain in the back area, especially the lower back area. epidemiological research results show that back pain is often exacerbated by the occurrence of backache or often referred to as “old back pain”. This backache was found in 45% of women when their pregnancy was recorded, increasing by 69% at week 28 (Yosefa et al, 2015).

Pain management in midwifery care for pregnant women is to provide education so that individuals can reduce symptoms by providing back care and are encouraged to maintain a level of activity that is comfortable for them (Herawati, 2017). Management of back pain during pregnancy trimester 3 greatly reduces discomfort, including pharmacological therapy and non-pharmacological therapy. Pharmacological therapy can be given non-steroidal anti-inflammatory agents and anelgetics such as (Pethidine, Entonox, Epidural Anesthesia, TENS, ILA, Mefenamic Acid). For non-pharmacological therapy by giving Ditraction, Self Hypnosis, Massage, Warm compress technique, and Endorphin Massage (Candra, 2017) .

Unaddressed back pain will increase after childbirth and can become chronic so that it is more difficult to heal and will result in long-term back pain complaints. Back pain in pregnant women can also have a negative impact that can interfere with daily physical

activities, such as: standing up after sitting, getting out of bed, sitting too long, standing too long, even lifting and moving objects that involve movement from the back (Amelia et al, 2020).

The endorphin massage technique is a technique performed by giving a light touch or massage given to pregnant women when the mother is approaching until the time of labor arrives. By doing endorphin massage the body can release endorphin compounds that function to relieve pain and can create a comfortable feeling for the mother. Endorphin compounds can also regulate the production of growth and sex hormones, regulate pain and persistent pain, as well as regulate feelings of stress experienced by the mother. besides with a light massage, this compound can also be produced through several activities, such as when doing deep breathing and relaxation, and with meditation (Kuswandi, 2014).

According to research (Supliani, 2017) Endorphine Massage can also be used for pregnant women who have felt labor pain to be more relaxed and calm, Massage has a positive effect on women who experience pain in labor by reducing stress hormones and low fetal activity. After endhorpin massage therapy laboring mothers have lower anxiety, leg and back pain and fewer obstetric complications, while the newborn is in good condition. massage therapy increases serotonin and in turn lowers cortisol and depression. In addition, serotonin was noted to reduce leg and back pain. Massage therapy is also expected to increase dopamine and eventually reduce norepinephrine and anxiety. Massage can serve as an effective intervention for laboring mothers to reduce their pain intensity (Supliani, 2017).

Based on the background of the above problems, the researcher is interested in taking the research title "*Endophine Massage to Reduce Back Pain in Third Trimester Pregnant Women*".

METODE

In this design, the research used a pre-experimental design with a one group pretest posttest design because this design was carried out in one group, with 2 measurements, namely the results were measured before and after. The research was conducted from August to October 2023. The independent variable in this study is Endorphine Massage, the dependent variable in this study is back pain in third trimester pregnant women. In this study the population was all pregnant women who checked at the maternity clinic in August - October 2023 as many as 50 pregnant women.

The sampling technique in this study was purposive sample. Inclusion criteria in this study were third trimester pregnant women > 36 weeks of gestation who did ANC in the maternity clinic, third trimester pregnant women > 36 weeks of gestation who agreed to do endorphine massage research, and pregnant women with complaints of back pain in the maternity clinic. Meanwhile, the exclusion criteria in this study are: Third trimester pregnant women with complaints of swelling / hematoma / bruising, hot body temperature, skin disease (adjusted to contra indications), refusing to be a respondent (no consent or agreement between husband and wife), third trimester pregnant women with high risk such as (HT and PE), and third trimester pregnant women < 36 weeks of gestation.

In this study using purposive sampling. This primary data is obtained from responses that show between before and after labor pain intervention with endorphine massage. Measurement of back pain intensity set as a pre-test using a numeric scale, then obtain data at the end of the study. Through the implementation of the post test, namely measuring the scale of back pain in third trimester pregnant women after the

provision of intervention. Data analysis with SPSS computerized techniques (statistical product and service solution) version 21.0 to determine the effect of Endorphine massage on reducing back pain in third trimester pregnant women using the T-test - paired and alternative Wilcoxon test.

RESULTS

The Effect of Back Pain Levels in Third Trimester Pregnant Women Before and After Endorphine Massage.

Table 1. Frequency Distribution of Levels of Influence of Pregnant Women's Back Pain Before and After Endorphine Massage in the Pregnant Poly of Muhammadiyah Gresik Hospital from August to October 2023.

No.	Pain Scale	Pain Intensity				Total		P
		Before		After				
		F	%	F	%	F	%	
1.	No Pain	0	0	0	0	0	100	-4,359[a]
2.	Mild Pain	17	35,4	36	75	53	100	000
3.	Moderate Pain	31	64,6	12	25	43	100	
4.	Severe Pain	0	0	0	0	0	100	
	Total	48	100	48	100	96	100	

Source: Research Data 2023

Table 1 shows that the frequency distribution of back pain levels of pregnant women before and after Endorphine Massage, more than some experienced moderate pain as many as 31 people or (64.6%) and almost some experienced mild pain as many as 17 people or (35.4%). After endorphine massage back pain more than most pregnant women experienced a decrease in mild pain as many as 36 people (75%) and a small proportion of pregnant women who experienced moderate pain as many as 12 people (25%).

Based on the Wilcoxon Sign Rank Test statistical test Z = -4.359 while the p value = 0.000 so that p < £ H0 is rejected which means there is an effect of Endorphine Massage on back pain in third trimester pregnant women at Muhammadiyah Gresik Hospital.

Respondent Characteristics

a. Characteristics by Age

Table 2. Distribution of third trimester pregnant women based on age at Muhammadiyah Gresik Hospital in August - October 2023.

Characteristics	n	(%)
Age		
20 – 25 th	14	29,2
>25 th	17	35,4
>30 th	11	22,9
>35 th	6	12,5
Total	48	100,0

Source: Research Data 2023

Table 2 shows that the distribution of Trimester III pregnant women based on age was almost partially aged >25 years as many as 17 people or (35.4%) and a small portion aged >35 years as many as 6 people or (12.5%).

b. Characteristics by Occupation

Table 3. Distribution of third trimester pregnant women based on work at Muhammadiyah Gresik Hospital in August - October 2023

Characteristics	n	(%)
Jobs		
Housewife/not working	14	29,2
Private Employee	23	47,9
Self-Employed	6	12,5
Civil Servant	5	10,4
Total	48	100,0

Source: Research Data 2023

Table 3 shows that the distribution of Trimester III pregnant women based on employment is almost partly private employees as many as 23 people or (47.9%) and a small portion of civil servants as many as 5 people or (10.4%).

c. Characteristics by pregnancy

Table 4. Distribution of third trimester pregnant women based on pregnancy at Muhammadiyah Gresik Hospital in August - October 2023

Characteristics	**n**	**(%)**
Pregnancy		
Pregnancy to - 1	12	25,0
Pregnancy to - 2	26	54,2
Pregnancy to - 3	6	12,5
Pregnancy >3	4	8,3
Total	48	100,0

Source: Research Data 2023

Table 4 shows that the distribution of Trimester III Pregnant Women based on Pregnancy is more than most of the 2nd pregnancy as many as 26 people or (54.2%) and a small portion of Pregnancy> 3 as many as 4 people or (8.3%).

d. Characteristics Based on Gestational Age

Table 5. Distribution of Third Trimester Pregnant Women based on Pregnancy Age at Muhammadiyah Gresik Hospital in August - October, 2023

Characteristics	**n**	**(%)**
Pregnancy Age		
36 Weeks	20	41,7
37 Weeks	24	50,0
38 Weeks	4	8,3
Total	48	100,0

Source: Research Data 2023

Table 5. shows that the distribution of third trimester pregnant women based on pregnancy age was 37 weeks as many as 24 people or (50%) and a small portion of 38 weeks as many as 4 people or (8.3%).

e. Characteristics Based on Participation in Pregnancy Gymnastics/Yoga

Table 6. Distribution of third trimester pregnant women based on participation in pregnancy gymnastics / yoga at Muhammadiyah Gresik Hospital in August - October 2023.

Characteristics	n	(%)
Pregnancy Gymnastics/Yoga		
Yes	5	10,4
No	43	89,6
Total	48	100,0

Source: Research Data 2023

Table 6 shows that the distribution of Trimester III Pregnant Women based on pregnancy gymnastics / yoga is almost entirely not as many as 43 people or (89.6%) and a small portion of yes as many as 5 people or (10.4%).

DISCUSSION

Back Pain Level of Pregnant Women in Trimester III Before Endorphine Massage

Pain is a condition in the form of unpleasant feelings that are very subjective because the feeling of pain is different in each person in terms of scale or level, and only that person can explain or evaluate the pain he is experiencing (Uliyah, 2014). Table 6 shows that more than half of third trimester pregnant women with back pain before being given Endorphine Massage experienced moderate pain as many as 31 people (64.6%) and almost half of third trimester pregnant women who experienced mild pain as many as 17 people (35.4%).

It can be interpreted that most third trimester pregnant women experience moderate back pain before endorphine massage is done because there are several factors that affect the back pain of third trimester pregnant women, namely age, occupation, pregnancy / parity, gestational age, pregnant gymnastics. Therefore, midwives provide education about the importance of Endorphine Massage to reduce back pain in pregnant women in the third trimester. According to (Ferreira et al, 2021) The onset of pain in pregnant women usually occurs at 20 - 28 weeks of gestation as the first period in which pain occurs (Bryndal et al., 2020) Age, in general low back pain will begin to be experienced in women aged between 20 and 24 years which will reach its peak at the age of more than 40 years (Sukeksi et al., 2018).

Parity, According to research that multiparous and grandemultiparous mothers will experience back pain and are more at risk than primiparous ones because their muscles are weaker causing failure in the muscles to support the uterus or uterus getting bigger. Weakness in the abdominal muscles is generally experienced by grandemultiparous (Fithriyah., & Rizki, 2020) in accordance with the results of the study showed that more than half or (54.2) of third trimester pregnant women with back pain were pregnant with their second child.

Daily Activities, Some household workers such as sweeping, mopping, cleaning picking up and carrying buckets of water, splitting and cooking with firewood, babysitting, and so on, usually put pressure on the lower back area, and with changes in body and mechanical loads during pregnancy can easily precipitate and aggravate LowBack Pain.

There is no mechanism for the division of household labor and the need for one of them is often obscured by the cultural background of gender roles (Omoke, et al 2021). The results showed that almost half (47.9%) of third trimester pregnant women with back pain had activities as a private worker.

Body Relaxation, doing stabilizing exercises is beneficial for pregnant women suffering from low back and pelvic pain so that physical activity during pregnancy can prevent future low back and pelvic pain from occurring in subsequent pregnancies (Bryndal et al., 2020). From the results of the study, it was found that pregnant women who participated in pregnant gymnastics / yoga were 5 people (10.4%) and those who did not participate in gymnastics were 43 people (89.6). It can be concluded that pregnant women who do not do enough exercise (yoga / pregnant gymnastics) during pregnancy are prone to experiencing severe back pain.

Back pain that occurs in third trimester pregnant women reaches 70% due to physiological changes during pregnancy which causes discomfort, namely back pain (Astutik in Rahmawati, 2016) Back pain occurs when the gestational age enters 20-28 weeks until before delivery and more cases are found in the third trimester of pregnancy (Bryndal et al, 2020).

In third trimester pregnancy, as the uterus enlarges and body weight eats the center of gravity will move to the front so that pregnant women must adjust their standing position. Improper posture will force additional stretching and fatigue on the body, especially in the back area. When pregnancy enters the third trimester, the muscles will stretch and the nerves will be stressed, which will result in pain, soreness and stiffness in the lower back area.

Back Pain Level of Third Trimester Pregnant Women After Endorphine Massage

Table 1 shows that more than half of third trimester pregnant women with back pain after being given Endorphine Massage experienced mild pain as many as 36 people (75%) and a small proportion of third trimester pregnant women who experienced moderate pain as many as 12 people (25%). From these data it can be interpreted that most of the third trimester pregnant women who have done endorphine massage experience mild pain. Endorphine Massage has an effect on reducing the intensity of back pain in third trimester pregnant women, so endorphine massage is one of the non-pharmacological therapies that is easy to practice and done daily without side effects, the role of husband or family plays an important role in providing endorphine massage to help overcome back pain in third trimester pregnant women.

There are 2 ways to deal with back pain in third trimester pregnant women, namely Pharmacology and Non- Pharmacology according to (Ferreira et al, 2021). Pharmacological, namely by giving drugs - drugs. While how to deal with non-pharmacological back pain, namely, Distraction Comforting and distracting someone and what they explain, Self-hypnosis: a process that involves using certain techniques to enter a state of hypnosis, Massage: a healing method with traditional health therapy, Warm Compress Technique: coating the surface of the skin with a towel that has been soaked in warm water, Endorphine Massage: therapy in the form of massage that can stimulate the body to release endorphine hormone.

Light massage in endorphine massage therapy is quite important for pregnant women in the time leading up to and during childbirth. Light touch includes a very light massage that can make the hairs stand up by stroking the outer surface of the mother's arm.

The Effect of Endorphine Massage on Reducing the Intensity of Back Pain in Third Trimester Pregnant Women

The results showed that third trimester pregnant women before endorphine massage therapy experienced moderate pain as many as 31 people (64.6%) and a small proportion of third trimester pregnant women who experienced mild pain as many as 17 people (35.4%). After endorphine massage, the back pain of pregnant women decreased, namely 36 people (75%) and a small proportion of pregnant women who experienced moderate pain as many as 12 people (25%).

Benefits of Endorphine Massage Aids in relaxation and decreases pain awareness by increasing blood flow to the affected area, stimulates sensory receptors in the skin and underlying brain, alters the skin, provides a general sense of well-being associated with human closeness, increases local circulation, stimulates endorphin release, decreases endogenous catecholamines stimulation of efferent fibers resulting in block to pain stimulation. (Kartikasari & Apriliya, 2016).

Endorphin massage can increase serotonin release which alleviates leg and back pain. Massage in pregnant women causes a decrease in leg and back pain, which has an analgesic effect. Massage can also be explained by the gate theory of pain control. According to this theory, information from receptors stimulated during massage reaches the brain faster than information from nociceptors.

These results are in line with research conducted by Ratih Indah Kartikasari and Apriliya Nuryanti (2016) at BPS Mrs. Khusnul Imarwatin, in a study of 28 third trimester pregnant women with back pain. The results of the Wilcoxon sign rank test with $\alpha = 0.05$ showed $p = 0.05$ so that $p < 0.05$ means that there is an effect of endorphine massage on reducing back pain in third trimester pregnant women.

CONCLUSIONS

More than half of third trimester pregnant women experience moderate pain before being given endorphine massage at the Pregnant Poly. More than half of third trimester pregnant women experience mild pain after being given endorphine massage at the Pregnant Poly. So that there is an effect of Endorphine Massage on back pain of third trimester pregnant women after being given Endorphine Massage. Research on the use of Endorphine Massage in midwifery has not been so much. It is hoped that there will be further research and development on the effect of Endorphine Massage in midwifery and nursing care. It is hoped that further researchers will conduct further research to reveal other factors that have not been revealed in this factor. By using a larger population, sample and other methods so that the results are more accurate and can be generalized.

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Research Article

The Relationship Between The Implementation of Hospital Management Information System and Employee Performance at Muhammadiyah Babat General Hospital

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ABSTRACT

Background: Hospital Management Information System (HMIS) plays a crucial role in the daily activities of hospital employees as they encompass data collection, processing, information presentation, and analysis necessary for hospital operations. Suboptimal HMIS implementation can hinder service delivery and lead to decreased employee performance. **Objectives:** This study aims to investigate the relationship between HMIS implementation and employee performance. **Method:** This study uses a quantitative approach with a cross-sectional analytic method. HMIS serves as the independent variable, while employee performance is the dependent variable. The study population consisted of 112 employees, with a sample size of 53 selected through simple random sampling. Data were collected using a questionnaire and analyzed using the Spearman Rank statistical test in SPSS. **Results:** The findings revealed that a significant majority of respondents rated HMIS implementation as excellent (88.1%), while employee performance was generally perceived as good (67.9%). A smaller proportion assessed HMIS implementation as sufficient, with 18.9%, and poor, with 3.8%. The Spearman Rank test results indicated a strong correlation between HMIS implementation and employee performance (Sign. (2-tailed) =0.000 <0.05, r=0.555). **Conclusion:** HMIS positively influences employee performance by enhancing work efficiency, data accuracy, communication and collaboration, as well as motivation and job satisfaction. Disruptions in HMIS can adversely affect the performance of all hospital employees, from registration to cashier roles. Therefore, it is crucial to continuously monitor and improve the HMIS system to enhance employee performance consistently.

Keywords
HMIS, Employee Performance, Hospital

INTRODUCTION

Hospitals with all the components integrated into them are one of the service infrastructures that focus on the health sector. Hospitals must improve their performance in providing services that can empower the unity of trained and educated personnel to handle and deal with any existing problems, especially in delivering health services to the community. In providing health services, employees are resources that play an essential role in achieving hospital goals. If employee performance is good, it will positively impact the hospital's progress in the future (Rifly, 2022). SIMRS is a communication information technology system that processes and integrates the entire flow of hospital service processes into a network of coordination, reporting, and administrative procedures to obtain information accurately and precisely, and is part of the Health Information System (Kemenkes RI., 2013).

The hospital management information system is an order related to data collection, data processing, information presentation, data analysis and information conclusion as well as the delivery of information necessary for hospital operations (Putra et al., 2020). SIMRS is an integrated information system for hospital management, including diagnosis, medical records, salaries and accounting (Pane et al., 2023).

Employee performance is an effort to achieve organizational goals legally, not against the law, under morals and ethics, and following the authority and responsibilities of each individual, both qualitatively and quantitatively. Employee performance can be considered good if the duties and responsibilities of these employees have followed procedures or procedures under predetermined standards and can be carried out correctly where they work. Hospitals, as complex organizations, require employee performance that can be efficient and effective in providing services to the community (Edwi et al., 2021).

Employee performance is the result of quality and quantity of work achieved by an employee by carrying out his duties in accordance with the responsibilities given to him (Ansory & Indrasari, 2018). Employee performance is the result of quality and quantity of work achieved by an employee in an effort to improve the technical, theoretical, conceptual and moral abilities of employees in accordance with the needs of the job or position with the aim of improving the quality of employee work (Fitri Rezeki et al., 2021) . In providing services in hospitals, several problems may arise related to employee performance, including employees feeling fatigued or stressed due to heavy workloads, lack of motivation, lack of training or development, conflicts that can interfere with teamwork, job clarity, breakdowns in communication that can cause information uncertainty, and other problems that can interfere with employee performance (Silaen et al., 2021).

The problem of decreased employee performance occurs in hospitals due to not completing work on time. Employees are not fast and dexterous in serving patients and visitors, and the attitude of employees who are less friendly to visitors (Kurnia, 2016) Based on the distribution of questionnaires conducted by researchers on March 21, 2024, at Muhammadiyah Babat General Hospital, the results of the employee performance assessment showed that 20% of employees had high performance, 70% of employees had moderate performance, and 10% who were rated low. Low employee performance is usually caused by factors such as work motivation, stress due to workload. These manual services still do not use the Hospital Management Information System. HMIS has a vital role in every employee's work activity. Hospital Management Information System does not function optimally. This can hamper services and cause a decrease in employee performance.

Employee performance assessment according to (Ainnisya & Susilowati, 2018) has several objectives, including: Know employee skills and abilities, as a basis for planning in the field of personnel, especially improving working conditions, improving quality and work results, as a basis for developing and utilizing employees as optimally as possible. Employee evaluation has six performance measures, including increased work results, work skills, new knowledge, attitudes towards colleagues, performance measures, production quality, and delivery time (Ruben & Priyantono, 2019). The quality of the Hospital Management Information System can be perceived from adequate features and functions to support various operational and administrative activities, such as patient recording, appointment scheduling, inventory management, financial management, and reporting. The system should be easy to use by users, including medical, administrative, and hospital management staff. Intuitive interfaces, straightforward navigation, and simple processes will increase system adoption and usage efficiency. An integrated Hospital Management Information System enables better collaboration between departments and medical teams. Authorized team members can easily share and access patient information, facilitating coordination in patient care. Therefore, a hospital management information system is needed to improve employee performance. It must be able to integrate with other systems in the hospital, such as medical imaging systems, laboratories, pharmacies, and financial systems. The ability to operate in tandem with different systems will improve information flow and coordination between departments (Edwi et al., 2021).

In this case, the hospital needs to improve the quality of the integrated hospital management information system, allowing better collaboration between various departments and medical teams. Authorized team members can easily share and access patient information, facilitating coordination in patient care. Therefore, a Hospital Management Information System is needed to improve employee performance because it significantly impacts hospital operations and services. Impact of Employee Performance (Sinaga et al., 2020) namely: Accuracy in completing work, Level of employee initiative Accuracy in completing work, Level of employee ability to work together

An integrated Hospital Management Information System enables better collaboration between various departments and medical teams. Authorized team members can easily share and access patient information, facilitating coordination in patient care. Therefore, a Hospital Management Information System is needed to improve the performance of qualified employees, which can increase efficiency in various aspects of hospital operations, such as patient data management, medical records, appointment scheduling, inventory of drugs and medical supplies, and financial management. The indicators of the Hospital Management Information System According to (Darmawan & Fauzi, 2013) are as follows: Hardware, Software, Brainware, Procedure, Data base, Communication network, Employee performance indicators according to (Indrasari, 2021) include the following five elements: Quality of Work, Work Quantity, Responsibility, Collaboration and Initiative

According to the description above, the researcher is interested in conducting a study entitled "The Relationship between the Implementation of Hospital Management Information System and Employee Performance at the Muhammadiyah Babat General Hospital."

METHOD

This study employed quantitative research with a correlation analytic method using a cross-sectional approach to investigate the relationship between the independent variable, Hospital Management Information System (HMIS), and the dependent variable, employee performance. Both variables were measured once during the study period.

The research was conducted at the Muhammadiyah Babat General Hospital, Lamongan Regency, from January 2024 to June 2024. The study population (Sugiyono, 2013) included all employees of the hospital who had access to HMIS, totaling 112 respondents. Using the Slovin formula to determine sample size, 53 respondents were selected through simple random sampling. Data collection involved distributing questionnaires directly to respondents at the Muhammadiyah Babat General Hospital. Data collection utilized a questionnaire validated with a score of 0.224 and tested for reliability with a Cronbach's alpha coefficient of 0.894. Data analysis was conducted using the Spearman rank correlation test with a significance level set at 0.05

RESULTS

1. Characteristics of Respondents

This data represents respondent characteristics including age, gender, length of employment, educational history and income.

Table 1 Characteristics of Respondents

Characteristics	n	%
Age (y.o)		
20-24	8	15.1
25-29	34	64.2
30-34	6	11.3
35-39	1	1.9
>40	4	7.5
Gender		
Male	14	26.4
Female	39	73.6
Length of employment		
< 2 Years	25	47.2
≥ 2 Years	28	52.8
Educational History		
Senior High School	6	11.3
Diploma	13	24.5
Bachelor	34	64.2
Income		
< 2.828.323	36	67.9
≥ 2.828.323	17	32.1

2. Univariate Analysis of the Implementation of HMIS and Employee Performance

Table 2 Univariate Analysis of the Implementation of HMIS and Employee Performance at Muhammadiyah Babat General Hospital

Characteristics	n	%
Application of HMIS		
Good	43	81,1
Moderate	10	18,9
Poor	0	0
Employee Performance		
Good	38	71,7
Moderate	15	28,3
Poor	0	0

Based on the table provided, it is evident that a significant majority of respondents (88.1%) rated the application of HMIS as good, with a smaller proportion (18.6%) rating it as moderate. Regarding employee performance, the table shows that most respondents (71.7%) were categorized as having good performance, while a minority (28.3%) fell into the sufficient category.

3. Bivariate Analysis of the Relationship between the Implementation of HMIS and Employee

Table 3 Bivariate Analysis of the Relationship between the Implementation of HMIS and Employee Performance at the Muhammadiyah Babat General Hospital

No	Application of HMIS	Employee Performance						Total	
		Good		Moderate		Poor			
		n	%	n	%	n	%	n	%
1.	Good	36	67.9	7	13.2	0	0	43	81.1
2.	Moderate	2	3.8	8	15.1	0	0	10	18.9
3.	Poor	0	0	0	0	0	0	0	0
Total		**38**	**71.7**	**15**	**28.3**	**0**	**0**	**53**	**100**

Based on the cross table provided, among the 53 respondents, the majority evaluated the implementation of HMIS as god, comprising 43 respondents (88.1%). These respondents reported good employee performance, totaling 46 respondents (67.9%), with seven respondents (13.2%) achieving moderate performance. None of the respondents rated their employee performance as poor. A smaller group of respondents

assessed the implementation of HMIS as moderate, accounting for ten respondents (18.9%). Among these respondents, eight (15.1%) achieved moderate employee performance, while two (3.8%) showed good performance. None rated their performance as poor. Overall, the data suggest a positive correlation between the assessment of HMIS implementation and employee performance, particularly noting higher performance ratings among those who perceived HMIS implementation as excellent.

The results of the SPSS Spearman rank test obtained a value of Sign. (2-tailed) = 0.000 <0.05 with a relationship strength of 0.553 in the strong category and a positive hypothesis direction. This means a significant relationship exists between the application of HMIS and employee performance at the Muhammadiyah Babat General Hospital. The better the hospital information system implementation, the better the performance of employees at the General Hospital of Muhammadiyah Babat.

DISCUSSION

The Implementation of HMIS at Muhammadiyah Babat General Hospital

Based on the research results above, it could be explained that most employees were categorized as good at applying HMIS, and a small number of employees were categorized as moderate. HMIS had been widely accepted and used in the Babat Muhammadiyah General Hospital.

These results are in line with research conducted by (Edwi et al., 2021) that the implementation of HMIS at the Dompet Dhuafa Bogor Integrated Healthy Home Hospital in 2021 was more than half (56.0%) and almost half (44.0%).

Hospital data is very complex, ranging from clinical and administrative to management data. Hospital Management Information Systems are central in processing data into information, thereby minimizing data redundancy, unintegrated data, out-of-date information, and human error (Adhani et al., 2022).

Based on the age distribution of employees, most employees at the Muhammadiyah Babat General Hospital were aged 25-29 (64.2%). 25-29 years old was a productive age to work and be literate in technological developments. Those aged 25-29 generally had high learning abilities and were easily adaptable to new technologies. This allowed them to learn how to use HMIS quickly. The employee's length of service also influenced the use of HMIS. Most Muhammadiyah Babat General Hospital employees were HMIS users, with a length of employee of more than two years. The longer employees work, the more likely they would be familiar with HMIS and understood its various functions. Then, the last education of employees, which, of course, also had implications for using HMIS; employees with higher levels of education generally had better problem-solving abilities. This can help them overcome obstacles and technical problems when using HMIS.

From the description above, it could be explained that the implementation of HMIS had been widely used in Muhammadiyah Babat General Hospital to make work more effective and efficient. However, HMIS can experience disruptions in the system; if there is a disruption, HMIS cannot be used and must be handled immediately by the responsible unit. The responsible unit must be ready 24 hours if there is a problem with HMIS because if it is not handled immediately, all services requiring HMIS will delay work until HMIS can be used. This can also cause patient complaints, especially in FO, pharmacy, poly, and other HMIS units. Failure to address this promptly would contradict Regulation No. 83 of 2013 by the Minister of Health, which stipulates that the management and enhancement of Health Management Information Systems (HMIS) must enhance and facilitate hospital healthcare processes. This includes improving

speed, accuracy, integration, service enhancement, efficiency, operational reporting ease, decision-making speed, problem identification accuracy and speed, and strategy development facilitation.

From the description above, it could be explained that the implementation of HMIS at the Muhammadiyah Babat General Hospital was exemplary. However, it still requires control from the responsible unit so that it can be immediately handled if there is a disturbance. The officer should at least be more than one. If at a particular time is absent or sick, HMIS problems can be handled immediately. Training on using HMIS is also needed so that human resources (HMIS users) can optimally improve their ability to use HMIS.

Employee Performance at Muhammadiyah Babat General Hospital

Based on the study results, it could be explained that most of the employees with performance were in the excellent category, and a small proportion of employees were in the sufficient category. This shows that overall, employee performance at the Muhammadiyah Babat General Hospital was classified as good.

Employee performance is the achievement of a person or group by fulfilling their duties and responsibilities in an organization to achieve organizational goals legally, not against the law, and under morals and ethics (Burhannudin et al., 2019)

This is in line with research conducted by (Edwi et al., 2021) based on the frequency distribution table of respondents regarding employee performance. More than half of the outpatient service employees at the Dompet Dhuafa Bogor Integrated Healthy Home Hospital answered well on employee performance (58.3%), and almost half answered less (41.7%).

Based on the distribution of employees, it is known that most employees were aged 25-29 (64.2%). Younger employees tend to perform better in tasks that require speed, stamina, and quick learning ability. For employee gender, most (73.6%) were female. Women are often more meticulous and detail-oriented, which can help them in tasks that require precision. Then, the length of service of employees who have the potential to affect employee performance, most (52.8%) employees with a length of employee of more than two years. Employees who have worked for a long time tend to be more committed to the organization and more motivated to perform.

From the amount of income, most respondents (67.9%) earned less than 2,828,323. Material things such as income have the potential to affect employee performance. However, there are still other things, such as spiritual or Islamic values, that are why someone continues to perform well. Awareness of the responsibility to make the absolute truth (Allah SWT) the purpose of life and put aside worldly affairs (Hablum Min-Allah). will produce gratitude and humility and can help individuals to feel more satisfied with their work, even when their salary is only enough to meet their daily needs. Then, the awareness that one human being needs another (Hablum Min-Annas) without expecting anything in return will provide inner satisfaction at work so that employees can provide their best performance (Ari Indria Kusuma Wardani et al., 2021).

From the description above, it can be explained that employee performance is crucial in achieving organizational goals. Although employees at the Muhammadiyah Babat General Hospital perform well, some employees were still in the sufficient category. This shows that there was still room for improvement in employee performance at the Muhammadiyah Babat General Hospital. To improve employee performance, the need for rewards and recognition of employee achievements can motivate them to work better.

The Relationship between the Implementation of HMIS and Employee Performance at the Muhammadiyah Babat General Hospital

The significance value (2-tailed) p=0.000, more diminutive than 0.05, was obtained based on the statistical test results. This shows a significant relationship between the implementation of HMIS and employee performance at the General Hospital of Muhammadiyah Babat. The relationship strength value of 0.553 is categorized as vital. This means that the implementation of HMIS considerably influences employee performance in the hospital. The acceptance of hypothesis H1 shows that there is a positive relationship between HMIS implementation and employee performance. This means that the better the implementation of HMIS in Muhammadiyah Babat General Hospital, the better the employee performance.

Based on research conducted by (Edwi et al., 2021) at the Dompet Dhuafa Bogor Integrated Healthy Home Hospital in 2021, the statistical test results obtained that the p-value = 0.004 < α = 0.05, thus the result is Ha accepted, and Ho rejected, which indicates that there is a relationship between HMIS implementation and employee performance.

This is in line with research conducted (Anwar et al., 2020), where it was found that the application of HMIS was good. Namely, 43 respondents, the least, were obtained from the application of HMIS, which was not good, namely 30 respondents. The statistical analysis results show that the value of p = 0.001 < from α = 0.05, it can be concluded that Ho is rejected, meaning that the application of HMIS affects the performance of outpatient employees at Prof. Dr. H. M. Anwar Makkatutu Hospital 2021. From the description above, it can be explained that the Hospital Management Information System (HMIS) has a significant and positive relationship with employee performance. This happens because HMIS provides accurate and timely information to patients and medical personnel, such as patient visit history, drug availability, bed availability, patient treatment billing results, and other HMIS functions. This information helps medical personnel diagnose and treat patients correctly so that employee performance becomes more effective and efficient.

CONCLUSION

In conclusion, most respondents are categorized as good in implementing HMIS, and most respondents have good employee performance. Hospitals are recommended to improve employee performance by minimizing errors in HMIS, improving officer skills in using HMIS so that the resulting data is always accurate, and providing rewards for employees with good performance and exceeding targets. This aims to make work easier and improve performance. HMIS manages hospital information, connecting financial processes, administration, service facilities. Increase efficiency, productivity, data accuracy, prevent medical errors, and patient satisfaction (Fadilla & Setyonugroho, 2021).

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Research Article

The Relationship of Stress and Diet with Hypertension in The Emergency Room of Muhammadiyah Babat Hospital

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ABSTRACT

Background: Increased stress and poor diet can increase the risk of increased blood pressure. Blood pressure that increases >180/>120 is called a hypertension emergency and can endanger the patient's health condition. **Objectives:** This study aims to determine the relationship between stress and diet and hypertension in the emergency room at Muhammadiyah Babat Hospital. **Methods:** The research design uses correlation analytics with a cross sectional approach, a sample of 65 patients with hypertension taken by incidental sampling, data taken using stress and eating pattern instruments. Data were analyzed using the Pearson Test. **Results:** The results showed that 15.4% of respondents experienced mild stress, 12.3% moderate stress, 16.9% severe stress, and 55.4% very severe stress. Good diet 49.2% and bad 50.8%. The results of the study showed that there was a relationship (p=0.000) between stress and hypertensive emergencies with moderate correlation strength (r=0.501) and there was a relationship (p=0.001) between stress and emergency hypertension with moderate correlation strength (r=-0.402). **Conclusion:** Good psychological conditions and dietary patterns can help maintain stable blood pressure due to controlled hormonal activity. Additionally, a low-salt and low-fat diet can reduce blood pressure. Therefore, effective stress management and proper dietary regulation are necessary.

Keywords: Hypertension, Emergency, Diet, Stress

INTRODUCTION

Heart and blood vessel (cardiovascular) disease is a major health problem in developed and developing countries. Hypertension is the number one cause of death in the world every year. Hypertension or what is commonly known as high blood pressure is a condition that refers to the condition of systolic blood pressure which shows systolic pressure ≥140 and diastolic pressure ≥90 mmHg. Hypertension is also known as the silent killer because it usually occurs without any complaints being felt. (WHO, 2021). High blood pressure or hypertension is a chronic condition that cannot be cured, but needs to be controlled. If left unchecked, blood pressure can increase. This can increase the risk of hypertension complications. In medical terms, this condition is known as a hypertensive crisis or hypertensive emergency.

Hypertension Emergency or more often called HT Emergency is defined as a severe increase in blood pressure where the blood pressure is more than 180/120 mmHg and is accompanied by worsening or damage to target organ damage (TOD) which includes: Heart, brain and kidneys (Irwandi, 2023). This is a serious problem if not treated immediately, because it can increase the risk of cardiovascular disease such as: Coronary heart disease, heart failure, heart attack and atrial fibrillation. Apart from that, Emergency HT can cause chronic kidney disease, stroke and cognitive impairment (Pangaribuan, 2023).

According to Riskesdas RI (2018), in Indonesia the total number of hypertension cases reached 260 million cases of hypertension. According to the Health Department (2020), East Java is in the 2nd highest position for hypertension in Indonesia with a total of 11,952,694 cases of people experiencing hypertension. According to Fadilah (2021), the

number of hypertension cases in Lamongan in 2018 was 36.3% with the estimated number of hypertension sufferers in Lamongan being 335,813 out of 1,344,165 residents in Lamongan Regency. In the initial survey at the Emergency Room at the Muhammadiyah Babat Hospital which was carried out on May 9 - May 15 2024, data on the number of hypertensive emergency cases was obtained as many as 25 cases.

Factors that can trigger hypertension include risks that cannot be controlled or changed and risk factors that can be controlled or changed. Risk factors that cannot be controlled include heredity or family history, race, age and gender. Meanwhile, risk factors that can be controlled include stress, diet, lifestyle, and comorbidities such as: Dyslipedemia, and CKD. Of the several factors that increase the risk of hypertension, there are important factors that need to be improved so that hypertension can be controlled, namely by managing stress and diet in hypertensive patients.

According to Arta and Fithroni (2021), stressful conditions can cause an increase in blood pressure with a mechanism that triggers an increase in the hormone epinephrine, which stimulates the sympathetic nerves which triggers an increase in blood pressure and cardiac output, glucose concentration in the blood, increases muscle tension, and increases mental activity. Uncontrolled stress conditions can also cause leptin resistance and lead to increased food intake, this triggers obesity which then triggers plaque buildup in blood vessels due to hyperlipidemia, this condition can cause the heart to pump more strongly resulting in an increase in blood pressure (Surbakti, 2019). Untreated stress conditions can cause unfavorable clinical symptoms, including hypertension.

According to the Indonesian Ministry of Health (2022), diet is a factor that determines a person's health. The recommended food pattern is a healthy food pattern using a portion

of my plate. The ideal proportion in the recommended portion of my plate is 2/3 carbohydrates from 1/2 plate, 1/3 side dishes from 1/2 plate. The other half of the plate is filled with 2/3 portions of vegetables and 1/3 portions of fruit. Apart from that, the recommended food to avoid hypertension is a diet low in salt, low in fat and low in sugar. A low salt diet is recommended to avoid absorbing too much fluid which has the potential to increase blood pressure. Meanwhile, a low-fat diet is used to prevent hyperlipidemia, namely to avoid the appearance of plaque in the blood. Meanwhile, a low sugar diet is recommended to avoid hyperglycemia because sugar levels that are too high in the blood can stimulate an increase in blood pressure.

Stress and diet that are not properly considered will have a negative impact on hypertensive patients. The impacts that will be found in patients with uncontrolled hypertension include the emergence of cardiovascular diseases such as: stroke, heart attack or kidney damage. Apart from that, the acute impact of uncontrolled hypertension is a hypertensive emergency. Emergency hypertension is a sudden increase in blood pressure >180/120 mmHg accompanied by damage to organs such as the brain, kidneys, heart and blood vessels. This condition can be life threatening so it requires treatment as soon as possible (Soeparman and Slamet, 2017).

METHOD

The research design used in this study is a correlational analytical design with a cross sectional approach which aims to determine the relationship between stress and diet and hypertension in the emergency department of the Muhammadiyah Babat Hospital. The population in the study were all patients who came with hypertension and a sample of 65 hypertensive patients taken by incidental sampling, data was taken using stress

instruments with 10 questions and eating patterns with 10 questions. Data processing and data analysis using SPSS 25 were then analyzed using the Pearson test.

RESULTS

Table 1. Stress Levels in Hypertension Patients in the Emergency Room at Muhammadiyah Babat Hospital (n=65)

Characteristic	n	%
Stress Levels		
Light (Score 11-14)	10	15.4%
Currently (Score 15-21)	8	12.3%
Parah (Score 22-29)	11	16.9%
Awfully (Score >29)	36	55.4%

Tabel 2. Distribution of Average Scores per Stress Questionnaire Indicator with Hypertension (n=65)

Indicator	Average Score		Max	Min
	Indicator	Total		
Difficult to relax	2.74			
Flustered	2.67			
Easily angry or restless	2.64	12.99	2.7	2.4
Easily offended or sensitive	2.39			
Impatient	2.55			

Tabel 3. Eating Patterns of Hypertension Patients at Muhammadiyah Babat Hospital (n=65)

Characteristic	n	%
Eating Patterns of Hypertension		
Good Diet	32	49.2%
Bad Diet	33	50.8%

Tabel 4. Distribution of Average Scores per Indicator of the Dietary Pattern Questionnaire with Hypertension (n=65)

Indicator	Average Score		Ma	Mi
	Indicator	Total		
Meal portion	2.28			
Types of food to avoid	2.34	6.59	2.3	2
Recommended types of food	1.97			

Based on table 1, it can be seen that stress in hypertensive patients in the emergency room at Muhammadiyah Babat Hospital is most dominant in the very severe category with 36 patients (55.4% and the lowest in the mild category with 10 patients (15.4%). Based on table 1, after data collection was carried out by distributing questionnaires to 65 respondents, it was found that the stress indicator that got the average stress score with the highest average score was difficulty relaxing, namely 2.7. This shows that patients who have hypertension will experience anxiety conditions that cannot be controlled so that they often experience difficulty sleeping or insomnia and if this happens long term it will cause health problems including high blood pressure.

Based on table 2, it can be seen that the eating patterns of hypertension patients in the emergency room at Muhammadiah Babat Hospital are in the good diet category for 32 (49.2%) patients and for 33 (50.8%) patients with poor diet. Based on table 2, after data collection was carried out by distributing questionnaires to 65 respondents, it was found that the dietary indicator that got the highest average score was the indicator of types of food that should be avoided, namely 2.3. Meanwhile, the dietary pattern indicator with the

lowest average score is the recommended type of food indicator, namely 2. The average score obtained by all respondents in the hypertension diet questionnaire was 6.59.

DISCUSSION

Based on research conducted in the emergency room at the Muhammadiyah Babat Hospital in May 2024, it was found that the stress level in the very severe stress category was 36 (55.38%) patients, 11 (16.92%) patients had severe stress, 10 (15.38%) patients had mild stress. patients and moderate stress were 8 (12.30%) patients. This research is in line with the research results of Aristina Halawa (2023), who stated that high levels of stress greatly influence the increase in blood pressure (62.6%). This is in line with research conducted by Yuheskiel Khayang, et al (2022), which shows that high levels of stress can influence the occurrence of hypertensive emergencies (57.2%).

Based on the Pearson test and analyzed using the SPSS version 25 program, the value r = 0.501, which means a moderate correlation between stress and hypertension. The direction of the correlation is positive, which means the higher the stress value, the higher the hypertension, which means it is in the same direction. And p value = 0.000 <0.05, which means H1 is accepted, so there is a relationship between stress and hypertension in the emergency room at Muhammadiyah Babat Hospital. This research is in line with the research results of Hidayati Nita (2022), which states that there is a unidirectional relationship between stress and hypertension with a p value = 0.001, the research results are also in line with research conducted by Staessen, et al (2019), which states that there is a relationship between stress and hypertension. with hypertension.

Based on the results of research conducted in the emergency room at the Muhammadiyah Babat Hospital in May 2024, it was found that 24 (49.2%) patients had a

good diet with hypertension and 33 (50.8%) patients had a poor diet. This research is in line with Rahmawati (2020), who stated that as many as (64%) of the patients who had poor diets were hypertensive patients. According to research by ED Rahayu (2023), it shows that the diet of hypertensive patients is in the bad category as many as (55.9%) of the patients.

Based on the Pearson test, data analysis using SPSS 25 found that the value of r=-0.402, which means there is a moderate relationship between diet and hypertension emergency in the emergency room at Muhammadiyah Babat Hospital. The direction of the correlation is negative, which means the higher the diet value, the lower the emergency hypertension, which means it is in the opposite direction and p value=0.001<0.05, which means H1 is accepted, so there is a relationship between diet and emergency hypertension in the emergency room at Muhammadiyah Babat Hospital. This is in line with research by I Ketut (2022) which states that there is a relationship between unhealthy eating patterns and high blood pressure (hypertension) with a known p value = 0.03. In Dian Astrid's research (2022), it was also stated that eating patterns with hypertensive emergencies obtained a p value = 0.000.

CONCLUSION

The conclusion from this study there is a relationship between stress and hypertension in the Emergency Room at Muhammadiyah Babat Hospital with moderate correlation strength, and there is a relationship between diet and the incidence of hypertension in the Emergency Room at Muhammadiyah Babat Hospital with a weak correlation strength.

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Research Article

Analysis of The Implementation of Drapping and Destruction of Medical Record Files at The Nashrul Ummah Islamic Hospital of Lamongan

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ABSTRACT

Background: The medical record management system is a destruction system, physically destruction medical record archives that have ended their function. **Objectives:** The implementation of drapping and destruction of medical record files at Nashrul Ummah Lamongan Islamic Hospital aims to reduce storage burden, facilitate file retrieval, lessen staff workload, prevent misfiling, and ensure efficient supervision and maintenance of active and useful medical records. **Method:** This study use qualitative research design with a descriptive approach. Data were gathered through interviews, observation, and documentation, involving key informants such as the head of the medical records unit, storage and distribution officers, and registration officers selected through purposive sampling. Data analysis followed a process of data reduction, presentation, and conclusion. **Results:** Findings indicated several aspects of implementation. In terms of personnel (man aspect), only two officers met the educational qualifications for managing drapping and destruction of medical record files, highlighting a lack of knowledge and training in procedural steps. Financially (money aspect), there was a budget plan for this activity. However, in methodological aspects (method), although Standard Operating Procedures (SOPs) were available, they were not consistently implemented according to established policies. Mechanically (machine aspect), equipment such as shredding machines and specialized scanners were present. Materially (material aspect), while medical record storage racks existed, specific racks for inactive files were absent. Documentation regarding the destruction of medical record files also lacked evidence. **Conclusion:** To improve the situation, it is recommended that hospital management prioritize training for staff involved in Drapping and destruction medical record files or undertake further studies and evaluations. This approach aims to ensure that activities adhere to SOPs, enhancing efficiency and compliance with established protocols.

Keywords

Destruction, Drapping, Medical Record Files

INTRODUCTION

Hospitals can organize health services to provide quality services. One of the health service indicators determining the quality of health services in hospitals is the availability of medical records. The medical record management system is a destruction system, physically destruction medical record archives that have ended their function (Amin et al., 2019). Before the destruction of medical records, medical record files must be depreciated. Drapping reduces archives from storage shelves by moving inactive medical records from active shelves to inactive shelves by sorting on storage shelves according to the last visit year (Shofiarini., 2023).

The implementation of Medical Records ensures that every service provided to patients and their health history is documented in medical records to guarantee patient safety. Medical records contain notes and documents regarding patient identity, examinations, treatments, procedures, and other services provided to patients at healthcare facilities (Kemenkes, 2008).

According to Regulation of the Minister of Health No. 269 of 2008, Article 8, paragraph 1, patient medical records must be retained for a minimum of 5 years from the date of the patient's last visit or discharge. However, medical records cannot be stored indefinitely due to the increasing number of records in hospitals, which may eventually lead to storage space becoming full and inadequate for accommodating new records.

Referring to previous research conducted by Wasiyah, a study at the Rokan Hulu Regional General Hospital in 2020 revealed that the number of medical records disposed of by the hospital varied annually. In 2013, the hospital disposed of 362 inactive medical records per year. This number increased to 767 inactive medical records per year in 2014. However, in 2015, the number of disposed inactive medical records decreased to 362 per year.

Based on the results of interviews and initial observations conducted by the author, in the medical records unit of the Nashrul Ummah Islamic Hospital of Lamongan, the number of medical record files depreciated from 2015 to 2019 was 32,500 files from inpatients. As for medical record files that have not been depreciated, there are 117,239 files from outpatient care. The Nashrul Ummah Lamongan Islamic Hospital destruction medical record files on January 21, 2018. With the last visit in 2008, outpatient files were counted in the inactive medical record defence list of 337 files and for inpatient files from 2006 to 2010 with rm numbers 02.89.12 - 03.17.91.

According to Shofiarini et al., (2023) indicators that influence the implementation of drapping and destruction of medical record files are a. Man aspect (human), b. Money aspect (budget), c. Method aspect (method), d. Material aspects (material), e. Machine aspects (equipment). Man is the most critical element and cannot be replaced by other elements with thoughts, hopes, and ideas that play an essential role in determining the usefulness of other elements. Budget (money) is one factor that determines the success or failure of the implementation of an activity in achieving goals. Method (method) is a suitable method or activity from various existing alternatives. The implementation of management in achieving goals will run appropriately and successfully. Material (material) is a tool or means of management. Equipment (machine) is a human auxiliary machine used to implement management and achieve goals. (Rohman, 2017)

Based on these problems, the authors are interested in conducting further research on “Analysis of the Implementation of Drapping and Destruction of Medical Record Files at Nashrul Ummah Islamic Hospital of Lamongan” by determining problem solutions using the 5M method to explore ideas, providing suggestions and agreements

generated to solve problems and as recommendations for improvement efforts. This method is expected to help the hospital make decisions to improve service quality, especially for destruction activities, to reduce the pile of medical record files on the storage rack, ensure medical record files are maintained physically, information and confidentiality, and minimize active file storage.

METHOD

This study used a qualitative descriptive approach from December 2023 - June 2024 at Nashrul Ummah Islamic Hospital of Lamongan. Implementing medical record drapping and destruction at Nashrul Ummah Lamongan Islamic Hospital was analyzed based on the 5M aspects (Man, Money, Material, Machine, Method). To ensure data credibility, researchers used source triangulation and technical triangulation.

The informants in this study were the head of the medical records unit, storage and distribution officers, and registration officers with purposive sampling. Data collection techniques used interviews, observation, and documentation. Data analysis starts with data reduction, presentation (display data), and conclusion/verification.

RESULTS

1. Man

Based on the results of interviews regarding the level of education of the head of the medical records unit, storage and distribution officers, and registration officers, it could be perceived that the head of the medical records unit and officers from the storage and distribution unit who have the latest education background D3 Medical Records were under the qualification standards set by the Ministry of Health (2013). The two officers were registration officers and 1 of the storage and distribution unit officers whose educational background was from high school, which means that it was not under the qualification standards of medical records. The expression of the research informant was as follows:

"My last education level is D3 Medical Records; for officers in the Medical Records Unit, only two graduated from D3 Medical Records. For other officers, most of them are high school graduates."

Based on the results of interviews regarding officer knowledge, it could be concluded that officers lack understanding of the general definition and procedures or procedures for implementing drapping and destruction of medical record files. This was in accordance with the following informant's statement:

"To minimize medical record files in the hospital."

"By re-checking the medical record files and selecting the year in the last five years for drapping and destruction."

Based on the interviews regarding training attended by officers, it could be concluded that medical record officers at Nashrul Ummah Islamic Hospital had never attended training related to medical record management, especially related to drapping and destruction. However, only one officer had attended training related to essential management, which included everything from entering patient data to assembling and filling it. By the following informant’s statement:

"Ever, training related to basic management that represents and covers everything globally, from entering patient data to assembling and filling. However, if it is related to specific training regarding the implementation of drapping and destruction, there is none."

2. Money

Based on the interviews, it could be concluded that all informants stated that there was no specific budget related to drapping and destruction medical record files at Nashrul Ummah Lamongan Islamic Hospital. However, the budget plan related to the place of destruction of medical record files already exists and had been planned. The budget in the Budget Plan had been included in this year's operational plan. Because later, the budget would be used to socialize medical records. The expression of the research informant was as follows:

"Not yet. The plan for the cost budget is related to the budget for the place of destruction of medical record files. The budget in the Budget Plan is included in this year's operational plan."

3. Method

Based on the interviews conducted regarding the SOP at Nashrul Ummah Islamic Hospital, there was already an SOP regarding the implementation of drapping and destruction of medical record files, which was under implementation. However, from the results of the researchers' observations, the researchers found that the SOP related to the drapping and destruction of medical record files in its implementation was not under the Hospital's SOP. The following were excerpts from interviews with informants related to the SOP for drapping and SOP for destruction of medical record files at Nashrul Ummah Lamongan Islamic Hospital:

"It already exists and is under the implementation of drapping and destruction at Nashrul Ummah Lamongan Islamic Hospital."

Based on the results of observations, it could be explained that there are SOPs related to the drapping and destruction of medical record files that were not under the implementation at Nashrul Ummah Lamongan Islamic Hospital, which was not in line with the results of interviews conducted with medical record officers who said that the implementation of drapping and destruction was under the Hospital's Standard Operating Procedures.

4. Machine

The same statement by the four informants stated that the medical records unit had one scanner, which was used to implement the drapping of medical record files at Nashrul Ummah Lamongan Islamic Hospital. The tool was precisely placed on the table of the head of the medical records unit. The following were the results of interviews with informants:

"One scanner in the medical records unit is used for implementing drapping and destruction."

Based on the results of observations, it could be concluded that Nashrul Ummah Lamongan Islamic Hospital had the availability of a special scanner for the

implementation of drapping consisting of 1 scanner in the medical records unit with the

type EPSON L3210 in 2018 in good condition, not damaged, suitable for use and functioning properly which was helpful for digitizing medical records.

Based on the results of interviews conducted by researchers, there was one medical record file destruction tool at Nashrul Ummah Islamic Hospital. The medical record file destruction tool owned by this hospital had been used once to implement the destruction of medical record files that were destruction in 2018. The following informant's statement:

"There is one medical record file shredding machine in the office. It has been 1x medical record file destruction in 2018."

Based on the results of observations and interviews with the four informants who stated that Nashrul Ummah Lamongan Islamic Hospital had one medical record file shredder machine which had the type HSM Classic 90.2 of 2012, which was placed in the training room office with conditions that were still suitable for use, but the destruction machine was small, the hospital only had one destruction machine that could function appropriately for destruction activities at Nashrul Ummah Lamongan Islamic Hospital.

5. Material

Based on the results of interviews with the four informants, it could be concluded that medical record document storage shelves at Nashrul Ummah Lamongan Islamic Hospital were available. Which consisted of types of medical record file storage shelves consisting of eight wooden shelves, four glass shelves, and six cabinet shelves. The following was an excerpt from an interview with an informant:

"There are available storage shelves for medical record files with eight wooden shelves, four glass shelves, and six cabinet shelves. For special inactive shelves, there are none, so they are just stacked in the room. In a separate room. The shelf for storing medical record files is almost full now that electronics have helped it, so I do not think about space."

Based on the results of observations made by researchers who stated that the Nashrul Ummah Islamic Hospital had a medical record file storage rack and the availability of particular types of shelves, such as wooden shelves, glass shelves, and cabinet shelves as a place to store files. It consisted of eight wooden shelves, four glass shelves, and six cabinet shelves. With the condition of the storage shelves almost full and there was a buildup of inactive files which were still used as one place with active medical record files so that there was a buildup of files and scattered, in addition to accumulation, the condition of storage shelves made of glass would be at risk of breaking easily when the shelves are filled with uncontrolled files. Inside the shelf, medical record files were starting from 2019 to April 2024.

Based on the results of interviews that had been conducted related to the availability of minutes of destruction at Nashrul Ummah Lamongan Islamic Hospital, namely already available. In line with the results of interviews with officers who stated that the minutes of the destruction of medical record files were available. The expression of the informant was as follows:

"There is evidence or a sheet of minutes of destruction in the form of a file."

Based on the results of these interviews and observations, it could be concluded that at the Nashrul Ummah Lamongan Islamic Hospital, there was evidence of the minutes of destruction in the form of document files.

DISCUSSION

1. Man

Judging from the results of the study, the educational qualifications of medical record officers at Nashrul Ummah Lamongan Islamic Hospital found that of the two medical record officers who did not comply with the qualification standards set by the Ministry of Health No. 55 of 2013 concerning the implementation of medical recorder work, namely the minimum education taken is a graduate:

(1) Diploma 3 (D3) as an intermediate expert in medical records and health information

(2) Diploma 4 (D4) as applied bachelor of medical records and health information

(3) Undergraduate degree (S1) as a bachelor of medical records and health information

(4) Master's degree as a bachelor of medical record and health information.

Medical record officers who are not medical record graduates have knowledge, which means that they still lack understanding and mastery of procedures related to the implementation of drapping and destruction of medical record files. The importance of mastering the competencies of medical recorders is related to their educational background and career path in the medical records unit. Human resources are needed to meet medical recorders' competencies to carry out work in the medical records unit (Hatta, 2016) in the research of Ohoiwutun et al., 2021. Education affects officers to assist them in mastering specific knowledge and skills to improve their shortcomings and minimize errors.

Researchers assessed the level of education of the four officers implementing the drapping and destruction of medical record files at Nashrul Ummah Lamongan Islamic Hospital, and only two officers were under the medical record qualification standards. Moreover, the two officers still do not meet the established qualification standards.

Based on the interview results, the officer just knew the procedures or steps for implementing drapping and destruction. Officer knowledge, that was understanding what was meant by drapping and destruction, the purpose of drapping and destruction, and how long the shelf-life limit had been set to store active medical record documents into inactive medical record documents.

Staff knowledge related to the definition of drapping and destruction was not under the definition according to Law number 43 (2009) concerning Archives, which states that archive drapping is an activity to reduce the number of archives by transferring inactive archives from active processing units to inactive processing units and knowing the extent to which the medical record files have use value and have no use value. In addition, the definition of destruction, according to Amin et al. (2019), is a process of physical destruction of medical record archives that have ended their function.

Based on the research results, it could be seen that the officers implementing drapping and destruction just knew the procedures or steps related to the drapping and destruction of medical record files. This problem is in line with research (Turwadi and Ernawati, 2016), which states that the obstacles in drapping and destruction activities are that the available human resources lack understanding of drapping and destruction activities because most of the officers do not have a medical record background and do not receive special training related to drapping and destruction of medical record files.

The interview results explained that medical record officers at Nashrul Ummah Islamic Hospital had never attended training related to medical record management, especially

related to drapping and destruction. However, they had attended training related to essential management, including everything such as entering patient data, assembling, filling, and others. The training activities attended by the head of the medical records unit were carried out outside the hospital, organized by DPC PORMIKI (Professional Association of Indonesian Medical Recorders and Health Information), organized by Lamongan Regency.

This is in line with the research of Apriliani et al., (2020) which states that the implementation of drapping and destruction activities can be influenced by never attending training on medical records related to the activities of drapping and destruction medical record files. This is because it is essential to conduct medical record training to improve the skills and knowledge of officers in organizing medical record services. Therefore, researchers assume that training is needed for medical record officers at Nashrul Ummah Islamic Hospital so that drapping and destruction can be carried out correctly and under applicable standards or policies.

Based on the research results, it could be seen that the officers implementing drapping and destruction had never attended special training related to the drapping and destruction of medical record files.

2. Money

Based on the interview results, it was explained that the Nashrul Ummah Lamongan Islamic Hospital had no specific budget related to drapping and destruction medical record files at the Nashrul Ummah Lamongan Islamic Hospital. However, the budget plan for destruction medical record files already exists and had been planned. The budget in the Budget Plan had been included in this year's operational plan.

Researchers say the budget for implementing drapping and destruction at Nashrul Ummah Lamongan Islamic Hospital did not yet exist. However, the budget plan in the RAB related to the destruction site had been included in this year's operational plan. Because later, the budget would be used to socialize medical records. The implementation of drapping and destruction activities requires a budget. This was mentioned by Susanto et al. (2018), who stated that in planning the drapping and destruction of medical records, namely the budget to be used to socialize medical records.

Based on the Ministry of Health of the Republic of Indonesia (2007) number 377 concerning professional standards for medical recorders, one of the supporting competencies of medical record professionals is preparing and using budgets. Budgeting is expected to help explain the need for funds in an activity. In addition, the optimal use of funds in medical record activities, especially in the implementation of drapping and destruction of medical record files, can properly smooth the course of activities. Absent budget planning could affect the availability of facilities and infrastructure needed at Nashrul Ummah Islamic Hospital.

3. Method

Based on the results of interviews and observations, the Nashrul Ummah Lamongan Islamic Hospital already has SOPs (Standard Operating Procedures) related to the implementation of medical record drapping and destruction, which were guidelines or procedures for carrying out drapping and destruction activities so that officers know how to carry out these activities optimally. However, the hospital's implementation of drapping and destruction was not under the standards.

There is SOP Document No. 748/SPO/RM-JANGMED/RSINU/IX/2022 concerning the retention or drapping of medical record files, which explains the definition of retention

or drapping, the purpose of drapping, policies and procedures for implementing drapping and agencies related to the implementation of retention or drapping of medical record files at Nashrul Ummah Lamongan Islamic Hospital.

In addition, at the Nashrul Ummah Lamongan Islamic Hospital, there is an SOP Document No. 749/SPO/RM-JANGMED/RSINU/IX/2022 concerning the destruction of medical record files which explains the definition of destruction, the purpose of destruction, policies in destruction, procedures or steps in the implementation of destruction of medical record files and agencies related to the implementation of destruction of medical record files at the Nashrul Ummah Lamongan Islamic Hospital.

According to Khairunnisa et al., 2022 about the procedures contained in the Ministry of Health (2006) SOP for drapping, such as documents that have been stored for five years calculated from the date of the patient's last treatment retention, admission, and discharge summary forms, medical resumes, informed consent, operation reports, remain stored for five years from the date of drapping or sorting. Other forms are destruction under the conditions written in the medical record document drapping guide, the separation of documents is carried out based on the type of disease, and for pediatric patients, retained according to particular needs, such as medical record documents that have been inactive for two years are assessed by an assessment team consisting of a medical committee, and medical record officers and medical records that have met the requirements for destruction are reported to the head of the hospital.

According to the researcher's assumption about standard operating procedures (SOP) at Nashrul Ummah Lamongan Islamic Hospital, there was already an SOP for drapping and destruction, which was running well. However, it had not followed the existing provisions; for example, the implementation of drapping and destruction was not carried out within five years, and the implementation at the Nashrul Ummah Lamongan Islamic Hospital exceeds the time limit of more than five years. Hence, the implementation of drapping and destruction was not well organized.

4. Machine

Based on the results of interviews and observations conducted by researchers, a special scanner for implementing the drapping and destruction process at Nashrul Ummah Lamongan Islamic Hospital was available. The medical records unit had one special scanner for drapping medical record files, which had the type EPSON L3210 in 2018, which helps digitize medical record documents.

According to researchers on a unique scanner tool for the drapping of medical record files at Nashrul Ummah Islamic Hospital, a unique drapping scanner tool was available to help officers scan inactive medical record files, assisted by one scanner tool. From the results of the scanner, medical record files that still had use value, such as medical resume sheets, operation sheets, baby identification sheets, approval sheets, entry and exit sheets, and death sheets, were stored in special disk folders.

According to (Lestari et al., 2019), Scanners are helpful as a storage medium to assist in maintaining valuable forms so that these forms can be preserved and stored in the form of files if needed at any time before the medical record files are destruction. Medical record files can be destruction using file destruction tools such as paper shredding tools to destruction medical record archives physically (Istikomah et al., 2020).

Based on the results of interviews and observations conducted by researchers at the Nashrul Ummah Lamongan Islamic Hospital, it had one destruction tool or a particular medical record file shredder in the implementation of destruction, which had the type HSM Classic 90.2 in 2012. As for the implementation of medical record file

destruction activities at Nashrul Ummah Lamongan Islamic Hospital based on the statement of the head of the medical record unit who stated that the destruction was carried out with some medical record files using an existing shredding machine and some medical record files were burned due to the small size of the shredding machine and the long process of shredding files in the machine. So, some medical record files were burned.

According to the researchers, the shredding tool or medical record file destruction tool at Nashrul Ummah Lamongan Islamic Hospital was the availability of a unique shredding tool for medical record files in the implementation of destruction that functioned appropriately, useful for shredding sheets of medical record documents that had been declared inactive or that had no use value.

Medical record files can be destruction using file destruction tools such as paper shredding tools to destruction medical record archives physically (Istikomah et al., 2020) in the process of destruction medical record files which are tools needed in the implementation of drapping and destruction of medical record documents. This is supported by (Susanto, 2018).

5. Material

Based on the results of interviews and observations, it was explained that there was a medical record file storage rack at Nashrul Ummah Lamongan Islamic Hospital. There were three types of shelves, namely shelves made of wood, shelves made of glass, and cabinet shelves. On the inpatient medical record file storage rack, there were five shelves; on the outpatient medical record file storage rack, there were eight wooden shelves, four glass shelves, and six cabinet shelves. The medical record files on the storage shelves were from 2019 to April 2024.

The researcher considered that at the Nashrul Ummah Islamic Hospital, a medical record storage rack was located in the filling room in the medical records unit. However, medical record files from outpatient and inpatient care are placed separately. Nashrul Ummah Lamongan Islamic Hospital has no special shelf for storing active medical record files.

The storage rack was not optimal where outpatient and inpatient medical record files were separated and not stored in one storage rack. In line with Nuraini's research, in 2022, Kusnadi's citation 2018 said that a separate storage place between outpatient and inpatient files will hinder providing medical record files if patients come for treatment for post-hospitalization control. Properly storing separate medical record files will certainly inconvenience officers in finding the desired ones. In addition, the separate storage of medical record files causes the provision of medical record documents for services to patients and other purposes to be longer.

According to researchers, the minutes of destruction at Nashrul Ummah Lamongan Islamic Hospital already exist. There was evidence of destruction documentation in the form of document files, which explained the evidence of having carried out the destruction or shredding of medical record files carried out in 2018, known by the director, reported to the district health office and signed by the head of the medical records unit of the Nashrul Ummah Lamongan Islamic Hospital.

The minutes of the destruction were made at the time of the destruction and signed by the head of the destruction team, the secretary of the destruction team, and known to the Head of the Hospital / Health Center. The number of minutes of medical record destruction was made in triplicate, namely:

1) The Hospital keeps the original medical record destruction minutes sheet as an

archive; The second sheet of minutes of destruction is sent to the Hospital Owner;

2) The third sheet is sent vertically to the Director General of Medical Services of the Indonesian Ministry of Health.

CONCLUSION

Based on the results of research related to the implementation of drapping and destruction of medical record files at Nashrul Ummah Lamongan Islamic Hospital on the aspect of man, namely the last education of the officer implementing the drapping and destruction of medical record files, only two officers were under the established medical record professional standards. However, the officer's knowledge was limited to the procedures or steps for the implementation of drapping and destruction, and the officer has never participated in special training activities regarding the implementation of drapping and destruction of medical record files. The money aspect was that there is already a cost budget plan for drapping and destruction medical record files. The method aspect was that there was a special SOP for drapping and destruction, but it had not been implemented under the provisions of the established policy. The machine aspect was the availability of a medical record shredding machine and a scanner specifically for the drapping and destruction of medical record files. The material aspect was the availability of medical record storage shelves, but there was no special shelf for inactive medical record files. Moreover, the availability of documentation of the destruction of medical record files was called the minutes of destruction.

It is expected that hospital management can facilitate officers to attend training in drapping and destruction medical record files or further studies according to qualifications so that they have an educational background that is under the standards of medical record personnel and conduct monitoring and evaluation so that the implementation of activities is under Standard Operating Procedures.

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Research Article

The Effect of a Combination of Cucumber Infused-Water and Islamic Mindfulness Therapy in Lowering Blood Pressure of Hypertensive Patients

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ABSTRACT
Hypertension will continue to be a public health problem and will be worse if not addressed early. Non-pharmacological management can be carried out with cucumber infused-water and Islamic mindfulness therapy. This study aims to determine the effect of cucumber infused-water and Islamic mindfulness on lowering blood pressure in hypertensive patients in Gempolpading Village, Pucuk District, Lamongan Regency. The current research employed pre-experimental design with a one group pre-post test approach with consecutive sampling technique obtained 73 respondents. The data of this study were taken using observation sheets and SOPs. Then, the data were analyzed by using normality test and the Wilcoxon Sign Rank Test with a meaning level of p = <0.05. Before therapy, blood pressure had an average of 158.74 mmHg for systolic and 112.22 mmHg for diastolic. The average difference in systolic blood pressure was 33.97 mmHg, and the average difference in diastolic blood pressure was 21.86 mmHg. The results of the Wilcoxon test were p sign = 0.000. This means that there was a significant effect on lowering blood pressure. A combination of cucumber infused-water and Islamic mindfulness therapy is one of the complementary treatments which can overcome hypertension. In addition, it can affect the central nervous system by relaxing blood vessels; thus, lowering blood pressure can also balance the autonomic nerves and help the body maintain normal blood pressure.

KEYWORDS
Hypertension, cucumber infused-water, Islamic mindfulness, Blood Pressure

INTRODUCTION

Hypertension is one of the entrances or risk factors for diseases such as heart disease, kidney failure, diabetes, and stroke and is also considered a silent killer. The hypertensive disease often appears without any complaints, so the patients do not know that they have hypertension and are only known after the appearance of complications (Purnomo, 2023). High blood pressure is a significant and alarming condition due to its numerous potential complications if left uncontrolled. Advancing age markedly increases the likelihood of encountering a range of challenges, including physical, mental, spiritual, economic, and social issues (Ahmad, V. I.2022).

. Among the most fundamental concerns for older individuals are health problems attributable to degenerative processes (Heryanti, 2023).

incidence of hypertension in the world attacks a population of 22% (WHO, 2014). the incidence of hypertension in Southeast Asia reaches 36%. The results of the Basic Health Research (Riskesdas, 2018) indicate that Indonesia has a prevalence of hypertension of 34.1%. If hypertension is not adequately controlled, it can lead to severe complications such as kidney disease, strokes, and blindness. The prevalence of hypertension increases with age (Tiara, 2020). According to the East Java Health Profile, the prevalence of hypertension in East Java's population is 36.3%, and this rate is rising significantly (Creswell, 2016). It is estimated that there are approximately 11,008,334 individuals aged 15 and older with hypertension in East Java, with 48.83% being male and 51.17% female. Among these individuals, 35.60%, or 3,919,489 residents, seek treatment for hypertension at healthcare facilities (Mahbubah, 2022). In Lamongan Regency, the prevalence of hypertension reached 24.76% of the total population in 2021, with the highest rate in Paciran District, a coastal area, at 6.8% of the total population (Purnomo, 2023).

Based on preliminary data at the Gempolpading health center, data on hypertension patients totaled 35 people with an age range of 35-64 years. Researchers took samples to measure blood pressure using the observation method with a sphygmomanometer measuring instrument. From the observation, 1 out of 10 respondents was in the normal category (10%), 4 out of 10 respondents were in the pre-hypertension category (40%), 2 out of 10 were in the level 1 hypertension category (20%), and 3 out of 10 were in the level 2 hypertension category (30%). Based on these data, it can be perceibed that there is a problem of high blood pressure incidence.

Hypertension has now become one of the degenerative diseases that are inherited in family members who have a history of hypertension (Siswanto,2019). The prevalence of hypertension will continue to increase in line with lifestyle changes such as smoking, obesity, a less nutritious diet, and psychosocial stress. Hypertensive disease will continue to be a public health problem and will become greater if not addressed early (Akbar, 2018). In the long run, it will cause damage to the arteries in the body to the organs that get blood supply from these arteries (Sumaryati, 2018).

management of hypertension can be approached through both pharmacological and non-pharmacological therapies (Pratiwi, 2023). Pharmacological treatment involves the use of antihypertensive medications to lower blood pressure to targeted levels. These medications include angiotensin-converting enzyme inhibitors (ACEIs), angiotensin receptor blockers (ARBs), calcium channel blockers (CCBs), and diuretics.

Often, patients require two or more antihypertensive drugs, leading to polypharmacy and an increased risk of drug interactions (Setyoningsih, 2022). Non-pharmacological therapies for hypertension encompass lifestyle modifications such as exercise, relaxation techniques, stress management, lowering salt intake, and consuming a diet rich in fruits and vegetables. (Ekarini,2019). Nutritional therapy, which focuses on weight management, dietary adjustments, and sodium restriction while increasing potassium intake, plays a crucial role. For instance, cucumbers are high in potassium. Effective stress management, including practices such as Islamic meditation therapy, can induce vasodilation, enhance tissue oxygenation, and reduce stress, a significant factor in the exacerbation of hypertension (Christine, 2021).

Cucumber-infused water and Islamic mindfulness therapy are combination therapies to lower blood pressure. Cucumber-infused water is effective for lowering blood pressure levels because it contains potassium and magnesium, which can bind the salt content in the body and be excreted through urine. Islamic mindfulness therapy affects the central nervous system by relaxing blood vessels, thereby improving blood flow and lowering blood pressure. These two therapies are combined to find out if there is an effect of both after simultaneous intervention.

METHODS

The current research employed a pre-experimental design with a one-group pre-post test approach. The population in this study were all hypertensive patients registered at the village maternity clinic (Polindes), midwives' independent practice, and community health service (Puskesmas) in Gempolpading Village, Pucuk District, Lamongan Regency, during May-June 2024, and the sample used amounted to 73 respondents using the consecutive sampling technique. The instrument used was an observation sheet for measuring blood pressure. It was then analyzed with the Kolmogorov Smirnov normality test and hypothesis testing using the Wilcoxon test (Nursalam, 2019).

RESULTS

1. General data

Table 1 Respondent Characteristics in Gempolpading Village, Pucuk District, Lamongan Regency

Characteristics	Frequency	Percentage (%)
Age (years)		
35-44	9	12,3
45-54	23	31,5
55-64	41	56,2
Total	**73**	**100**
Gender		
Male	26	35,6
Female	47	64,4
Total	**73**	**100**
Education History		
Never went to school	0	0
Elementary school	8	11
Junior high school	17	23,3

Senior high school	29	39,7
Bachelor	19	26
Total	**73**	**100**
Jobs		
Farmer	37	50,7
Housewife	12	16,4
Self-employed	20	27,4
Entrepreneur	0	0
Civil servant/ state civil apparatus	4	5,5
Not Employed	0	0
Total	**73**	**100**
Drugs consumption		
Yes	0	0
No	73	100
Total	**73**	**100**

on Table 2 indicate that of the 73 respondents, 41 respondents (56.2%) were 55-64 years old, while 9 repondents (12.3%) were 35-44 years old. In term of gender, it is found that of the 73 respondents, most (64.4%) were female, 47 respondents, and almost half (36.6%) were male, 26 respondents. Furthermore, almost 39.7% of the respondents (29 respondents) were high school graduates, and a small proportion (8 respondents) was elementary school graduates. Of the 73 respondents, most of them (50.7%) worked as farmers, and a small portion (5.5%) worked as civil servants. Meanwhile, it can be perceived that out of 73 respondents, all 100% of respondents were not taking drugs.

2. Special Data

1) Respondents' Blood Pressure before Being Given Cucumber Infused-water and Islamic Mindfulness Therapy

Table 2 Respondents' blood pressure before being given cucumber infused-water and Islamic mindfulness in Gempolpading Village, Pucuk District, Lamongan Regency

Blood Pressure Classification	Frequency	Percentage (%)
Normal	0	0
Prehypertension	26	35.6
Grade 1 hypertension	8	11
Grade 2 hypertension	39	53.4
Total	73	100
Systolic mean	158.74	
Diastolic mean	112.22	

on Table 2 shows that out of 73 respondents, 39 respondents (53.4%) experience grade 2 hypertension and 8 respondents (11%) experience grade 1 hypertension.

2) Respondents' Blood Pressure after Being Given Cucumber Infused-water and Islamic Mindfulness in Gempolpading Village, Pucuk District, Lamongan Regency

Table 3 Respondents' blood pressure after being given cucumber infused-water and Islamic mindfulness in Gempolpading Village, Pucuk District, Lamongan Regency

Blood Pressure Classification	Frequency	Percentage (%)
Normal	35	47.9
Prehypertension	24	32.9
Grade 1 hypertension	13	17,8
Grade 2 hypertension	1	1.4
Total	73	100
Systolic mean	124.77	
Diastolic mean	90.36	

on Table 3 show that out of 73 respondents, 35 respondents (47.9%) had normal blood pressure and 1 respondent (1.4%) had grade 2 hypertension.

3) The effect of giving cucumber infused-water and Islamic mindfulness on lowering blood pressure in patients with hypertension in Gempolpading Village, Pucuk District, Lamongan Regency

Table 4 The effect of cucumber infused-water and Islamic mindfulness on lowering blood pressure in patients with hypertension in Gempolpading Village, Pucuk District, Lamongan Regency

Blood pressure	N	Min-Max	Mean±S.D	*P value*
Pre-test systolic	73	126-210	158.74(24.046)	0.000
Post-test systolic	73	101-182	124.77(16.057)	
Pre-test diastolic	73	80-176	112.22(21.839)	0.000
Post-test diastolic	73	46-137	90.36(14.553)	
Systolic mean difference			33.97	
Diastolic mean difference			21.86	

on Table 4 indicate that the systolic blood pressure of hypertensive patients before the therapy have an average value of 158.74. After the therapy, it had an average of 124.77, with a difference in the average value of 33.97. Then, the average value of diastolic blood pressure before the therapy was 112.22, while after the therapy, it had an average value of 90.36 with a mean difference value of 31.86. The decrease in blood pressure of hypertensive patients occurs because they have been given a combination of cucumber infused-water and Islamic mindfullness therapy.

Based on the results of the Kolmogorov Smirnov Normality Test, the pre-systolic significance value was 0.000, the pre-diastolic was 0.001, while the post-systolic was 0.003 and post diastolic was 0.075, meaning that the data was not normally distributed. Based on the results of the Wilcoxon test, it showed the Sig (2-tailed) value = 0.000 which was <0.05 so that H1 was accepted, meaning that there was an effect of giving cucumber infused-water and Islamic mindfulness of hypertensive patients in Gempolpading Village, Pucuk District, Lamongan Regency.

DISCUSSION

1. Blood pressure prior to interex combination therapy (infusion of water cucumber and mindfulness islamic) in patients with hypertension in Gempolpading Village, Pucuk District, Lamongan Regency.

Based on Table 2, it can be perceived that before the combination of cucumber infused-water and Islamic mindfulness therapy, most respondents (53.4%) experienced stage 2 hypertension and also obtained an average value of 158.74 mmHg for systolic pressure and 112.22 mmHg for diastolic pressure. The results of the pre-test blood pressure observation showed that there were still many hypertensive patients who did not understand how to handle non-pharmacological hypertension. Hypertension is a disease which arises due to the interaction of various risk factors that sufferers have, such as family history, gender, age, education, occupation, daily lifestyle, and physical activity.

This is similar to previous research by Alina (2019) showing that people with hypertension before being given cucumber-infused water have blood pressure in stage 2 hypertension classification, in which the blood pressure was >160/100 mmHg. This is also similar to previous research by Weddy Martin (2016) showing that most respondents before being given Islamic Mindfulness therapy had a stage 2 hypertension blood pressure classification, namely blood pressure >160/100 mmHg.

Based on the explanation above, the researcher argues that hypertension experienced by respondents before being given cucumber-infused water may be due to factors of family history, age, gender, age, education, occupation, daily lifestyle, and physical activity. Many people with hypertension today still lack an understanding of the handling and treatment of hypertension. Through treatment, handling, and regular monitoring, it can make people with hypertension to maintain blood pressure within normal limits.

2. Blood pressure after being given cucumber infused-water and Islamic Mindfulness therapy in patients with hypertension in Gempolpading Village, Pucuk District, Lamongan Regency.

Based on the results of the study, it can be explained that after being given cucumber infused-water and Islamic mindfulness, it was found that most (47.9%) respondents experienced normal blood pressure, namely <120/80 mmHg and also obtained an average value of 124.77 mmHg for systolic blood pressure and 90.36 mmHg for diastolic blood pressure. In the current research, one respondent was still in the stage 2 hypertension classification. That is because the respondent experienced a decrease in blood pressure but was still in the stage 2 hypertension classification range.

The results of this study are in line with research by Alina (2020), which shows that cucumber-infused water could lower blood pressure since it contains flavonoids that functions as ACE inhibitors to prevent the shrinkage of blood vessel walls so that blood flow is not disturbed. Blood pressure becomes smooth and can lower blood pressure. This study is also in line with research by Citta (2023) that before giving cucumber infused-water, the majority of respondents experienced grade 1, high normal, and grade 2 hypertension categories, while after giving cucumber infused-water, there was a decrease, and some were in the high normal category. A reduction in blood pressure occurs after respondents are given cucumber-infused water; the presence of potassium and magnesium contained in cucumbers is good for people with high blood pressure. These potassium and magnesium substances help reduce high blood pressure by binding salt in the body and excreting it through the urine (Nugraheni, 2016).

Based on research conducted, cucumber infused-water therapy and Islamic mindfulness can reduce blood pressure in patients with hypertension. This is because cucumber infused-water therapy has potassium and magnesium contained in cucumbers which are good for people with high blood pressure.

3. The effect of cucumber infused-water and Islamic mindfulness in patients with hypertension in Gempolpading Village, Pucuk District, Lamongan Regency.

Based on the results of research, it shows that there was a significant effect on blood pressure reduction. This is evidenced by blood pressure before being given cucumber infused-water and Islamic Mindfulness has an average of 158.74 mmHg for systolic and 112.22 mmHg for diastolic. In line with research conducted by Rian (2023) which mentioned that there was an effect of giving cucumber infused-water on lowering blood pressure in hypertensive patients.

This research is in line with Estin's research (2021). Mindfulness meditation is proven to help reduce high blood pressure; if this mindfulness meditation is done regularly and carried out in accordance with the procedures, it is very good for people with hypertension. The aspects of physical and psychospiritual comfort are fulfilled through mindfulness therapy because mindfulness meditation can increase self-concept to be more positive, reduce stress levels, and stabilize emotions so that it has an impact on lowering blood pressure.

Based on the description above, the researcher can conclude that the cause of the decrease in systolic and diastolic pressure is due to the provision of non-pharmacological therapy, namely the combination cucumber infused-water and Islamic mindfulness in hypertensive patients in Gempolpading Village, Pucuk District, Lamongan Regency. This is because cucumber-infused water is an alternative for those who dislike or are less accustomed to consuming water, fruits, and vegetables. Infused water can be part of the lifestyle and complementary medicine by providing low-calorie beverage options as well as containing magnesium, which plays an active role in blood flow so it is beneficial for lowering blood pressure. Also, Islamic mindfulness therapy can reduce stress and stabilize emotions so that it can reduce blood pressure.

CONSLUSION

1) Most of the patients with hypertension in Gempolpading Village experience blood pressure on the classification of blood pressure stage 2 before internal combination therapy (infusion of water cucumber and Islamic mindfulness).
2) Most of the patients with hypertension in Gempolpading village experience blood pressure on the normal classification after interpretable combination therapy (infusion of water cucumber and Islamic mindfulness)
3) There is an influence on the provision of interpretable combination therapy (infusion of Islamic water cucumber and mindfulness) in patients with hypertension in Gempolpading Village, Pucuk District, Lamongan Regency.

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Research Article

Physiotherapy Management in Elderly Patients With LBP e.c Suspect HNP Using TENS And Core Stability Exercise In RSU. Muhammadiyah Babat

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ABSTRACT

Background: LBP is a disease that often occurs during the aging process, one of the causes of which is HNP. LBP in the lower back area can affect the tissue and muscles around the lumbar and pelvic areas. Problems in LBP e.c suspect HNP are pain, decreased muscle strength and decreased functional activity. **Objectives:** This case study aims to determine physiotherapy management in reducing pain, increasing muscle strength, and increasing daily living activities in cases of LBP e.c suspect HNP using TENS modalities and core stability exercises. In this case, the intervention given was TENS and core stability exercises. The research subject was a 65 years old female patient with a diagnosis of LBP e.c suspect HNP at the RSUM Babat. **Method:** The method used is a case study, data collection is carried out utilizing auto-anamnesis and physical examination. Results: After undergoing therapy 6 times, the results of the pain assessment were obtained using the VAS, passive pain area T0: 0, becomes T6: 0, pressure pain from T0: 3, becomes T6: 1.5, movement pain T0: 6, becomes T6: 5, increasing muscle strength with MMT on trunk flexors T0: 3 to T6: 4, trunk extensor T0: 4 to T6: 5, increasing daily life activities with the Oswestry disability questionnaire did not show a significant change, at T0: 60%, to T6: 52% still in the severe range of disability. **Conclusion:** TENS and Core Stability Exercise can reduce pain, increase muscle strength, and increase daily living activities.

Keywords

LBP, HNP, TENS, Core Stability Exercise.

INTRODUCTION

The increasing age of a person results in a decrease in the body system, because there is a decrease in the body system, it will cause several health problems (Pratama, 2019). In Indonesia, it is estimated that 9.6% or 18.1 million of the population is over 60 years old, even though being elderly is not included in a disease, but in the aging process will

increase the number of illnesses caused by degenerative diseases (Marufan., et al, 2021). One of the degenerative diseases that often occurs in the aging process is LBP or often called low back pain. LBP is pain that arises in the area of the lower back, which is usually accompanied by pain that radiates to the leg and leg area (Harsono, 2015). Based on WHO, LBP disease is the main cause of disability worldwide with a global prevalence rate of around 7.2% (Shebib., et al, 2019), in Indonesia it is estimated that the prevalence rate of LBP is between 7.6% - 37% (Ikhsanawati., et al, 2015), and the risk of developing LBP will increase according to a person's age. It has been found that there are several causes of LBP, one of which is Hernia Nucleus Pulposus (HNP), which is a condition in which the nucleus comes out and protrudes into the annulus ring (ring of fibrosis around the disc) so as to provide compression to the nerves (Helmi, 2014). The part of the vertebrae that most often experiences herniation is in L5-SI, this is because in the L5-S1 vertebrae is the most active vertebrae to move with a heavier support (Perri., et al, 2020).

Hernia Nucleus Pulposus or often abbreviated as HNP is a health problem where there is an emphasis on the soft pads located between the vertebrae posterior and lateral, which can cause the nucleus pulposus to rupture until a protrusion of the disc passes through the fibrosis annulus into the spinal claw (Rusmayanti & Kurniawan, 2023). Based on the problems of the LBP et causa HNP case, physiotherapy has a role in reducing complaints by using the Transcutaneus Electrical Nerve Stimulation therapy modality, and also providing exercise therapy in the form of core stability exercises. TENS is a therapy using electrical energy that has the goal of stimulating the nervous system so that it can reduce pain. The dose of TENS to reduce pain is 150 Hz, with a current intensity of 20–80 mA, for 20 minutes (Tella., et al, 2021). Core stability exercise is a spinal stabilization exercise, which has the goal of increasing muscle strength, endurance and muscle flexibility in the spine to repair tissues and to improve functional movement (Rajabi., et al, 2018). The dose of core stability exercise to improve muscle strength and balance is done 3 times in 1 week, 2-5 sets, with 7-12x reps in 1 set, breaks between sets for 60-150 seconds (Piraua´., et al, 2019). Based on the explanation that has been presented, the author is interested in LBP Et Causa Suspect HNP in the elderly and can find out the effect of TENS and also core stability exercise therapy on the case of LBP Et Causa suspect HNP.

METHOD

This research is a case report, the subject of the study is a 65-year-old female patient with a medical diagnosis of LBP *et causa suspect* HNP at the RSUM Babat. Data collection was carried out by auto-anamnesis and physical examination, which was then carried out an in-depth analysis that included case description, examination, intervention used, and evaluation.

The interventions provided were TENS and Core Stability Exercise, which were carried out simultaneously in 1 therapy. Therapeutic interventions were carried out 6 times within 3 weeks, with the following doses. TENS, the frequency is given 2x in 1 week, with an intensity of 40mA, and for the current type is *asymmetric*, within 15 minutes. Core *stability exercises* are done 2 times a week, with 6x repetitions in each movement

for 10 minutes.

Evaluation for pain assessment using *a* visual analog scale (VAS), VAS is a parameter that measures pain intensity consisting of a straight line with numbers 1 to 10 which contains information about pain intensity at each end, the left end has a description of "no pain" and the right end has a description of "severe pain" (Yusminisari., et al, 2023). From research conducted by Andreyani and Bhakti (2023), validation results were obtained data with a value of 0.937. Assessment of muscle strength with manual muscle testing (MMT), the way to do this examination is that the patient is in a lying position, then instructed to wake up from sleep with a prisoner, to assess the muscle strength of the flexor group, then the muscle strength value according to the measurement instrument, to assess the strength of *the* extensor muscle group, That is the position of the patient sleeping on his stomach and then instruct him to lift his chest up and give him a restraint, then the value of muscle strength according to the measuring instrument. This measurement instrument has 5 assessments for muscle strength (Herawati and Wahyuni, 2017).

1. Value 0: no contractions.
2. Value 1: there are only contractions but no movement.
3. Value 2: there is contraction, movement arises, but it cannot resist gravity.
4. Value 3: there is contraction, able to resist gravity but unable to resist resistance
5. Value 4: there is contraction, able to resist gravity with minimal resistance load.
6. Value 5: there is contraction, able to resist gravity with maximum resistance load.

In research conducted by Nurani (2022), it was stated that the reliability of MMT had been tested by 11 previous research studies, obtaining a reliability coefficient $\alpha > 0.63$ - 0.98 for individual muscle groups, and $\alpha > 0.57$-1.0 for total MMT score, and for the validity of MMT the values obtained $r = 0.768$ (>0.05).

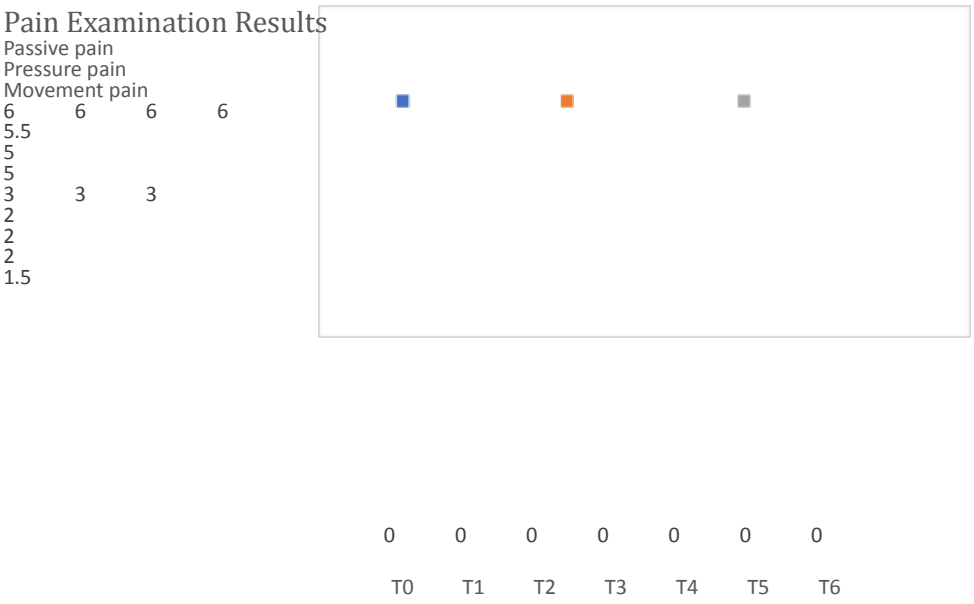
Activity daily living using the oswestry disability questionnaire (ODQ), this instrument contains ten question-type sessions, each of which consists of six questions. Patients are asked to fill in one answer in each session according to their circumstances (Trisnowiyanto in Tafikasani, 2022). The interpretation of ODQ is that the higher the percentage value, the higher the disability value. based on research conducted by Sandal., et al (2021) entitled Reliability and validity of the Punjabi version of the Oswestry Disability Index in mechanical low back pain patients, the results obtained were intermediate construct validity values ODI-P and VAS came out at 0.424 which is considered good.

RESULTS

1. Pain Reduction

After examining and evaluating the intensity of pain using VAS, the following results were obtained:

Table 1. Pain examination result

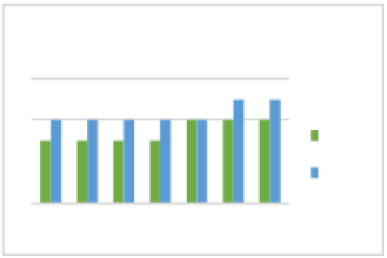


After being given TENS therapy and core stability exercise, the results were obtained that there was a decrease in the intensity of pressure pain and movement, in pressure pain the difference from T0 to T6 was 1.5 and in the movement pain value there was a difference of 1 from T0 to T6.

2. Increased Muscle Strength

After examining and evaluating muscle strength using MMT parameters, the following results were obtained:

Table 2. Muscle strength test results

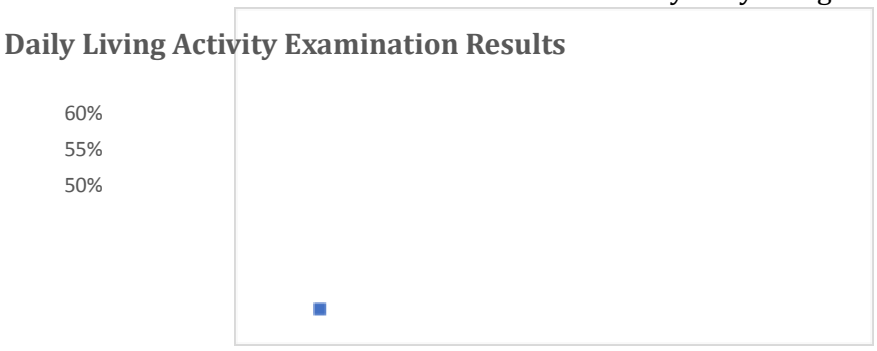


In this case, after being given core stability exercise therapy, there was an increase in the strength of the flexor and extensor muscle groups. In the trunk flexor drive muscle group, the value from T0 = 3 increased to T6 = 4, and for the trunk extensor drive muscle group, the value from T0 = 4 to T6 = 5 was obtained.

3. Increased Activity Daily Living

After examining and evaluating daily living activities using the oswestry disability questionnaire, the following results were obtained:

Table 3. Examination result activity daily living



	T0	T1	T2	T3	T4	T5	T6
Interpretasi	60%	60%	60%	56%	54%	54%	52%

After being given TENS therapy and core stability exercise, there was an increase in daily living activities, namely a decrease in percentage values in a better direction. From T0 the percentage is 60% to T6 the percentage is 52%, but the interpretation is still severe disability.

DISCUSSION

1. Pain Reduction

Pain can be reduced because TENS produces a current that is delivered on the surface of the skin using an electrode as an intermediary, this current can block pain messages that are transmitted to the brain from physiological stimuli that arise due to pain either directly or indirectly (Ulandari and Puspitasari, 2020).

Core stability exercises are exercises to activate the core muscles which function as stabilizers in the spine, this exercise can strengthen the activity of the dynamic muscular corset. Coordination of muscle contractions leads to lumbar stability, reduces pressure on the intervertebral discs as well as reduces the load on the lumbar muscles, resulting in reduced tissue damage and lumbar tension. Muscle relaxation can improve blood circulation and increase the supply of food and oxygen to muscle tissue, so that pain due to back muscle tension can be reduced (Amiriawati., et al, 2021).

This is in accordance with the research that has been conducted by Hardini., et al (2024), with the title Intervensi Fisioterapi *Transcutaneus Electrical Nerve Stimulation* (TENS) Dan *Lumbar Stabilization* Untuk Mengurangi Nyeri Dan Meningkatkan Lingkup Gerak Sendi (LGS) Pada Kasus *Low Back Pain* e.c. *Hernia*

Nucleus Pulposus obtained results after 4 times of therapy there was a decrease in pain, and in other research that has been carried out by Sampurno., et al (2023) with the title Efektivitas Kombinasi *Electrotherapy* Dan *Core Stability Exercise* Pada Pasien *Low Back Pain Myogenic*, it was concluded that there is an effect of electrotherapy and core stability exercise on pain reduction and functional capacity improvement in patients with myogenic low back pain. So there is a compatibility between this case and the theory of pain reduction with TENS and Core Stability Exercise in the case of LBP et causa suspect HNP.

2. **Increased Muscle Strenght**

   Core stability exercise is an exercise to stabilize the spine, to increase muscle strength, endurance and muscle flexibility in the spine, repair tissues, and also improve functional movement (Rajabi., et al, 2018). LBP can cause lower back muscle dysfunction, muscle spasm, and pain. Core stability exercise can make the core muscles contract in a coordinated manner so that the spine becomes stable, this exercise can strengthen the muscles that function as core stability, so that it is effective to reduce pain, improve LGS, and improve functional activity (Kisner, 2017).

   This is in accordance with a study that has been conducted by Prabaningtyas (2021) entitled, Efektivitas *Core Stability Exercise* Terhadap Penurunan Nyeri, Peningkatan Kekuatan Otot, *Range Of Motion* Dan Peningkatan Kualitas Fungsional Pada Pemetik Teh Dengan *Low Back Pain,* The result is that stability training has an effect on increasing muscle strength on tea pickers for low back pain sufferers with an effectiveness of 0.667%. The results of this study are in accordance with this case, namely that there was an increase in muscle strength after being given core stability exercise.

3. **Increased activity daily living**

   The limitation of daily living activities in cases of lumbar HNP is due to pain and muscle weakness so that the provision of core stability exercise has an effect in reducing pain due to spasm, increasing muscle strength, so that there is an increase in daily living activity. Providing this exercise can improve daily living activities by increasing trunk stability and improving the balance of the abdominal and paravertebral muscles. This is because when the core muscles are weak or unbalanced (imbalance muscle), pain will arise in the lower back area, which can cause ADL limitations (Prabaningtyas, 2021). TENS is also effective in increasing daily living activities, this is because pain in LBP cases is the cause of limited daily living activities, TENS is a therapeutic modality using electricity to stimulate the nervous system through the surface of the skin. With the right frequency and intensity, TENS can block the pathway used to convey pain messages to the brain (Patel., et al, 2016).

   This explanation is in accordance with research conducted by Saputri (2016) entitled *Core Stability Exercise* Dan *Mckenzie Exercise* Terhadap Peningkatan Aktivitas Fungsional Pada Penjahit Dengan Keluhan Nyeri Punggung Bawah (NPB) *Miogenik* Di Desa Tambong Kabupaten Klaten, The results showed that

there was an effect of core stability training on increasing activity functional respondents with NPB complaints, with a difference of 2.00. Another research was conducted by Purwasih., et al (2020), with the title Penatalaksanaan *Transcutaneus Electrical Nerve Stimulation* (TENS) pada *Low Back Pain Myogenic*, it was found that the results of administering TENS to Myogenic Low Back Pain patients can reduce pain in the waist and increase functional activity. From the research that has been mentioned, there is a correspondence between these cases which states that providing core stability training and TENS has an influence on improving daily life activities.

CONCLUSION

After 6 times of therapy using TENS and core stability exercises, there was a decrease in pain, an increase in muscle strength, and an increase in daily living activities. It is hoped that in the future, research can provide physiotherapy interventions over a longer period of time and provide more intense education regarding home programs to patients and their families so that the results obtained are more optimal.

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Research Article

The Relationship Between Effective Communication of Healthcare Providers and Patient Satisfaction in The Outpatient Department of Nashrul Ummah Islamic Hospital, Lamongan

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ABSTRACT

Background: Patient satisfaction reflects the patient's feelings and the level of emotions that arise in response to the feedback from the healthcare services received. Satisfaction is achieved when the patient's expectations are met by the reality of the services provided. One factor influencing patient satisfaction is communication. The objective of this study is to examine the relationship between effective communication of healthcare providers and patient satisfaction at Nashrul Ummah Islamic Hospital, Lamongan. **Objectives:** This study is to determine the relationship between effective communication of Health Care providers and patient satisfaction at Nasrul Ummah Hospital. **Method:** The study employed a quantitative design with an analytical correlation technique. The population consisted of 9,238 patients, with a sample size of 99 respondents. Data were collected using a questionnaire, followed by editing, coding, scoring, and tabulation. The data were analyzed using the Spearman Rank test. **Result:** The results showed that 78.8% of respondents rated the communication effectiveness of the healthcare providers as very good, and 86.9% of respondents reported being very satisfied with the services. With a significance value of 0.000 < 0.05 and the value of 0.758, the null hypothesis (H0) was rejected, indicating a significant relationship between the effective communication of healthcare providers and patient satisfaction in the Outpatient Department of Nashrul Ummah Islamic Hospital. **Conclusion:** This relationship suggests that the better the communication conducted by healthcare providers, the higher the level of patient satisfaction with the healthcare services they receive. Therefore, it is necessary to improve the quality of communication between healthcare providers and patients. Healthcare providers should establish good, trusting relationships with patients, listen carefully to their complaints, and explain the patient's condition, treatment plans, and potential risks in language that is easily understood by the patient.

Keywords
Effective Communication, Patient Satisfaction, Hospital Services

INTRODUCTION

The quality of healthcare services is a reflection of the performance outcomes of healthcare professionals, which result in public satisfaction with the utilization of those services. Evaluating the quality of healthcare services extends beyond merely observing patient recovery; it also involves assessing the attitude, knowledge, and skills of healthcare providers in delivering services, including communication, information dissemination, courtesy, punctuality, as well as the availability of adequate facilities, infrastructure, and physical environment. Patient satisfaction serves as an indicator for assessing the quality of healthcare services in an institution (Rusnoto et al., 2019).

Patient satisfaction reflects how individuals feel and their emotional responses based on the feedback they receive from healthcare services. It occurs when the services provided meet or exceed the patient's expectations. Patient perceptions of healthcare quality can be evaluated through five dimensions: reliability, which assesses the accuracy and dependability of service delivery; responsiveness, which evaluates the timeliness of the service; assurance, which relates to instilling confidence and security in patients; empathy, which involves giving genuine personal attention to patients; and tangibility, which requires providers to showcase their resources effectively, including equipment and staff (Arnaya et al., 2021).

Communication is a crucial process in human relationships. In the provision of healthcare services, healthcare providers must possess both the knowledge and the ability to communicate effectively, as this is foundational to establishing a relationship between the healthcare provider and the patient and their family. Nurses and midwives who have strong communication skills and competencies will find it easier to build relationships with both patients and their families (Piranti et al., 2016). In this context, nurses and midwives must exhibit appropriate behavior, speech, attentiveness, a welcoming smile, and greetings at the beginning of service, as well as responsiveness in conversations. The ease of accessing information and communication ranks highly in patients' perceptions of satisfaction (Saputro et al., 2022).

Communication occurs when a source elicits a response from a recipient through the transmission of a message, one of which is effective communication. Effective communication plays a crucial role in achieving healthcare service satisfaction. In practice, effective communication involves more than just conveying information; it also includes communicating the feelings and attitudes of both the information recipient and the information provider. The implementation of effective communication encompasses several aspects, summarized by the acronym REACH, which stands for respect, empathy, audibility, clarity, and humility (Mufarrikoh et al., 2018).

In the implementation of effective communication provided by healthcare professionals, several factors come into play, including the duration of employment, the intensity of interaction with patients or their families, as well as training and experience in service delivery. Training or skill enhancement for healthcare professionals is essential for improving the abilities of service providers in delivering effective communication. Effective communication is employed by service providers to gather information about the health of patients or their families and to determine appropriate and beneficial health education and promotion for patients. This, in turn, can enhance public satisfaction with healthcare providers

(Koutromanos et al., 2011). This is consistent with research conducted by Marsyandi Putra in 2019 at Siti Rahma Islamic Hospital in Padang, which explains that effective communication has a significant impact on service satisfaction. This means that if effective communication can be maintained and improved, it will lead to increased service satisfaction. Conversely, if the effectiveness of communication cannot be enhanced and experiences a decline, there is likely to be a tendency for service satisfaction to decrease.

A similar study conducted by Romlah et al. (2023) at the 24 Vienna Gading Serpong Pharmacy found a significant relationship between effective communication and patient satisfaction (r count 0.837 > r table 0.195). This finding indicates a very strong correlation between the variables and indicators of effective communication and patient satisfaction (assurance).

Therefore, patient satisfaction derived from communication is one of the main factors supporting a hospital's ability to express its roles and functions. One of the key competencies that hospital staff must possess is the ability to communicate effectively and clearly when providing services to the public. Effective communication skills underpin efforts to solve problems and facilitate the provision of assistance, both in medical and psychological services (Saputro et al., 2022).

Based on the aforementioned discussion, the researcher is interested in conducting a study titled "The Relationship Between Effective Communication of Healthcare Providers and Patient Satisfaction in the Outpatient Department of Nashrul Ummah Islamic Hospital, Lamongan."

METHOD

This research was a quantitative study using an analytical correlation method with a cross-sectional approach. The study aimed to examine the relationship between the independent variable—effective communication— and the dependent variable—patient satisfaction. In this approach, both the independent and dependent variables were measured only once, at a single point in time.

The research was conducted from February 2024 to May 2024 at Nashrul Ummah Islamic Hospital in Lamongan. The population for this study included patients from all outpatient clinics at Nashrul Ummah Islamic Hospital, totaling 9,238 respondents over the last three months (October to December). The sample size was determined using the Slovin formula, resulting in 99 respondents. Data collection was carried out using a questionnaire distributed directly to respondents at Nashrul Ummah Islamic Hospital in Lamongan.

RESULTS

Table 1 Characteristics of Respondents in the Outpatient Department of Nashrul Ummah Islamic Hospital, Lamongan

Age	Frequency	Percentage (%)
17-25	11	11.1
26-35	13	13.1
36-45	20	20.2
46-55	41	41.4
56-65	14	14.1
Total	**99**	**100**

Gender	Frequency	Percentage (%)
Male	36	36.4
Female	63	63.6
Total	**99**	**100**

Occupation	Frequency	Percentage (%)
Farmer	23	23.2
Self-employed	16	16.2
Civil Servant	15	15.2
Labor	45	45.5
Total	**99**	**100**

Educational Background	Frequency	Percentage (%)
Primary School	11	11.1
Junior High School	5	5.1
Senior High School	70	70.7
Bachelor Degree	13	13.1
Total	**99**	**100**

Types of Payment	Frequency	Percentage (%)
General	8	8.1
BPJS	91	91.9
Total	**99**	**100**

Table 2 Univariate Analysis of the Relationship between Effective Communication of Healthcare Providers and Patient Satisfaction in the Outpatient Department of Nashrul Ummah Islamic Hospital, Lamongan

Effective Communication	Frequency	Percentage (%)
Very good	78	78.8
Good	11	11.1
Fair	10	10.1
Total	**99**	**100**
Patient Satisfaction	**Frequency**	**Percentage (%)**
Very satisfied	86	86.9
Satisfied	10	10.1
Moderately satisfied	3	3.0
Total	**99**	**100**

Based on the table above, it is evident that nearly all respondents at Nashrul Ummah Islamic Hospital (78.8%) rated the effectiveness of staff communication as very good, while a small portion of respondents (10.1%) rated it as fair. Additionally, almost all respondents (86.9%) reported being very satisfied with the services at Nashrul Ummah Islamic Hospital, with a small percentage (3.0%) indicating they were moderately satisfied.

Based on the cross-tabulation table, it is shown that out of 99 respondents, the majority rated the effectiveness of staff communication as very good, with 78 respondents (78.8%) expressing very high satisfaction. A small portion of respondents rated staff communication as adequate, with 10 respondents (10.1%), among whom 3 respondents (3%) reported being very satisfied, 4 respondents (4%) were satisfied, and 3 respondents (3%) were moderately satisfied.

The results from the SPSS analysis using the Spearman rank test indicate a significance value (2-tailed) of $p=0.000 < 0.05$, leading to the rejection of the null hypothesis (H0) and acceptance of the alternative hypothesis (H1). This means there is a significant relationship between the effective communication of healthcare providers and patient satisfaction in the Outpatient Department at Nashrul Ummah Islamic Hospital, with a correlation strength of 0.758, which falls into the category of very strong.

DISCUSSION

Effective Communication of Healthcare Providers in the Outpatient Department of Nashrul Ummah Islamic Hospital Lamongan

Based on the research findings, it can be explained that nearly all patients at RSI Nashrul Ummah (78.8%) rated the effectiveness of staff communication as “very good,” while a small proportion of patients (10%) rated it as “satisfactory”. This is consistent with the study conducted by Putri et al. (2023) at Puskesmas Cimalaya, which found that communication effectiveness among healthcare workers was categorized as “good” (93.5%) and “poor” (6.5%). Several factors contributing to the categorization of communication effectiveness as “good” include work experience, the importance of patient safety, and empathy skills.

Patient characteristics that may influence their assessment of staff communication effectiveness include age, gender, and occupation. The study indicates that nearly half of the patients (41.4%) at Nashrul Ummah Islamic Hospital are aged 46-55 years, an age at which individuals typically possess substantial life experience and social maturity. According to Rusnoto et al. (2019), individuals aged 46-55 are more likely to express their experiences and approach situations with neutrality, particularly in interactions with staff, thus leading to their high assessment of staff communication.

Based on patient gender, the majority of patients (63.6%) at Nashrul Ummah Islamic Hospital are female. According to Rusnoto et al. (2019), gender is a characteristic that can influence behavioral differences between males and females, with females tending to assess details more thoroughly compared to males, who may be less attentive.

As a result, women are more likely to evaluate the quality of staff

communication more critically. Nonetheless, nearly all patients reported that the effectiveness of staff communication is very good. The study also indicates that nearly half of the patients (45.5%) work as farmers, while a small proportion (15.2%) are civil servants. Farmers generally have lower levels of education compared to other professions, which may affect their understanding of healthcare services. However, as laypeople, farmers often accept the services provided by staff with a focus on achieving recovery. This acceptance influences their perception of the communication received from staff; patients tend to carefully consider the information provided by staff, viewing it as essential for their recovery.

From the above description, it can be concluded that the communication methods employed by staff at Nashrul Ummah Islamic Hospital are effective. Although patients feel that the communication is effective, there is still a need for improvement, given that as times and technology evolve, patients are becoming increasingly critical of various aspects, particularly in healthcare services. Efforts such as training in effective communication are necessary to enhance staff communication skills, ensuring that patients understand and provide favorable assessments.

The measurement of effective communication based on patient perception indicates that user satisfaction with healthcare services is influenced by several factors, one of which is the user's understanding of the type of service they will receive. In this context, communication plays a crucial role as healthcare services involve high levels of personal contact. The quality of healthcare services is a determining factor in the overall quality and reputation of the healthcare facility, thereby affecting patient satisfaction. Therefore, healthcare professionals must possess strong communication skills to establish effective relationships with patients. Building such relationships is vital for determining patient satisfaction, and inadequate communication can lead to issues for both patients and healthcare providers (Yudanto, 2012).

Patient Satisfaction in the Outpatient Room of Nashrul Ummah Islamic Hospital, Lamongan

Based on the research findings, it can be explained that nearly all patients (86.9%) were satisfied with the services at Nashrul Ummah Islamic Hospital, while a small proportion of respondents (3.0%) were somewhat satisfied. This aligns with the study conducted by Putri et al. (2023) at Puskesmas Cimalaya, which found that patient satisfaction was categorized as "satisfied" (96.1%) and "dissatisfied" (3.9%). Factors contributing to the "satisfied" category of patient satisfaction include service quality, communication skills, and the quality of interactions with healthcare pr.

Patient characteristics that may influence satisfaction include educational background, payment method, and patient type. The research shows that the majority of patients (70.7%) at Nashrul Ummah Islamic Hospital had a high school education. According to Rusnoto et al. (2019), educational level is related to patient satisfaction, with those holding a high school diploma generally being more easily satisfied compared to those with a bachelor's degree. The researchers suggest that individuals with a high school education have less knowledge compared to those with higher

education, which influences their perception and assessment of the services provided by staff.

The research findings indicate that nearly all patients (91.9%) at Nashrul Ummah Islamic Hospital were covered by BPJS Health insurance. According to Ardhitunggal and Suryawati (2019), BPJS membership affects satisfaction because BPJS Health covers treatment costs, thereby reducing the financial burden on patients. This alleviation of financial stress contributes to increased patient satisfaction. However, if patients feel inadequately served, they might complain about perceived differences in service quality between BPJS patients and general patients, despite the staff providing services impartially in adherence to the principle of equality. The fact that services at Nashrul Ummah Islamic Hospital are provided according to procedures without differentiating patient status contributes to patient satisfaction with the outpatient services.

Regarding patient status, nearly all patients (84.8%) at Nashrul Ummah Islamic Hospital were repeat patients. Fardiansyah et al. (2022) state that hospitals provide the best service to enhance patient satisfaction and strengthen patient loyalty, leading patients to return to the same hospital for future health issues. According to the researcher, patients satisfied with services at a Referral Health Facility (FKRTL) are more likely to choose it as their referral option. This satisfaction arises from their familiarity with the treatment process at Nashrul Ummah Islamic Hospital, their recognition of the Responsible Doctor (DPJP), their satisfaction with the outpatient services provided by the staff, and the clarity of information given by the staff.

From the above description, it can be concluded that, in general, patients at Nashrul Ummah Islamic Hospital are satisfied with the effective communication provided by the staff. This finding is consistent with other studies indicating that nearly all patients are satisfied with the services provided, particularly appreciating the quality of service, communication skills, and the quality of interactions with healthcare professionals. Nevertheless, Nashrul Ummah Islamic Hospital must remain consistent in maintaining patient satisfaction with outpatient services. It is important to conduct regular satisfaction assessments through questionnaires, provide mechanisms for patient feedback and suggestions, ensure that staff exhibit courteous and respectful behavior towards patients, and, if necessary, offer training to staff on delivering high-quality service to enhance patient satisfaction.

Analysis of the Relationship between Effective Communication of Healthcare Providers and Patient Satisfaction in the Outpatient Department of Nashrul Ummah Islamic Hospital, Lamongan

Based on the statistical test results, the significance value (2-tailed) was $p=0.000 < 0.05$ with a correlation strength of 0.758, which fell into the strong category. Therefore, the null hypothesis (H0) was rejected, and the

alternative hypothesis (H1) was accepted, indicating that there was a significant relationship between effective communication by healthcare staff and patient satisfaction in the outpatient department of Nashrul Ummah Islamic Hospital. Effective communication between healthcare staff and patients plays a crucial role in enhancing patient satisfaction. When patients feel heard, understood, and receive clear and accurate information about their condition and treatment, they are more likely to be satisfied with the services they receive (April Arian, 2018).

Based on the research conducted by Subroto et al. (2021) on the relationship between the implementation of effective communication and patient satisfaction at RSUD dr. H. Soemarno Sosroatmodjo Kuala Kapuas, the statistical value obtained was $P < 0.05$, indicating that effective communication is significantly related to patient satisfaction.

This finding is consistent with the research by Rusnoto (2019), where Fisher's Exact Test results showed a significant relationship between communication and patient satisfaction ($p = 0.001$). Further supporting this, Putri et al. (2023) argue that one of the factors influencing satisfaction is communication. Effective communication from healthcare providers leads to higher patient satisfaction. As the quality of effective communication improves, so does the level of satisfaction patients experience. Satisfied patients are likely to return to the same hospital and recommend its services to others.

Based on the above discussion, it can be concluded that there is an impact of effective communication by healthcare staff on patient satisfaction. This indicates that as the quality of communication by healthcare providers improves, patient satisfaction with the healthcare services they receive also increases. Effective communication is a crucial factor in enhancing patient satisfaction. Therefore, efforts should be made to improve the quality of communication between healthcare staff and patients. According to the researcher, it is essential for healthcare providers to build a good and trusting relationship with patients, listen attentively to what patients say and complain about, and explain the patient's condition, treatment plans, and potential risks in language that is easily understandable. By enhancing communication quality, it is anticipated that patient satisfaction with healthcare services will improve, thereby also improving patients' quality of life.

CONCLUSION

Based on the research findings, discussion, and objectives of the study, it can be concluded that nearly all respondents at Nashrul Ummah Islamic Hospital experience very good effective communication. Additionally, nearly all respondents are very satisfied with the services. Furthermore, there is a positive relationship between effective communication by healthcare providers and patient satisfaction in the outpatient department of Nashrul Ummah Islamic Hospital.

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Research Article

The Influence of Interactive Videos on Genital Hygiene Knowledge, Attitudes and Behavior in Al-Mizan Islamic Boarding School Students

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ABSTRACT

Background : Genital hygiene is a treatment of the genitals that must be kept clean to prevent the growth of fungi or bacteria. One of the ways to prevent infection in the genitals is to provide an interactive video media education that contains about proper and correct genital hygiene care. Objective : The purpose of this study is to determine the influence of interactive video media on the knowledge, attitude, and behavior of genital hygiene in students. Methods : The method used in this study is *Pre Experimental Design* with *the One Group Pre Test Post Test Design* approach. The population in this study was 189 students, 129 were obtained as samples using *the cluster sampling* formula. The instruments in this study are SAP, knowledge questionnaire sheet, attitude questionnaire sheet, and behavior questionnaire sheet. Results : The results of the Wilcoxon test with a significance level *of P* = <0.05. Based on the above results, the significance *of P* = 0.000 which means that there is an influence of interactive video media on *genital hygiene* knowledge in students. There was an influence of interactive video media on *genital hygiene* attitudes among students (p=0.000). There was an effect of interactive video media on *genital hygiene* behavior in students (p=0.000). Conclusion : Interactive video media is one of the recommended media to improve knowledge, attitudes and behaviors of genital hygiene. Therefore, it is hoped that health workers or nursing students will focus more on providing education to improve knowledge, attitudes, and behaviors of genital hygiene in adolescent women.

Keywords

Interactive Videos, Knowledge, Attitudes, Behavior

INTRODUCTION

The reproductive organs are one of the body's sensitive organs and require special care. Knowledge and care are decisive factors in maintaining reproductive health (Pusoitaningrum, 2020). Cleaning the outer female organs (*genital hygiene*) is important for every woman to do to prevent infections and sexually transmitted diseases (Humairoh, 2022). Good and correct *genital hygiene* behavior is one of the keys to improving a woman's reproductive health. This lack of knowledge, attitudes, and

behaviors about *genital hygiene* is experienced by many adolescents who are just experiencing the early period of menstruation (*menarche*) (Humairoh, 2022).

Genital hygiene is a treatment of the genitals that must be kept clean to prevent the growth of fungi or bacteria. One of the consequences of the lack of *genital hygiene* behavior is the occurrence of reproductive organ health disorders such as *flour albus* or vaginal discharge, reproductive organ infections, and the possibility of cervical cancer (Adibah et al., 2021).

According to *the World Health Organization* (WHO), about 75% of women in the world experience vaginal discharge once in their lifetime, and 45% of women will experience it twice or more, while women in Europe experience such cases at 25%. Women in Indonesia have the potential to experience vaginal discharge of around 90%, this is because Indonesia is a country with a tropical climate, so that one of the factors in vaginal discharge cases is that fungi will easily develop. As many as 90% of women experience vaginal discharge, 60% of which are experienced by adolescent girls and can increase every year (Juliani, 2023). The results of the Indonesia Demographic and Health Survey (SDKI) of Adolescent Reproductive Health (KRR) show that 65% of adolescent girls in Indonesia experience vaginal discharge. Meanwhile, in 2018, around 90% of women in Indonesia experienced this problem and 60% of them were experienced by adolescent girls. Based on statistical data in 2019, the number of adolescent girls in East Java is 2.9 million people aged 15-24 years, 68% experience pathological vaginal discharge (Masyayih et al., 2022). Publication data from Meri Selviani Putri's research on students of SMP Negeri 2 Deket as many as 80 adolescent girls who experience vaginal discharge, from the data above, there are still many adolescent girls who experience vaginal discharge.

Genital hygiene *behavior* is very important because if it is not implemented properly, it will have a negative impact on reproductive health. One of the consequences of the lack of understanding of *genital hygiene* is the occurrence of reproductive health disorders such as vaginal discharge, urinary tract infections (UTIs), pelvic inflammatory disease (PRP) and the possibility of cervical cancer, so good information about reproductive health is needed so that adolescents have a good understanding and can prevent the threat of reproductive diseases (Mulyani et al., 2019).

According to *the World Health Organization* (WHO), about 75% of women in the world experience vaginal discharge once in their lifetime, and 45% of women will experience it twice or more, while women in Europe experience such cases at 25%. Women in Indonesia have the potential to experience vaginal discharge of around 90%, this is because Indonesia is a country with a tropical climate, so that one of the factors in vaginal discharge cases is that fungi will easily develop. As many as 90% of women experience vaginal discharge, 60% of which are experienced by adolescent girls and can increase every year (Juliani, 2023). The results of the Indonesia Demographic and Health Survey (SDKI) of Adolescent Reproductive Health (KRR) show that 65% of adolescent girls in Indonesia experience vaginal discharge. Meanwhile, in 2018, around 90% of women in Indonesia experienced this problem and 60% of them were experienced by adolescent girls. Based on statistical data in 2019, the number of adolescent girls in East Java is 2.9 million people aged 15-24 years, 68% experience pathological vaginal discharge (Masyayih et al., 2022). Publication data from Meri Selviani Putri's research on students of SMP Negeri 2 Deket as many as 80 adolescent girls who experience vaginal discharge, from the data above, there are still many adolescent girls who experience vaginal discharge.

Efforts that can be made to improve the knowledge, attitudes, and behaviors of adolescents about genital hygiene are one of them by providing health education. The media that can be used for health education is interactive videos. The advantages of interactive video media are clearer and more interesting learning, more interactive learning process, time and energy efficiency and improving the quality of learning outcomes.

METHOD

In this study, a type of quantitative research is used. The research design uses *Pre-Experimental* with *the One Group Pretest-Postest Design* approach. This research was conducted at the Al-Mizan Muhammadiyah Lamongan Islamic Boarding School in April 2024 which used *cluster sampling* techniques on 129 samples from 189 student populations at the Al-Mizan Muhammadiyah Lamongan Islamic Boarding School. The inclusion criteria in this study include respondents of students at the Al-Mizan Muhammadiyah Lamongan Islamic Boarding School, willing to become respondents, and healthy both physically and mentally, and for the exclusion criteria in this study, namely adolescents who refuse to become respondents, adolescents who are sick and adolescents who take the pre-test but do not follow the post-test. The independent variable of this study is interactive video media, the dependent variable in this study is knowledge, attitude, and behavior *of genital hygiene*. The research instrument on independent variables with interactive video media of the researcher uses SAP. In the dependent variable on knowledge about *genital hygiene,* the researcher used a questionnaire containing 10 questions. Meanwhile, the research instrument on *genital hygiene* attitudes uses a questionnaire containing 15 questions, and this research has been declared ethically feasible by the health research ethics commission of the University of Muhammadiyah Lamongan with letter number 250/EC/KEPK-S1/07/2024. Then the collected data will be tested using *the wilcoxon* test. With a significant result of $P<0.005$.

RESULTS

The characteristics of the respondents are shown in table 1. Characteristics of general data of respondents that contain age, class, and menstrual history.

Table 1. General data characteristics

Characteristic	n	%
Age		
15 Years	33	27
16 Years	29	22,5
17 Years	37	29
18 Years	30	23
Total	129	100%
Class		
X	41	31,8
XI	46	35,7
XII	42	32,6
Total	129	100%
Menstruation		
Already	129	100
Total	129	100%

In table 1. It shows that of the 129 students at the Al-Mizan Muhammadiyah Lamongan Islamic Boarding School, almost some (29%) of the students are 17 years old, almost some (35.7%) of the students are class XI, all (100%) of the students have experienced menstruation.

Tabel 2. Distribution of the level of knowledge, attitudes, and behaviors of students before being given interactive video media education.

Variable	Pretest		Postest	
	n	%	n	%
Level of Knowledge				
a. Good	8	6,2	123	95,3
b. Enough	78	60,5	6	4,7
c. Not enough	43	33,3	0	0
Total	129	100%	129	100%
Attitude Level				
a. Positive	56	43,4	80	62
b. Negative	73	56,6	49	38
Total	129	100	129	100%
Behavior Level				
a. Positive	54	41,9	87	67,4
b. Negative	75	58,1	42	32,6
Total	129	100%	129	100%

Table 2. The above shows that before being given interactive video media education, most (60.5%) of students have a sufficient level of knowledge in the category, most (56.6%) of students have a negative category attitude, and most (58.1%) of students have negative category behavior. After being given interactive video media education, almost all (95.3%) of students have good category knowledge, most (62%) of students have positive category attitudes, most (67.4%) of students have positive category behavior.

Tabel 3. Analysis of the Influence of Interactive Video Media on Knowledge, Attitudes, and Behaviors *of Genital Hygiene* in Santriwati.

Variabel	Z	P Value
Knowledge	-9,823[b]	0,000
Attitude	-9,839[b]	0,000
Behaviour	-9,515[b]	0,000

Based on Table 3, the results of data analysis conducted by the *Wilcoxon signed ranks test* statistical test through the *Statistical Product and Service Solutions (SPSS) 25.0 For Windows computer program* software in *the pre test* and *post test* on the variables of knowledge, attitude, and behavior, it was found that the significance value of p=0.000 with the significance standard of p=<0.005 so that H1 was accepted, which means that there is an influence after being given interactive video media education on the knowledge, attitudes, and behaviors *of genital hygiene* in students at the Al-Mizan Muhammadiyah Lamongan Islamic Boarding School.

DISCUSSION

1. The Effect of Interactive Video Media on Genital Hygiene Knowledge for Students at Al-Mizan Muhammadiyah Lamongan Islamic Boarding School

   Based on table 4, it is known that respondents who previously had good knowledge after being given education are all still good, and students who have enough knowledge almost all of them turn into good, while mothers who have less knowledge mostly turn into good. From the data, it can be concluded that there is a difference in knowledge before and after education is given. This can be proven by the results of the SPSS 25.0 test using the Wilcoxon test with a significance of 0.000 where P= <0.05, then H0 is rejected, and H1 is accepted, meaning that there is an influence of interactive video media on the knowledge of genital hygiene in students at the Al-Mizan Muhammadiyah Lamongan Islamic Boarding School.

   The results of this study are supported by research conducted by Raisah et al, (2023) that there is an increase in student knowledge after being educated about brushing children's teeth using interactive video media.

   This research is also in line with the research of Harsiwi et al., (2020), that there is an increase in knowledge in students after being given interactive video learning. By being given a learning model through interactive video media can motivate students so that they can improve their knowledge and learning achievement, students give a positive response to the implementation of the interactive video learning model. According to Noval (2019), interactive video media is a video that has an easy-to-use, attractive, interactive display, and can strengthen student learning with clear knowledge and provide a good learning environment so that it can increase the user's knowledge.

   Based on the above statement, it can be concluded that there is an influence of interactive video media on the knowledge of genital hygiene among students at the Al-Mizan Muhammadiyah Lamongan Islamic Boarding School.

2. The Effect of Interactive Video Media on Genital Hygiene Attitudes of Students at Al-Mizan Muhammadiyah Lamongan Islamic Boarding School

   Based on table 4, it is known that respondents who previously had a negative attitude after being given education almost completely changed to a positive attitude while respondents who previously had a positive attitude after being given education almost entirely remained a positive attitude. From the data, it can be concluded that there are differences in attitudes before and after education is given. This is evidenced by the results of the SPSS 25.0 test using the Wilcoxon test with a significance of 0.000 where P=<0.05. So H0 was rejected, and H1 was accepted, meaning that there was an influence of interactive video media on the attitude of genital hygiene among students at the Al-Mizan Muhammadiyah Lamongan Islamic Boarding School.

   This study is in line with the research of Tarigan et al., (2022) on the effect of health promotion with interactive videos about hypnobirthing on the knowledge and attitudes of primiravida pregnant women in dealing with childbirth at PMB

Midwifery, Pondok Melati District, Bekasi, showing that there is an influence before and after health promotion through interactive videos about hypnobrithinng on the knowledge and attitudes of primigravida pregnant women in facing childbirth with p value = 0.001. Another research result from Ridwan, (2021), that there is an increase in attitudes to using interactive video media after being given education. The advantages of this interactive video media can be used to make teaching and learning easier because it provides attraction for students in addition to providing good information provided by Refai educators, (2022).

Based on the statement above, it shows that providing genital hygiene material through interactive video media will be able to provide new knowledge that is beneficial for students and has an impact on improving attitudes. It can be concluded that there is an influence of interactive video media on genital hygiene attitudes in Al-Mizan Muhammadiyah Lamongan Islamic Boarding School.

3. The Effect of Interactive Video Media on Genital Hygiene Behavior of Students at Al-Mizan Muhammadiyah Lamongan Islamic Boarding School

Based on table 4, it is known that respondents who previously had negative behavior after being given education almost completely changed to positive behavior, while respondents who previously had positive behavior after being given education remained completely positive. From this data, it can be concluded that there are differences in behavior before and after education is given. This is evidenced by the results of the SPSS 23.0 test using the Wilcoxon test with a significance of 0.000 where P=<0.05. So H0 was rejected, and H1 was accepted, meaning that there was an influence of interactive video media on genital hygiene behavior in students at Al-Mizan Muhammadiyah Lamongan Islamic Boarding School.

According to Wawan (2019), behavior is a person's response to a stimulus or an action that can be seen or observed and has a specific frequency. Behavior is the result of all kinds of human experiences and interactions with their environment which are manifested in the form of knowledge, attitudes, and actions. This research is in line with the research of Razi et al., (2022), there is an effect of health promotion using interactive videos on hand washing behavior with soap with a p value = 0.001. This research is also in line with the research of Umrah et al., (2020) there is an influence of interactive videos on the knowledge, attitudes, and behaviors of menstrual hygiene in adolescent girls.

Based on the above statement, it can be concluded that there is an influence of interactive video media on genital hygiene behavior in students at the Al-Mizan Muhammadiyah Lamongan Islamic Boarding School.

CONCLUSION

Based on the results of the research and discussion, it can be concluded that most of the students at the Al-Mizan Muhammadiyah Lamongan Islamic Boarding School have good and correct knowledge, attitudes, and behaviors of genital hygiene after being given interactive video media about genital hygiene. Which means that there is an influence of interactive video media on the knowledge, attitude, and behavior of genital hygiene in the Al-Mizan Muhammadiyah Lamongan Islamic Boarding School.

It is hoped that the pesantren can increase the frequency of counseling activities and increase education to young women about genital hygiene.

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Research Article

The Relationship Between Family Support and Anxiety of High Risk Pregnant Women at Sukodadi Public Health Center, Lamongan

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ABSTRACT

Background: Anxiety is a condition in which a person experiences feelings of discomfort or fear thatis often accompanied by autonomic responses or physical body reactions. One of the causes of anxiety in high-risk pregnant women is family support. Objectives: Analize the relationship between family support and anxiety of high risk pregnant women at Sukodadi Public Health Center . Methods: The research design used analytical correlation with a cross sectional approach, using consecutive sampling technique. The population and sample used were all high-risk pregnant women based on the Poedji Rochjati Score Card (KSPR) who checked pregnancy at the Sukodadi Lamongan Public Health Center from April to May as many as 36 respondents. Results: Data was collected using a closed questionnaire.After tabulation and analysis using the Spearman Test. The results showed that most (91.7%) showed a good family support relationship, and most (44.5%) showed mild anxiety.With a value of (P<0.05) and a significant value of p = 0.022 which means H0 is rejected andH1 is accepted. With a value of rs = -0.381 which means there is a relationship between family support and anxiety of pregnant women at high risk. Conclusion: To overcome the problem of family support with anxiety of high-risk pregnant women is to provide health education to high-risk pregnant women can help provide the right information, support, and help pregnancy prepare themselves physically and mentally.

Keywords

Anxiety , Family Support, Pregnant women

INTRODUCTION

Anxiety is a condition in which a person experiences feelings of discomfort or fear that are often accompanied by an autonomic response or physical reaction of the body. For pregnant women in general, anxiety can occur during the pregnancy process, because during pregnancy women will experience changes in physical and psychological function where the process of adjusting to these conditions then causes anxiety. In addition, childbirth can also be a pleasant and even stressful experience for a woman stating that the level of maternal anxiety becomes more acute and intense in the last week of pregnancy as the birth of the baby approaches (Isnaini et al., 2020). High-risk pregnancy is a pregnancy that has a higher potential health risk for both the mother and the baby compared to pregnancy in general. High-risk pregnancy refers to a condition where there is a greater potential for danger and complications for both the mother and the fetus during pregnancy, childbirth, or postpartum (Aliyah & Adelina, 2020).

Based on the World Health Organization (WHO) in 2020, it explains that around 287,000 mothers experience high-risk pregnancies, due to complications of pregnancy and childbirth, such as bleeding 28%, preeclampsia/eclampsia 24%, infection 11%, and indirect causes (obstetric trauma) 5%. Estimates of the prevalence of perinatal anxiety and depression vary between studies: the prevalence of antenatal depression is between 7% and 20% in high-income countries and 20% and above in low- and middle-income countries. According to the Indonesian Ministry of Health (2021), data on pregnant women in Indonesia who experience anxiety is 26.8%. A total of 10 pregnant women were examined at the Sukodadi Health Center. The results obtained from this number were 3 people (30%) experiencing high-risk pregnancies, of which most experienced anxiety in severe and moderate conditions. While 5 people (50%) experienced high-risk pregnancies from this number, most experienced anxiety in moderate conditions. While 2 (20%) experienced low- risk pregnancies, most of them experienced mild anxiety. The impact of high-risk pregnancies can increase the risk of postpartum hemorrhage or postpartum hemorrhage in the mother. Postpartum hemorrhage is a condition in which the mother experiences significant blood loss after giving birth. Factors that can cause postpartum hemorrhage in high-risk pregnancies are placental complications, blood clotting disorders, cesarean section, multiple pregnancies. High-risk pregnancies can increase the likelihood of several complications in newborns. The impacts that occur in high-risk pregnancies are premature birth, low birth weight, excess weight (macrosomia), and neonatal death (Rukina & Pangastuti, 2022). Efforts to reduce anxiety in high-risk pregnancies are by providing health education. This health education can help provide the right information, support, and help pregnancy prepare physically and mentally. One of them is to check the pregnancy as early as possible and regularly at the integrated health post, community health center, hospital, at least 4 times during pregnancy by getting immunization twice, if high-risk abnormalities are found, the examination must be more frequent and more intensive (Sauliyusta & Rekawati, 2016).

For Maternal and Child Health and Family Planning, Sukodadi Lamongan Health Center aims to improve maternal and child health care and improve family

welfare. The target to be achieved is the availability of basic health services and referrals supported by community participation with the main focus on developing health efforts that have high leverage towards improving health levels, especially in the Sukodadi Lamongan area. Based on this background, the researcher is interested in studying the "Relationship between Family Support and Anxiety of High-Risk Pregnant Women at Sukodadi Health Center, Lamongan Regency".

METHOD

This research design uses an analytical correlation method, namely the researcher tries to find the relationship between variables, with a cross-sectional approach, namely a type of research that aims to determine the relationship between variables where the independent variable and the dependent variable are identified at one time unit (Khadijah, 2021). This study seeks the relationship between 2 variables, namely the relationship between family support and anxiety of high-risk pregnant women at the Sukodadi Health Center, Lamongan Regency. The population in this study was the total number of high-risk pregnant women based on the Pudji Rochjati Score Card (KSPR) who checked their pregnancy at the Sukodadi Health Center, Lamongan from April-May as many as 36. The sample taken in this study was all high-risk pregnant women based on the Pudji Rochjati Score Card (KSPR) who checked their pregnancy at the Sukodadi Health Center, Lamongan from April-May as many as 36 and met the respondent inclusion criteria. The research instrument used in the independent variable was a questionnaire sheet while the dependent variable used the DASS scale through a questionnaire and guided interviews. Data analysis in this study includes editing, coding, scoring, and tabulating. For research ethics include consent forms, anonymity, and confidentiality.

RESULTS

Table 1. Distribution of General Characteristics of High-Risk Pregnant Women at Sukodadi Lamongan Health Center

Characteristics	n	%
Age		
20 – 25 years	8	22.2
26 – 35 years	22	61.1
36 – 42 years	6	16.7
Education		
JUNIOR HIGH SCHOOL	9	25
High School/VocationalSchool	15	41.7
D3	1	2.8
S1	11	30.5
Work		
Housewife	31	83.3
Nurse	1	2.8
Self-employed	1	2.8
Village Apparatus	1	2.8
Teacher	3	8.3

Table 2. Distribution Based on Family Support for High-Risk Pregnant Women at SukodadiHealth Center, Lamongan

Characteristics	n	%
Good	33	91.7
Insufficient	3	8.3
	0	0

Table 3. Distribution Based on Anxiety of High-Risk Pregnant Women at Sukodadi Health Center, Lamongan

Characteristics	n	%
Normal (Score 0 – 7)	15	41.7
Mild (Score 8 – 9)	16	44.5
Moderate (Score 10 – 14)	5	13.8
Severe (Score 15 – 19)	0	0
Very Severe (Score >20)	0	0

Table 4. Relationship between Family Support and Anxiety in High-Risk Pregnant Women in Sukodadi Lamongan Community Health Center

Category	anxiety							
	Normal		Mild		Moderate		Total	
Family Support	N	%	N	%	N	%	N	%
insufficient	0	0.0	1	33.3	2	66.7	3	100.0
Good	15	45.5	15	45.5	3	9.1	33	100.0
Total	15		16		5		36	
Spearman's Rho test P= 0.022					rs: -0.381			

DISCUSSION

1. Support for families of high-risk pregnant women at the Sukodadi Lamongan Health Center

Based on table 2, it shows that as many as 33 high-risk pregnant women at the Sukodadi Lamongan Health Center (91.7%) have good family support. This can be seenfrom the good family support of pregnant women which will reduce stressors in the mother so that the labor process is smoother and faster without causing complications.

According to Friedmen (1998) in Saputri (2017) Family support is the attitude, actions and acceptance of sick or healthy family members. Family members view that supportive people are always ready to provide help and assistance if needed. According to Febriani (2022) the family's economic condition has an impact on the ability of family members to provide adequate support to pregnant women, both in terms of health, emotional, andmaterial, good support is very important for maternal health and fetal development. Basedon table 1, it shows that almost all or 30 (83.3%) of high-risk pregnant women at the Sukodadi Lamongan Health Center are housewives

(IRT). According to Liswa (2021) working can divert feelings of anxiety for pregnant women, because working is a time- consuming activity and pregnant women will focus on their work. According to Friedmen (1998) in Saputri (2017) Family support in the form of emotional support, appreciation support, instrumental support, and information support. According to Khadijah (2021) Family support can come from internal sources, namely support provided by family members themselves, this internal source includes support from husbands, wives, siblings, and extended families. According to Friedmen (1998) in Saputri (2017) Family support inthe form of emotional support, appreciation support, instrumental support, and information support. According to Khadijah (2021) Family support can come from internal sources, namely support provided by family members themselves, this internal source includes support from husbands, wives, siblings, and extended families. According to Friedmen (1998) in Saputri (2017) Emotional support, family as a safe and peaceful place to rest and recover and help control emotions. Appreciation support, the family acts as a feedbackguide, guides and mediates problem solving and as a source of practical and concrete help. Attention and support from loved ones are very helpful in overcoming anxiety experienced by high-risk pregnant women due to physical and psychological changes during pregnancy (Masyayih et al., 2023). Support and affection from family members can provide a sense of comfort and security when pregnant women feel anxious or worried about their pregnancy. The active role of the family in supporting high-risk pregnant women affects the mother's concern for her own health and that of her fetus. The mother feels confident, happier and ready to face pregnancy, childbirth and the postpartum period (Handajani, 2021).

Family is the closest person to high-risk pregnant women, family can also help the process of pregnancy and childbirth. With good family support will build self-confidence. Inthis case, the family plays a very important role in the pregnancy process of high-risk pregnant women. Positive family support for pregnant women has a positive effect on the growth and development of the fetus, as well as the physical and mental health of the mother. The form of family support is not only financial, but also related to affection, instilling self-confidence, attention and nutrition in pregnant women

2. Anxiety of high-risk pregnant women at Sukodadi Health Center, Lamongan

Based on the study in table 3 shows that most high-risk pregnant women at the Sukodadi Lamongan health center have mild anxiety, getting the results of the Poedji Rochjati Score Card covering 36 respondents who checked their pregnancy at the Sukodadi Lamongan health center. The results obtained from this number 24 people experienced high-risk pregnancies, of which they had normal, mild and moderate anxiety. And while 12 people experienced very high pregnancies, of which they also had normal, mild, moderate anxiety. Many women experience anxiety and difficulties during pregnancy due to their age, young age tends to increase anxiety and limited knowledge, because they are more worried about the health of the fetus, changes in relationships and problems adjusting to the new roleas a mother. Based on table 4.1 it can be seen that most High-Risk pregnant women at the Sukodadi Lamongan Health Center as many as 22 (61.1%) are high-risk pregnant women aged 26-35 years. Mothers aged less than 20 years and over 35 years have a high risk which could

potentially pose a threat to the health and life of the mother and fetus. Conceived during pregnancy, childbirth and postpartum (Anggraeni, 2023). Being pregnant at the age of less than 20 years is considered too young to give birth. This will increase the anxiety she experiences.

According to Anggraeni (2023) higher education and adulthood tend to help reduce anxiety because of better access to information, resources, and health care. Based on table 1, it can be seen that most of the High-Risk pregnant women at the Sukodadi Lamongan Health Center, as many as 15 (41.7%) have a high school/vocational high school education. According to Handjani (2021) Education can influence a person including a person's behavior regarding lifestyle, especially in motivating them to participate in health development. Knowledge about the labor process and proper preparation is very important for pregnant women. With a good understanding of what happens during labor, pregnant women can feel more physically, mentally, and emotionally prepared to face it. According to the World Health Organization, teenage pregnancy, unwanted pregnancy, previous infanticide or repeated abortion, first pregnancy due to sexual violence, poor and inappropriate relationships with family members, and women whose marriages are not registered, are risk factors for developing anxiety during pregnancy (Masyayih et al., 2023). The younger the mother's age, the more severe the level of anxiety in facing childbirth. Both physically and psychologically, mothers in labor are not necessarily ready to face it so that health problems during pregnancy can be felt severely. This will increase the anxiety they experience. Likewise, what happens to pregnant women over the age of 35, this age is classified as a high-risk pregnancy where the physical condition is no longer as good as atthe age of 20-35 years (Murdayah et al, 2023). According to Putri (2021) the level of anxietyof pregnant women in facing childbirth, the completeness of the information obtainedregarding the further condition of their pregnancy, including the presence of comorbidities in pregnancy, makes pregnant women more prepared for all the possibilities that will occur during childbirth and mothers are not burdened with feelings of fear and anxiety.

Generally, mothers who have never given birth admit that they experience anxiety when giving birth because they have no experience of being a mother. The older the pregnancy, the more anxiety and fear experienced by pregnant women will increase before giving birth. Anxiety in pregnant women can arise especially in the third trimester. The results of Putri's study (2021) showed a p-value = 0.001 <0.005, meaning that there is a relationship between family support and anxiety in pregnant women.

3. The relationship between family support and anxiety of high-risk pregnant women at the Sukodadi Lamongan Health Center

Based on the results of the study in table 4 that out of 3 high-risk pregnant women who have moderate family support have moderate anxiety and 33 high-risk pregnant women have good family support, then the tendency is to have mild or normal anxiety. The results of the study at the Sukodadi Health Center, Lamongan Regency showed that there was a relationship between family support and anxiety of high-risk pregnant women at the Sukodadi Lamongan Health Center. This was proven by using the Spearman rho test and analyzed using the SPSS 25 program.

with a value (P <0.05) and a significant value of p = 0.022 which means H0 is rejected and H1 is accepted. With a value of rs = -0.381 which means there is a relationship between family support and anxiety of high-risk pregnant women at the Sukodadi Lamongan Health Center, with a weak level of closeness, because family support with anxiety of high-risk pregnant women and influencing factors, namely during pregnancy check-ups at health services, high-risk pregnant women need to be accompanied by a husband or family member from loved ones, which is very helpful in overcoming anxiety experienced by high risk due to physical and psychological changes during pregnancy.

Research conducted by Asnawir Arifin (2015) on the relationship between family support and anxiety of pregnant women facing the labor process at the Budilatama Health Center, Gadung District, Buol Regency, Central Sulawesi Province. Based on these results, the researcher concluded that the relationship between family support in pregnant women in the third trimester and anxiety in facing labor where family support is one of the factors that influences the smooth delivery of pregnant women because it makes the mother calmer and feel that she is loved and cared for. Family support also has an important role for the welfare of the mother and fetus, pregnant women need family support to care for each other, help, support and work together in facing the labor process. According to researchers, high family support is caused by emotional support, instrumental support, information support, and good assessment support provided by the family, which is able to foster a good relationship between the family and pregnant women, and prevent anxiety that arises due to physical changes that affect their psychological condition. High-risk pregnant women with good family support will not easily assess the situation with anxiety, high-risk pregnant women with good family support will learn from the family environment, which does not cause anxiety in their daily lives. High-risk pregnant women often experience anxiety, especially when facing childbirth (Arifin, 2015). Therefore, high-risk pregnant women need attention and thoughts that are considered to require solutions, so that the anxiety and fear experienced by high-risk pregnant women approaching childbirth can be avoided. Anxietyis a condition where a normal condition felt by a person experiences deep pressure or feelings and triggers psychiatric (Murdayah. et al., 2021). The study was conducted at PMB Murtini which is located in Surabaya. Data was taken through a questionnaire and analyzed using the Spearman rank correlation statistical test with the help of the SPSS application with a = 0.05. The results of this study indicate a relationship between family support and anxiety levels in third trimester primigravida pregnant women facing childbirth with the results of the Spearman rank correlation p = 0.001.

Positive family support is very important to reduce the level of maternal anxiety in facing childbirth. Based on the research assumption that there is a relationship between family support and anxiety in high-risk pregnant women. This is good family support for high-risk pregnant women, especially in overcoming and reducing anxiety in high-risk pregnant women, families can provide emotional support, appreciation support, instrumental support and information support, family support plays a very

important role in maintaining and preserving the health of pregnant women both physically and psychologically. support from husbands and both parents is very much needed such as motivation, moral and material encouragement, as well as information support so that it can provide a sense of comfort, enthusiasm, encouragement and increase self-confidence so that it can reduce the anxiety felt by high-risk pregnant women. In addition, family support can also improve the quality of life of high- risk pregnant women and strengthen family ties. Therefore, it is important for families to be actively involved in caring for and supporting high-risk pregnant women as a whole at the Sukodadi Lamongan Health Center.

CONCLUSION

Based on research conducted at the Sukodadi Lamongan Health Center in April-May 2024 by announcing a sample of high-risk pregnant women who checked their pregnancy at the Sukodadi Health Center who were observed by being given a questionnaire, totaling 36 respondents with the following conclusions:

1. Most high-risk pregnant women experience good family support at the Sukodadi Lamongan HealthCenter.
2. Most high-risk pregnant women experience mild and normal anxiety at the Sukodadi LamonganHealth Center.
3. There is a Relationship Between Family Support and Anxiety of High-Risk Pregnant Women at theSukodadi Lamongan Health Center.

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Research Article

The Influence of Counseling using Abpk Media on Knowledge and Decisions of Fertilizing Age Couples (FAC) to Participate in Family Planning

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ABSTRACT

KB (Family Planning) is one of the government's efforts to control the rate of population growth and form quality families. The aim of the research is to analyze the effect of counseling using ABPK media on the knowledge and decisions of couples of childbearing age (PUS) to participate in the KB program. This research used a quasi-experimental method carried out with a two group pre-posttest approach with a total of 66 PUS which were divided into 2 groups, namely 32 respondents in the intervention group were given ABPK counseling and 34 respondents in the Control group were given education. Using a total sampling technique, a sample of 66 PUS was obtained. The instrument uses a knowledge questionnaire containing 20 questions and a decision variable containing 2 questions. Data were analyzed using the Wilcoxon Sign Rank Test and the Mann Whitney test. With the Wilcoxon test results, the result is p=0.000 (p<0.05). The results show that H0 is rejected, H1 is accepted, which means there is an influence on the research, the Mann Whitney test results of knowledge after the intervention group and post control group are p=0.916 (p=<0.05), H0 is accepted, H1 is rejected, meaning there is no difference in knowledge. The results of the decision post intervention group and post control group were p=0.454 (p=<0.05), meaning there was no difference in the decision. ABPK is a feedback sheet which is a tool to help make family planning decisions for clients and service providers.

Keywords: Family Planning, ABPK Media Counseling, Fertilizing Age Couples

INTRODUCTION

Family Planning (KB) is one of them health the most basic and main preventive for woman as well as For arrange amount children and distance birth desired child . Play a role in reduce risk death mother at the time caused birth Because too often childbirth and distance between too much birth short . Aim for Increase well-being mother and child in frame realizing the NKKBS (Normal Happy Prosperous Small Family). base realization prosperous society with control birth at a time ensure under control increase resident (Setiyaningrum, 2016). The purpose of family planning for couples age fertile EFA ie increase role partner age fertile For become family planning participants . However , previously the program was carried out through Family Planned That Still No There is enhancement . This matter because lack of EFA knowledge about tool contraception, so Still many partner age fertile ones that are not yet become family planning (BKKBN, 2020) Indonesia is currently in fourth place in the world with the largest population, namely 270.20 million people based on the results of the 2020 population census. Even though the population rate in Indonesia in the last decade has decreased by 0.24% from 1.49% in the 2000-2010 period to 1.25% in the next period 2010-2020. However, the Government continues to implement the Family Planning (KB) program for the sake of realizing happiness and prosperity for the Indonesian people and nation in accordance with the duties and objectives of the Family Planning program (Nur, 2022).

Partner age fertility (EFA) is female partner aged between 15-49 years , because is active couple do connection sexual and every activity sexual can result pregnancy (Yenny, 2021) or partner husband wife who wife aged not enough from 15 years and already period or wife aged more than 50 years , but Still menstruation / coming month (DPPKB, 2019).

Many women experience this difficulty in determine choice type contraception . This matter No only Because limited available methods , but non-participation and ignorance they about knowledge , requirements and security method contraception the. Various factor must considered, including Health status, effects side, potential , consequence failure or non- pregnancy desired , planned family, consent partner (Saifudin, 2016). According to the World Health Organization (WHO) explains enhancement use contraception in the world is 89.4% (Jacobus, 2019). Meanwhile in Indonesia the (Siregar, 2021)number was 237.6 people in 2020 . Census results resident in 2022 it will increase to 270.20 million soul (Fikri, 2022). Amount active family planning acceptors in Indonesia 48,536,690 or around 88.53% (Ministry of Health, 2018). Based on research conducted by BKKBN in 2019 in the province Java east of 4,150,437 couples age fertile (EFA) which becomes Family planning acceptors were 51,799 (62.5%) people this is still the case Far from national targets . while those that fulfill achievement is 2,829 with percentage (5.46%), (BKKBN, 2020). Based on results Riskesdas 2020 in the Regency Lamongan with partner age fertile PUS active birth control as many as 204,756 people and couples age most fertile EFAs are not use family planning as much as 29.4%.

Result of survey initial work done research in the district turi Lamongan at Pustu village area commotion on November 14, 2023 recorded that in 2023 with amount partner age fertile EFA active family planning participants amounting to 686 PUS from

amount As many as 519 used family planning (75.66%), and the remaining 167 did not using family planning (24.34%). 90% of active family planning targets want it achieved . However , it was achieved as much as 75%. From this data can concluded that Still low participation partner age fertile EFA.

Based on description on that There is a number of factor reason low participation ber KB is lack of EFA knowledge about contraception , another inhibiting factor Family planning participation is Afraid will effect side of use or consequence installation tool contraception , obstacles culture or religion, besides That role support family (husband) in election tool contraception can seen from support the supported or not support to tool contraception so that influence participation Mother For join the family planning program and experience non - pregnancy desired , as well There is enhancement amount child , number death mother and baby (Yenny, 2021).

Impact from Partner age fertile ones that are not use tool contraception that is can give rise to amount resident the more bigger and bigger increase , deficiency food and nutrition so that causing poor public health , low education , lack of field employment , High birth and death rates specifically in a country develop (Handayani, 2017). One of possible way used in help Mother in choose birth control , namely giving counseling with media (ABPK) tools help decision (Meti, 2022)-making . Counseling is an exchange process information and interaction positive between client and midwife or officer health For help client recognize need contraception , choose the right solution and create decision For contraception that will used in accordance with condition (PUS) of the partner age fertile (Widayati, 2014). And ABPK is guide standard service family planning counseling that is not only containing information up to date around contraception or KB, but also contains standard processes and steps family planning counseling that is based on rights KB and *Inform Choice* clients (Widiantari, 2021). ABPK also has one function as IEC media for help taking decision birth control methods , help solution problem in use of birth control, as tool help Work for providers (doctors / midwives) and equipment visual aid for new provider training (Asriwati, 2022).

Deep effort address the shortage problem knowledge of partners age fertility (PUS) to the family planning program is with make a gift counseling using ABPK media on EFA to help give correct and clear information about contraception , helps understand about contraception (Cia, 2018). And efforts to deal with the problem of decisions for couples of childbearing age (PUS) regarding the program to participate in family planning are by providing counseling using ABPK media in PUS which aims to help make decisions about selecting contraceptives and help solve problems in using family planning in accordance with the needs and circumstances of PUS (Jiwantoro, 2019). The aim of this research is to determine the effect of providing counseling using ABPK KB media on PUS knowledge and decisions to participate in the KB program.

METHOD

This research design used a quasi-experimental two group pre-posttest method, with a population of 66 PUS who did not participate in the family planning program. researched,

Participants who were willing to become respondents and sign informed consent. Non-family planning participants in question were mothers who wanted to have another child and mothers who did not want another child. Participants lived with their husbands. The exclusion criteria in this study were non-family planning participants who were not present at the time the research was conducted, participants did not have a partner (husband was not present). The independent variable of this research is ABPK media counseling. The dependent variable of this research is the knowledge and decision of couples of childbearing age to take part in a family planning program. The research instrument on independent variables with counseling uses the ABPK book. For the dependent variable, knowledge about family planning, the research used a questionnaire containing 20 questions. Research instrument The EFA decision to participate in the family planning program uses a questionnaire containing 2 questions. In research independent variables using the Guttman scale are categorized into True and Wrong answers.

RESEARCH RESULTS

Table 1 Frequency distribution of characteristics of couples of childbearing age

Demographic Data	Intrevention Group		Control group	
	f	%	f	%
Husband's age				
23-25 years old	6	18.7	7	20.6
26-30 years old	10	31.3	15	44.1
31-35 years old	11	34.4	9	26.5
>36 years old	5	15.6	3	8.8
Wife's age				
23-25 years old	9	28.1	14	41.2
26-30 years old	13	40.6	13	38.2
31-35 years old	7	21.9	5	14.7
>36 years	3	9.4	2	5.9
Husband's Education				
Elementary School	3	9.4	2	5.9
Junior High School	7	21.9	6	17.6
Senior High School	18	56.3	20	58.8
College	4	12.5	6	17.6
Wife's Education				
Junior High School	7	21.9	6	17.6
Senior High School	20	62.5	24	70.9
College	5	15.6	4	11.8
Husband's Job				
Farmer	6	18.8	4	11.8
Trader	4	12.5	8	23.5
Self-employed	19	59.4	20	58.8
Civil servants	3	9.4	2	5.9
Wife's job				
IRT	12	37.5	12	35.3

Trader	2	6.3	3	8.8
Self-employed	14	43.8	16	47.1
Civil servants	4	12.5	3	8.8
Child age				
1-5 years	22	68.8	24	70.6
6-10 years	8	25	10	29.4
>10 years	2	6.3	0	0.0
Number of Children				
Primipara	5	15.6	7	20.6
Multiparous	23	71.9	24	70.6
Grandemultiparous	4	12.5	3	8.8

Based on table 1 above, it can be explained that the characteristics of the 32 research respondents in the intervention group and 34 respondents in the control group. Almost all husbands aged 26-30 years were 10 respondents in the intervention group (34.4%) and 15 respondents in the control group (44.1%). Meanwhile, most of the wife's age was 26-30 years old, 13 respondents in the intervention group (40.6%), 13 respondents in the control group (41.2%) aged 23-25 years. For education, more than part of the husband's education in high school education in both groups was 18 respondents in the intervention group (56.3%) and 20 respondents in the control group (58.8%). Meanwhile, 20 respondents in the intervention group (62.5%) and 24 respondents in the control group (70.9%) had more than half of their wives' education in high school. For work, more than half of the husband's work was self-employed in both groups, namely 19 respondents in the intervention group (59.4%) and 20 respondents in the control group (58.8%). Meanwhile, almost all wives' jobs were self-employed in both groups, namely 14 respondents in the intervention group (43.8%) and 16 respondents in the control group (47.1%). For the age of the children, more than half of the children aged 1-5 years in both groups were 22 respondents in the intervention group (68.8%) and 24 respondents in the control group (70.6%). And the number of children is more than half the number of children in multipara in both groups, namely 23 respondents in the intervention group (71.9%) and 24 respondents in the control group (70.6%).

Table 2 Knowledge and Decisions of couples of childbearing age Before (pre-test) after (post-test) the method of providing counseling using ABPK media was carried out in the intervention group and providing education in the control group.

Variable	Intervention Group				Control Group			
	Pre-test		Post test		Pre-test		Post test	
	F	%	F	%	F	%	F	%
Knowledge								
Good	2	6.3	26	81.3	0	0.0	26	76.5
Enough	23	71.9	6	18.8	21	61.8	8	23.5
Not enough	8	25	0	0.0	13	38.2	0	0.0
Decision								
Yes	19	59.4	26	81.3	20	58.8	25	73.5
No	13	40.6	6	18.7	14	52.9	9	26.5
Total	**32**	**100.0**	**32**	**100.0**	**34**	**100.0**	**34**	**100.0**
	Wilcoxon Signed Rank Test P= 0,000				Wilcoxon Signed Rank Test p=0,000			

Based on table 2 above, it can be seen that before being given counseling with ABPK media in the intervention group, more than half (71.9%) of couples of childbearing age had knowledge in the Sufficient category, and more than half (59.4%) of couples of childbearing age chose to take part in the family planning program. In the control group, almost all (81.3%) couples of childbearing age were given education in the Good category, and more than half (58.8%) chose to take part in the family planning program.

Meanwhile, after being given counseling with ABPK media in the intervention group, more than half (61.8%) of couples of childbearing age had knowledge in the Sufficient category and almost all (81.3%) of couples of childbearing age chose to take part in the family planning program. In the control group, education was given to almost all (76.5%) couples of childbearing age who had knowledge in the Good category and more than half (73.5%) of couples of childbearing age chose to take part in the family planning program.

Based on Table 3 above, it shows that before being given counseling with ABPK media, the level of knowledge was poor and after being given, the knowledge level of the majority of couples of childbearing age changed to good. and the knowledge level of the majority of couples of childbearing age has changed to good. And before being given the method of providing counseling with ABPK media, those who chose the decision not to take part in the family planning program, whereas after being given counseling with ABPK media, the majority changed their decision to take part in the family planning program and after being given the decision, the majority still chose the decision to take part in the family planning program. The control group, before being given education, had a lower level of knowledge and decided not to take part in the family planning program. Meanwhile, after being given the knowledge level of the majority of respondents, the majority changed to good and couples of childbearing age chose the decision to take part in the family planning program. From these data, it can be concluded that there are differences in knowledge and decisions before and after being given ABPK counseling. This is proven by the SPSS26.0 test using the Wilcoxon test with a significance of 0.000 where P=<0.05 and a significance of 0.035 where P=<0.05, which means there is an influence of providing counseling using ABPK media on the knowledge and decisions of couples of childbearing age (PUS). in the intervention group while in the control group it was proven by the SPSS26.0 test using the Wilcoxon test with a significance of 0.000 where P=<0.05 and a significance of 0.003 where P=<0.05, which means there is an effect of providing education in the intervention group and control group on knowledge and decisions of couples of childbearing age (PUS).

DISCUSSION

The research results showed that in the intervention group's knowledge before being given counseling with ABPK media, it could be seen that more than half of couples of childbearing age had knowledge in the Sufficient category, whereas after being given counseling with ABPK, a small number of couples of childbearing age had knowledge in the good category. Can show that before being given education in the control group, more than half of couples of childbearing age had knowledge in the sufficient category. Meanwhile, after being given education, almost all of them had knowledge in the good category. And the decision of the intervention group showed that before being given counseling with ABPK media, more than half of couples of childbearing age chose to take part in the family planning program. Meanwhile, after being given counseling, almost all of them chose to take part in the family planning program. in the control group showed that before being given education in the control group, more than half chose to take part

in the family planning program. Meanwhile, after being given more education, some couples of childbearing age choose to take part in the family planning program.

This matter in accordance with theory Notoadmojo (2016), that knowledge can obtained from Information through formal, informal and non-formal education can be bring changes and improvements knowledge as well as knowledge period short (immediate impact). The more Lots incoming information the more there is also a lot of knowledge gained about health . Apart from that , experience someone is very influential knowledge , increasingly Lots experience somebody about something thing , then will the more knowledge also increases somebody will matter the .

Deep method give interesting and easy counseling understand , you can be one factor delivery can accepted nor understood by many people. Study This in line with Setiawati's research (2018), before given education part big own Insufficient knowledge and after given education education health part big own good knowledge , p this can also be done influence how technique method delivery . In research This No happen too much improvement a lot , because indeed at the time delivery given by the midwife they use delivery which education ? use method education felt not enough effective and impressive monotonous .

Based on description on show that Level of knowledge partner age less fertile caused exists partner age fertile not enough know and lack knowledge to contraception . Then after given counseling with ABPK in the group intervention show exists enhancement knowledge partner age fertile , factors that can increase knowledge is age and experience . Factors the show that there is harmony between draft theory with result data research conducted on couples age fertile in Geger Village, Turi District , Regency Lamongan .

results study show after given education in groups control obtained that partner age fertile almost all over own knowledge in category enough , and a partner age fertile almost all over own knowledge in category Good . According to Haris, 2017, counseling effective contraception Can increase knowledge to family will form strong belief , as a result somebody behave in accordance with his belief .

Research result This supported with study According to Notoadmojo , 2014 influencing factors knowledge is one of them is education and age . education required For get information form things that can increase quality life . education impact on the learning process , and increasingly tall education someone , increasingly easy absorb information . Age , counts start moment born , increasingly Enough age level ripe somebody will more ripe in think .

Research conducted by(Istiqomah, 2016) where study they use group control as comparison Where results study mention that WUS is granted information with using leaflet media good knowledge between group control and group treatment meaning the leaflet media used own good effectiveness in give KB information . Giving Family planning information can be obtained increase knowledge , and interests woman age fertile in use contraception (Putr 2015; Simanjuntak et al., 2015). Research (Luitel et al., 2019) provides information that intervention education health effective For increase knowledge about contraception Where level Post-test knowledge more tall than level Pre-test knowledge about contraception emergency .

results study show before given counseling with ABPK media in the group intervention obtained that partner age fertile more of Some choose For taking part in a family planning program while after given counseling with partner ABPK media age fertile almost all over choose For take part in a family planning program. Study This in line with what was done by Yusraini (2019),

Based on study (Mulyani Dan Purwati, 2018) show that Family planning counseling is aspect important in service family planned . With do counseling means midwife help candidate acceptor For increase interest to family planning selection . Counseling Can use tool help namely media such as sheet reverse (ABPK), card counseling balanced , leaflet or poster. Family planning counseling is possible done with visit House or counseling carried out by officers health . Counseling with using media can influential in change behavior in election contraception (Badan Kependudukan Dan Keluarga Berencana Nasional, 2017). Counseling contraception is carried out 2-3 times can give information new about contrast and more know advantages and advantages from contraception the so that happen enhancement knowledge birth control acceptor becomes more Good dso can influence behavior acceptor in usage contraception (Harahap, 2016).

Based on statement on researcher assume that comparative research second method This can help in taking most effective decision For partner age fertile about health reproduction and family planned . In Group intervention capable increase knowledge tend more even and deep Because material presented in a way direct and personal.

results study show after given counseling with ABPK media in the group intervention obtained that partner age fertile almost all over choose For taking part in a family planning program while after given education partner age fertile more from part choose For take part in a family planning program.

Based on Cia Aprilianti's research at,.al (2018) type counseling (with ABPK and without ABPK) postpartum, election hormonal contraception in counseling without ABPK of 62%. Odd pick hormonal contraception in respondents with counseling without ABPK 2.99 times or can said counseling without ABPK having risk 2.99 times for choose hormonal contraception .

According to research by Gobel (2019) in study show that Most choose contraception in accordance with need . From the results research conducted There is influence giving counseling with ABPK against election tool contraception in mothers post copy with see the chi square test results are known p- value = 0.037 < 0.05. Research result there is respondents who choose contraception No in accordance need . This matter caused by because respondents feel Still believe with myths circulating in society , so respondents counseling with Correct .

Based on statement on researcher assume that ABPK is more Lots in accordance in election tool contraception post labor because ABPK explained in detail regarding benefits and uses tool contraception as recommendation taking decision in use appropriate contraception with need client as well as help in choose tool contraception moment woman experience problem health moment before use contraception . Whereas for the leaflet itself Still there is nonconformity in election tool contraception post labor Because considered a leaflet too simple , the information presented Still limited , so information obtained considered not enough maximum .

Based on difference on show to the group intervention after given ABPK media counseling almost all over partner age fertile own knowledge in category well , and after given education in groups control almost all over partner age fertile own knowledge in category Good . This can also be done proven with analysis test results that exists influence of the level of knowledge on the partner age fertile in Geger Village, Turi District , Regency Lamongan .

Study This in line with Wahyuni et al. (2018) that giving education health is very effective in increase knowledge woman age fertile For support family programs planned . Education through various mass media like Good print nor electronic can used as tool

information received by the public , so public capable improve knowledge about the internal family planning program effort planning pregnancy Healthy (Putri & Maretta, 2021) .

Based on statement on researcher assume that comparative research second method This can help in determine most effective approach For increase knowledge partner age fertile about health reproduction and family planned . The result can used For designing more outreach programs effective and appropriate with need public .

In Group intervention capable increase knowledge tend more evenly and deeply , because material be delivered in a way direct and personal, as well researcher can ensure that information has understood with Correct . And make it possible more interaction intensive and personal. This can increase participation active and involved from EFA, because they own chance For discuss in a way go straight and get it clarification more deep . In Group control there is enhancement knowledge Possible more varies Because exists difference in ability and attention individual For absorb information .

Based on difference on show to the group intervention after given ABPK media counseling almost all over partner age fertile have a decision in category For following the family planning program and after given education in groups control more from some couples age fertile have a decision in category For take part in a family planning program. This can also be done proven with analysis test results that exists influence partner 's decision age fertile in Geger Village, Turi District, Regency Lamongan.

According to Ade Irma Ramadhani, 2021 said that Most Mother post pregnant dala exploration (counseling using ABPK) select choice best in use contraception . This matter possible because ABPK media does not only load information latest about contraception or KB, but also load cycles and steps standard For counseling stressed family rights and decisions customers , and handle problem in use . from arrangement family .

Based on description above in group intervention give decision in election contraception , because material be delivered in a way direct and personal, as well researcher can ensure that information has understood with Correct . As well as more interaction intensive . This matter can increase participation active and involved from EFA to have a decision in election contraception . In Group control there is enhancement jugha nagi PUS inside election tool contraception given education Possible more varies Because exists difference in ability and attention individual For understand information .

CONCLUSION

More of some decisions partner age fertility (EFA) after given education in groups control choose take part in a family planning program. And almost all over After given education choose take part in a family planning program. There is influence counseling with ABPK media in the group interventions and groups control to knowledge partner age fertile . There is influence counseling with ABPK media in the group interventions and groups control regarding the couple's decision age fertile

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Research Article

The Effect of Demonstration Using Phanthom Dental Media on Teeth Brushing Skills in ABA III Kindergarten

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ABSTRACT

Background: Health is very important for every human being, especially children. Dental and oral health problems can affect overall body health. Objectives: This study aimed to determine the effect of demonstrations with dental phantom media on teeth brushing skills in TK ABA III Irsyaddussyuban Bakung Kanor Bojonegoro. Methods: used pre-experimental with one group pretest-posttest design. The sample of this research was 40 students obtained by using total sampling technique. The data were taken using an observation sheet. After ablulation, the data were analyzed using the Wilcoxon signed rank test with a significance level of $p<0.05$. Results: showed that almost all of them (85.0%) had good skills, 10.0% had sufficient skills, and 5.0% had a poor skill. The results of data analysis were $p=0.000$ where $\alpha \leq 0.05$, meaning that there was an effect of demonstrations with dental phantom media on teeth brushing skills in TK ABA III Irsyaddussyuban Bakung Kanor Bojonegoro. Conclusion: demonstration with dental phantom media is very influential with teeth brushing skills. This is because demonstrations with dental phantom media can improve skills and maintain oral hygiene by brushing your teeth properly and correctly. The role of parents is required to set an example to brush their teeth every day.

Keywords

teeth brushing; skills; demonstration; Phantom Dental

INTRODUCTION

Health is very important for every human being, both physically healthy and spiritually healthy, including children. Every parent has the desire that their child can carry out various activities with a healthy body. This can be achieved if their bodies are healthy. One of the health concerns is maintaining healthy teeth and mouth because dental and oral health affects overall health and cannot be separated from general body health.(Fahmi et al., 2021).

According to the World Health Organization (WHO), health is a state of complete physical, mental and social well-being and freedom from disease. Dental and oral health is a very important part of health. Dental and oral health problems can affect overall body health. Characteristics of healthy teeth are clean white, not broken, no plaque or tartar, no cavities, intact tooth crowns and no pain when chewing cold food. Teeth can function well if they are cared for properly and appropriately(Arniastuti et al., 2020).

The impact that occurs if you do not maintain oral hygiene which results in dental and oral health problems, especially the level of cleanliness that is consumed, is cariogenic, namely food that is sweeter, softer or softer, stickier, and food residue remains in the mouth for a long time that is not cleaned quickly. This will result in damage to the teeth, such as dental caries or cavities, pulpitis, gingivitis, tooth eruption, oral mucosal abnormalities, gum inflammation, and bad breath from remaining food remaining in the mouth.(Nugroho et al., 2022).

Efforts to provide knowledge on how to care for dental and oral hygiene must be introduced to children and carried out from an early age, namely regarding the correct and appropriate way to brush teeth through demonstration methods. Basically, giving this demonstration is intended to make children want and care, thereby creating a sense of responsibility and maintaining oral hygiene. By using dental phantom media, the aim is to make it look more attractive to children, the view will be more focused during the demonstration, stimulate the mind and so it doesn't look boring or monotonous. (Nurdyansyah & Fahyuni, 2016). The presentation of dental and oral health to children must be made as interesting as possible, namely with direct demonstrations. The choice of this demonstration method to maintain healthy teeth and mouth supports increasing children's understanding, by directly practicing the correct way to brush their teeth.

METHOD

The research design used in this research was pre-experimental with one group pre test-post test. This research was conducted at TK ABA III Irsyaddussyuban Bakung Kanor Bojonegoro in March 2023. The sample in this research was 40 samples using a total sampling technique. Data collection used an observation sheet on how to brush teeth which was adopted by researcher Nurrahmawaty (2019). The independent variable in this study is demonstration, while the dependent variable in this study is teeth brushing skills. Then analysis was carried out using the Wilcoxon test with a value of α=0.05. Data collection for this research was carried out from March 3 2023 to March 6 2023. The demonstration was carried out in 4 meetings with a duration of 1x30 minutes for each meeting. This research has been reviewed and approved by the Muhammdiyah Lamongan University Research Ethics Commission and was declared to have passed the ethical review or "Ethical Approval" with certificate number No. 307 /EC /KEPK - S1 / 07 / 2023 on 03 July 2023.

RESULTS

The results of this research from 40 respondents found that almost the majority were male (57.5%), the majority were kindergarten children aged 5 years (62.5%), almost the majority were in kindergarten class A (62.5%). (see table 1). Results of this researchshowed that the majority (70.0%) had a sufficient level of skill and a small portion (22.5%) had a less than correct skill level in brushing teeth. (see table2).

The results of this research showAlmost all respondents (85.0%) had a good level of skill when brushing their teeth after being given a demonstration using dental phantom media. (see table 3).

Table 1. Child Characteristics

Child characteristics	Frequency	Percentage
Gender		
1. Man	23	57.5
2. Woman	17	42.5
Total	40	100
Age		
1. 5 years	25	62.5
2. 6 years	15	37.5
Total	40	100
Class		
1. TK A	25	62.5
2. TK B	15	37.5
Total	40	100

Table 2. Identify teeth brushing skills before and after being given a demonstration using toothphantom media for children aged 5-6 years

Teeth Brushing Skills	Before		After	
	n	%	n	%
Good	3	7.5	34	85
Enough	28	70.0	4	10
Not enough	9	22.5	2	5
Total	40	100	40	100

Table 3. Analyzing the Demonstration with Dental Phantom Media on Teeth Brushing Skill After Being Given a Demonstration Using Dental Phantom Media for Children Age 5-6 Years

Teeth Brushing Skills	N	Mean±SD	Min-Max	P	-Z
Data Pre	40	2.15±.533	1-3	0,000	-5.105b
Data Post	40	1.20±.516	1-3		

The results of this research are strengthened by the results of differences through tests*Wilcoxon Sign Rank Test*The p value obtained = 0.000, where the p value is smaller than α (0.05), so it can be concluded that H1 is accepted, which means that there is an effect of demonstration using dental phantom media at TK ABA III Irsyaddussyuban Bakung Kanor Bojonegoro. (see table 3).

DISCUSSION

The results of the research showed that there were 40 children from Kindergarten A and Kindergarten B classes. Before being given a demonstration using dental phantom media, it was found that most of the 28 children had sufficient skills in brushing their teeth correctly and appropriately. This is because the majority (57.5%) of kindergarten children are male and the majority (62.5%) of kindergarten children are 5 years old, namely 25 children.

According to Nurhajilah (2019), when the pre-test and post-test exercises about brushing teeth and mouth were carried out, girls calmly and skillfully completed the brushing teeth and mouth exercises. In contrast to boys, in the practice of cleaning their teeth and mouth, there are boys who cannot calm down and joke more with their friends, so boys are in a hurry and only clean their teeth and mouth for a moment, so they are not good at it. or less than optimal when doing dental and oral exercises (Pakpahan et al., 2021). Thus, girls have better fine motor skills than boys (Nurdyansyah & Fahyuni, 2016). According to Keloay (2019), younger children lack the physical skills to brush their teeth. Tooth brushing skills are better in older children. Apart from the method of brushing teeth which can influence plaque removal, the age factor also greatly influences a child's ability to brush their teeth. The older a child gets, the better their motor skills and the better their teeth brushing movements (Nugroho et al., 2022).

According to Kushartanti (2012) in Parasyanti (2019) who explains that there are three factors that influence children's skills in brushing their teeth, namely host (for example: age, gender, level of education, and motivation), environment (for example: physical environment, environmental social, health facilities), and agents (lifestyle, school regulations, parenting patterns, availability of learning media, information and existence of UKS) (Nurmala et al., 2018).

Based on the description above, researchers assume that the lack of correct and appropriate brushing of teeth can be seen from how the children brush their teeth. It can be said that it is not correct and appropriate if the child only brushes his teeth 1-4 steps every time he brushes his teeth. The lack of children's skills in brushing their teeth correctly and appropriately is caused by several factors such as: lack of knowledge, children's understanding of the importance of brushing their teeth correctly and appropriately, there has been no direct learning from teachers or parents or health workers so that children do not yet understand and get used to brushing your teeth properly and precisely.

Based onThe results of the research showed that there were 40 children from Kindergarten A and Kindergarten B classes. After being given a demonstration using dental phantom media, almost a total of 34 children were found to have good skills in brushing their teeth correctly and appropriately. Changes in the level of skills that occur in children when brushing their teeth in the correct and appropriate way through demonstrations using dental phantom media because the information is given directly in front of the children so that children are better able to understand and think about the correct and appropriate way to brush so that based on the experience that has been gained it can be useful in influencing children's habits, skills and knowledge about how to brush their teeth correctly and appropriately and how important this is.(Susilowati, 2016)

According to Ayuni (2022), the demonstration method can stimulate the sense of sight as well as the sense of hearing in one process or activity so that participants can more easily understand the material being taught and can practice it directly. According

to Nalarati (2018), demonstrations have advantages in the cognitive, affective and psychomotor domains. The cognitive domain is a domain that includes knowledge and understanding (Hidayat et al., 2019). The affective domain is the domain related to attitudes. Meanwhile, the psychomotor domain is the domain related to skills after learning lessons (Laut et al., 2021).

One of the factors that influence kindergarten children to brush their teeth correctly and correctly is age (Anggraeni et al., 2019). This research shows that the majority of children are 5 years old, where 5 years is a developmental period. Biological development during this period was progressing rapidly, but sociologically it was still very much tied to the environment and family. At this time, children have an egocentric attitude because they feel that they are at the center of the environment, which is shown by children by being happy to oppose or reject something that comes from the people around them. Such development is caused by the child's awareness that he has his own abilities and will, which will be different from the will of other people. In early childhood, children imitate a lot, play a lot of plays or fantasies, these habits will give the child skills and experiences. Some say that early childhood begins as the closing period of infancy (Eriyati, 2021).

At age5-6 At this year children actually know how to hold a toothbrush and brush their own teeth, because at this age only children who like sweet foods have a period of growing milk teeth, so children can maintain their teeth growth, guidance from and family. the required environment and the environment in which they live (Agung et al., 2022). As in Davis's (2016) theory, environmental factors that have a positive influence on dental and oral health include using children's toothpaste containing fluoride to help strengthen tooth enamel or tartar (Andriyani et al., 2022).

Based on this description, the researcher assumes that children aged 5-6 years are in the developmental period, so this opportunity is very appropriate to use to provide demonstrations using dental phantom media regarding teeth brushing skills, because at this time children will be very open to stimulus from the environment, this is the reason why significant changes in this research occurred. The time for giving the demonstration using the dental phantom media is4 meetings with a duration of 1x30 minutes each meeting. So that in this post test point you can brush your teeth correctly and precisely.

The results of the study showed that there was a change in children's teeth brushing skills, most of the pre-test using the demonstration method using dental phantom media had sufficient skills and almost all of the post-test had good skills, meaning that there was an influence of the demonstration method on teeth brushing skills. This is in line with Nurhajilah's (2019) research, the demonstration method affects children's teeth and oral hygiene. This is because the demonstration method is a way of providing health education by demonstrating or presenting explanations in the media, one of which is a health explanation about dental and oral hygiene. This has an influence on children's skills in cleaning their teeth and mouth. According to Sumarni (2021).

Teeth brushing skills must be taught and emphasized to children of all ages, especially early childhood because at that age it is easy to accept and instill basic values. Children need learning to improve their teeth brushing skills correctly and appropriately, especially for children who have poor oral hygiene and poor tooth brushing skills, it is hoped that this can change unhealthy behavior (Purnama Sari & Fedri, 2022).

One effort to improve children's skills is through proof which is expected to improve children's skills, the success of a demonstration.It cannot be separated from the role of the media which is in line with the objectives of the respondents which are the aim of the research(Nugroho et al., 2022).

This is acquired through direct experience and man-made objects. Direct experience and through artificial objects provide information and ideas that provide more information and ideas than the use of symbolic words. Where the use of props can stimulate children's imagination and leave a high impression and motivation (Arniastuti et al., 2020).

The results of the analysis can be concluded that there is an influence of demonstrations using dental phantom media on teeth brushing skills in TK ABA III Irsyaddussyuban Bakung Kanor Bojonegoro. Children have good skills in brushing their teeth correctly and appropriately because by brushing their teeth every day they can avoid dental and oral diseases.

CONCLUSION

The conclusion from the research results is that there is an influence from demonstrations using dental phantom media on teeth brushing skills. These results indicate that brushing your teeth can improve your teeth brushing skills. It is hoped that this research can provide input for future researchers. Parents are expected to set an example and supervise children brushing their teeth regularly every day, especially after breakfast and before going to bed at night.

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Research Article

The Relationship of Between Knowledge and Attitudes Levels with Safety Riding Compliance of Student

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ABSTRACT
Background: Teenagers are one of the biggest contributors to traffic accidents. Objectives: The purpose of this study was to determine the relationship between the level of knowledge and attitudes with safety riding compliance among students. Methods: This study used analytic correlation with a cross-sectional approach. The sample of this research was 83 respondents from class X using total sampling technique. The independent variable in this study was the level of knowledge and attitude, while the dependent variable in this study was compliance. Then, the data were analyzed using the Spearman rho test with a significance level of $\alpha<0.05$. Results: The results showed that most of the students' knowledge was good (74.7%), most of the students' attitudes were negative (53%), and almost all students were disobedient to safety riding (94%), The results of data analysis obtained $p = 0.187 > 0.05$ in the knowledge variable with compliance, whereas the attitude variable with compliance obtained a value of $p = 0.014 <0.05$. Conclusion: This means that there was no relationship between knowledge and compliance variables, while there was a significant relationship between the attitude variable and safety riding compliance. To conclude, increased knowledge does not always lead to changes in behavior. Meanwhile, attitude has a high role in compliance with safety riding rules for students.

Keywords
Keywords: Knowledge ; Attitude ; Compliance ; Safety Riding

INTRODUCTION

Increasing use of motorized vehicles also has negative impacts, one of which is increasing traffic crowded , It is give rise to risk an accident already high , so accident Then involving cross vehicle passing motorbike be one reason death highest in the world (Zainul, 2020). Loss and death can caused by an accident Then cross (Ridman, 2021).

Teenager is one of the the most common demographic involved in accident Then cross , and many from they No obey regulation safety or driving with safe riding . (Sary, 2018).

According to statistics compiled by Korlantas Polri in 2022, motorbike riders constitute 73% of all vehicles involved in accidents, with victims aged between 15 and 24 years (Kementrian Perhubungan, 2022). In 2020, the highest number of traffic fatalities were high school students (80,641), middle school (17,699 victims) and elementary school students (12,557 victims), according to data from the Directorate General of Land Transportation, Ministry of Transportation. (Kementrian Perhubungan, 2021).

The goal of driving safety is to minimize risks and increase driver safety (Soumokil et al., 2021). The Minister of Transportation has issued PM Regulation no. 12 of 2019 which contains cycling safety guidelines. The purpose of traffic laws is to actualize the nation's culture and promote driving safety (Lestari et al., 2022). Human factors are the most important cause of traffic accidents, followed by vehicle factors, road factors (infrastructure), and weather factors (Sinuraya et al., 2018).

Knowledge is one of the factors underlying a person's behavior; with good knowledge, behavior can last longer. Attitude, on the other hand, greatly influences individual behavior and is therefore important for the successful implementation of safety riding. A positive outlook increases the likelihood that a cyclist will ride safely) (Taroreh et al., 2019). The author is interested in studying the correlation between adolescent knowledge, attitudes, and safety riding because of this tendency..

METHOD

This research uses a correlational cross-sectional approach with its research design. In March 2023, researchers will visit SMK Muhammadiyah 7 Kedungpring in Lamongan Regency to conduct research. Overall sampling was used to select 83 high school students from Class X as the research sample. For this study, researchers used knowledge and attitude questionnaires from research Nurhikmah, (2021) and self-made compliance questionnaires to collect data. Validity analysis produced the following results: r table = 0.468, with an interquartile range of 0.486–0.600 for calculated r > r table. Thus the questionnaire has been proven to be valid with reliability shown by Cronbach's alpha of 0.750 > 0.06. In this research, compliance is the dependent variable and the level of knowledge and attitude are the independent variables. The Spearman rho test with a significance level of $\alpha = 0.05$ was used to analyze the data. Commission ethics study university Muhammadiyah Lamongan in matter It has reviewed and approved the study, marking it as " passed. " study ethical " or " etichal approval " with certificate number 295/EC/KEPK-S1/06/2023 on 22 June 2023.

RESULTS

The results of research from 83 respondents found that the majority were male as many as 53 students (63.9%), partially big age student namely 16 years as many as 55 students (66.3%), almost part student were in class X-AK totaling 26 students (31.3%), and some big student Once receive safety education driving (safety riding), namely as many as 53 students (63.9%). (See Table. 1)

Table 1 . Characteristics of adolescents

Characteristics Respondent	Frequency	Percentage (%)
Type Sex		
1. Man	53	63.9
2. Woman	30	36.1
Amount	**83**	**100**
Age		
1. 15 years	28	33.7
2. 16 years	55	66.3
Amount	**83**	**100**
Class		
1. X-TKRO	21	25.3
2. X-DKV	15	13.1
3. X-AK	26	31.3
4. X-NKPI	21	25.3
Amount	**83**	**100**
Experience get education *safety riding*		
1. Once	53	63.9
2. No Once	30	36.1
Amount	**83**	**100**

Table 2 . Relationship Knowledge with Safety Riding Compliance in Adolescents

No	Knowledge	Obedience			
		Obedient		No Obedient	
		N	%	N	%
1	Good	5	8.1	57	91.9
2	Enough	0	0	17	100
3	Not enough	0	0	4	100
	Total	5	6	7 8	94
Spearman test rs= 0.146 p=0.187					

Cross tabulation results Between knowledge and compliance, the Spearman correlation coefficient (rs) value was obtained . = 0.146 and value (p) value = 0.187 > 0.05, meaning No there is connection between knowledge with obedience *safety riding* in teenagers . (Look Table . 2)

Table 3. Relationship Attitude with Safety Riding Compliance in Adolescents

No	Attitude	Obedience			
		Obedient		No obedient	
		N	%	N	%
1	Positive	5	12.8	34	87.2
2	Negative	0	0	44	100
	Total	5	6	78	94
Spearman test rs= 0.269 p = 0.014					

Cross tabulation results between attitude and compliance obtained Spearman correlation coefficient (rs) =0, 269 and value (p) value = 0.014 <0.05, that is there is connection between attitude with obedience *safety riding* in teenagers . (Look Table . 3)

DISCUSSION

Most teenagers have a strong sense of knowledge . Consistent with previous research findings, this shows that many respondents are aware of basic safety precautions when driving (Wahyuningsih & Ramdana, 2020). According to human development theory, the average age of participants in this study is right around the sweet spot where teenagers begin to develop the ability to think systematically and understand the reality of a concept through the application of a variety of different perspectives. Unlike children who tackle certain problems one by one, adults can solve all aspects of a problem simultaneously.

The ability to think systematically and logically, which contributes to students' good knowledge, develops during adolescence.Moran *et al*, (2020) found that drivers' actions were significantly influenced by their cognitive abilities.

Adolescent males are disproportionately likely to express negative views. Consistent with these findings, Hendrawan found that the majority of women who answered had a positive view of cycling safety, while the majority of men had a negative view. (Hendrawan, 2019). People's attitudes regulate the types of knowledge they need to apply in everyday life, enabling them to understand the world.

Most students ignore *safety riding practices* , with female respondents showing a tendency towards higher compliance. According to previous research Permatasari *et al*, (2022), the majority of respondents were under 25 years old, and teenagers This age range has the lowest level of *safety riding behavior and traffic compliance.* In the non-compliance category, the majority of bad respondents were men (Permatasari *et al*., 2022). Most people have problems because they don't follow the rules. Failure to comply with *safety riding regulations* has an impact on traffic accidents which result in significant losses, students' tendency to ride safely, and the availability of public transportation that serves the area around the school.(Kusmawan, 2021).

A person's attitude of obedience to rules that must be enforced arises as a response to a situation that demands a unique behavioral response. According to this definition, compliance is the extent to which an individual follows or does not follow the rules, suggestions, or advice given (Sa'adah, 2022). Compliance means that a person complies with pre-existing recommendations or regulations. Knowledge alone is not enough to change a person's behavior, and is not always the cause of increased student compliance. Also important to a student's adherence to safe driving practices is the student's attitude. Students with a bad attitude are less likely to follow *safety riding rules* , while students with a more optimistic disposition are less likely to do so.

The findings of this study indicate that adolescent drivers' compliance with *safe riding practices* is not related to their level of knowledge. Research by Muryatma, (2017)and Wahyuningsih & Ramdana, (2020) corroborates the findings of this study, showing that there is no correlation between awareness and safe cycling practices.

Most of the respondents in this study had a pessimistic view, and this was found to be a contributing factor to their lack of compliance. Because most students already know topics related to the implementation of *safe riding* , and because many students have received safe driving education from the nearest traffic police unit, the results then show that there is no relationship between knowing how to drive safely and following the rules.

However, there are still many people who do not follow these rules, such as not paying attention to traffic signs, not wearing a helmet, or not riding a motorbike in the correct way. (Wijayanti, 2022).

The findings of this study contradict the researchers' hypothesis that adolescents have developed to the higher levels of knowledge (application, analysis, synthesis, and evaluation) that are expected of them. Teenagers experience this for the same reasons that adults use only their third-order knowledge. This shows that respondents with a higher knowledge content do not necessarily follow the aims and objectives of *safety riding regulations* because most have negative attitudes, and because attitude is a factor that influences a person's non-compliance, it is still not implemented in everyday life. life. Until now, many people do not care about helping reduce traffic accidents.

Research findings demonstrate a link between youth perspectives and the adoption of safe cycling practices. Similar findings between *safety riding compliance attitudes and behavior* have been found in research byHendrawan, (2019) And Taroreh *et al*., (2019). This shows that teenagers' attitudes significantly influence safe cycling practices.

Affective (emotional) components, such as pleasure or displeasure towards an attitude object, indicate attitude orientation Good positive nor negative , as suggested by the work of Baron and Byrne (Wawan & Dewi, 2017). Maturity emotion tend No uncertain over the years preteen (Neda et al., 2022). Processing an environment that doesn't fulfil need development teenager is reason general behavior emotional negative teenagers , like resistance , anxiety , instability , etc. (Umami, 2019).

Factor first to influence attitude is past and present experiences individual That himself , which in turn shape and influence method they respond stimulation social . Factor second is culture place We raised play role important in form character We . Consideration third is the influence of the people who we are respect , like parents us , figure authority else , friend close , and educators . Contributor fourth is influence strong inner media form opinion public . As A system , school influence how people think and feel because that's where it is most people get base knowledge and ethics . Circumstances emotional individual is factor sixth ; attitude often expressed through statement emotional functioning For direct or channel frustration or ego (Azwar, 2013)defense .

Attitude to driving is factor most importantly in determine behavior driving (Zhao *et al.,* 2019). Experience personal , norm culture , friends peers , media, institutions education , and factors emotional in self individual everything role in form method look somebody to student (Sa'adah, 2022). Student with attitude bad tend No follow rule safe driving , meanwhile student with more attitude Good more Possible do it .

Practice safe cycling followed more often when people have positive mental outlook . Attitude is one of the components that make up trend behavior Because help individual understand the world and organize various their information need For applied in life daily . often More easy For change action somebody moment driving.

CONCLUSION

From the results of the research above, it can be concluded that there are still many students who do not comply with *safety riding rules.* Students who have knowledge tall Not yet Of course apply rule *safety riding* because part big from they own attitude negative , attitude is possible factors influence Disobedient For example, students who have a negative attitude tend not to comply with *safety riding rules* and students who have a positive attitude will be more obedient to *safety riding rules.* Role nurse communities and parties school very needed in matter This as educator For give education health about impact danger as well as penalty strict with students If No obey rule *safe riding*.

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Research Article

Students' Perception on The Use of *E-Learning* in The Faculty of Health Sciences, Muhammadiyah University of Lamongan

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ABSTRACT

Background : Development technology demand institutions , teachers, schools , parents , communities , and various *stakeholders* education For to organize learning that involves technology and internet networks . Implementation of E-learning in reality Still many pros and cons , as well as results field , also research previously stated among others, still lack of utilization of media effective which causes No optimal absorption the material obtained is lacking interestingly appearance or procedure use that causes student not enough enthusiastic . Objectives: Analize perception student about use *E-learning* in the faculty of health sciences. Methods: This use measurement success system information can using the DeLone and McLean success model . The research method used that is quantitative with approach *descriptive quantitative* , samples in research This is 144 students Faculty Health Sciences University of Muhammadiyah Lamongan . Technique of taking sample in research This use *non-probability sampling* with *purposive sampling* . Results**:** Analysis results show that student evaluate Easy *e-learning* accessed For get material lectures that have been uploaded by lecturers with percentage of 66.7%. In addition , E -*learning* also has response responsive in respond complaint with percentage 55.6%. Conclusion: Usage This *e-learning* Not yet effective due to existence *bug/error* so hinder learning , no There is notification moment lecturer give material so that student No appropriate time in collection task . It is expected party campus can increase as well as fix bugs/errors so that students comfortable in use *E-learning* with give information lectures needed by students optimally .

Keywords
Students , E-learning Media, Perception

INTRODUCTION

Development rapid technology bring Lots impacts and changes in various sector life, including in field education. Development technology demand institutions , teachers, schools , parents , communities , and various education stakeholders For to organize learning that involves technology and internet networks . Therefore that , the learning process need adapt with development technology through system learning electronic (*electronic learning*) or what is often called *E-learning* (Udil , 2020).

Implementation *E-learning* in reality Still many pros and cons, as well as results field, also research previously stated between other, still lack of utilization of media effective which causes No optimal absorption the material obtained , as well as not enough interestingly appearance or procedure use that causes student not enough enthusiastic .

research results were proven on students in lectures mechanics at Malang State University, 46% felt very happy and 56.4% were enthusiastic follow lectures mechanics with *E-learning* based on edmodo . 53.8% said agree If *E-learning* more effective and 59% stated agree *E-learning* more efficient . As many as 53.1% of students easy download material through edmodo , 66.7% easy upload task , 61.5% easy send message , and 59% easy post a post/ comment on the page edmodo (Yodha et al., 2019). The results of the study conducted by Laras Tilottama Widya, explain that the success of the Stikom Library website can seen from perception student active semester 161 as many as 198 students were used For research, found that Quality System influential significant or have influence strong to Satisfaction User , variables Quality Service own influence significant to Use with own mark probability , variable Satisfaction Users influential significant on Net Benefits (Laras et al, 2017).

E-learning is implemented at Muhammadiyah University of Lamongan as a learning medium that is use *E-learning* as means study . Muhammadiyah University of Lamongan apply system *E*- learning where inside it there is information about material lectures, assignments, and activities Mid Semester Exams (UTS) and Final Semester Exam (UAS).

Measurement success system information can using the DeLone and McLean success model . Some indicator for measure success system information that is: Quality system, Quality information, Quality service, and satisfaction User. Quality system, Quality information, Quality service, and satisfaction User. Quality information that can be measure performance system and *user interface* that is: convenience user, convenience studied, speed access, reliability system, flexibility, usability Features and Functions systems and security. Quality information that can be measure output quality of information systems that is: accuracy, completeness, format (form), precision time, and relevance . Quality services that can measure service in learning that is: *responsiveness* (speed) response), *technical competence* (ability) technique), and *empathy* (empathy). Satisfaction user can measure response as well as bait the return felt user after do learning in a way *E-learning* with a number of indicator that is: efficiency, effectiveness and satisfaction users. Usage, and Net Benefits (Handayani & Wiyata, 2020).

Based on results interview against 10 students of the Faculty of Health Sciences, students disclose that learning *E-learning* make they must study twice because not enough the maximum lecturer in explain material Because learning that is done online. Students feel more Can disclose opinions and problems they with comfortable than in a way look at face and existence disturbance internet connection in learning , *E-learning*

often hinders student in learning as well as exams , and also learning *E-learning* make self become lazy. Efforts that can done For overcome Usage *E-learning* for students that is with to study perception student in use *E-learning* in activity learning , because student is the party using *E-learning* for help the learning process .

METHOD

Research design This use descriptive quantitative . In the research This No use hypothesis Because study This only analyze perception student to use of learning media *E-learning* . Research This conducted at the Muhammadiyah University of Lamongan in January 2024 using purposive sampling technique on 144 samples from 230 population students at the Muhammadiyah University of Lamongan . Criteria inclusion in research This covering Respondent students of FIKES Muhammadiyah University of Lamongan , are willing become respondents , with sign informed consent, and to criteria exclusion in research This namely students who are leave lectures . Variables in research This is perception student about use *E-learning* . Instruments study about perception students containing 20 questions . Questions This categorized become category good , moderate , less . There are 20 questions in total , consisting of from 6 questions about quality system (number 1,2,3,4,5,6), 5 questions about quality information (number 9,10,11), 3 questions about quality service (number 12,13,14), 2 questions about satisfaction user (number 15,16), 2 questions about usage (number 17,18), and 2 questions about benefit clean (number 19,20). Validity and reliability test questionnaire perception with value ($r>0.4438$, $p>0.60$). So you can concluded that , the question that has results not valid no can used as tool measure in research , so that researcher replace question questionnaire the .

RESULTS

Characteristics Respondent shown in table 1. General data characteristics respondents who loaded type sex

Table 1. General data characteristics

Gender	Amount	Percentage (%)
Man	35	24.3%
Woman	109	75.7%
Total	144	100%

Based on Table 1 it can be seen characteristics Respondent in study This For type sex in study This all over various Female gender , namely 109 students (75.7%) compared to men A small part namely 35 students (24.3%).

Table 2. Distribution Frequency Student about *E-learning* with Indicator Quality System

No	Category	Frequency	Presentation
1	Good	47	32.6%
2	Enough	96	66.7%
3	Not enough	1	7%
	Total	144	100%

Based on Table 2 it is explained that from 144 students UMLA fixes on indicators quality system produce almost all in all namely 96 (66.7%) with category enough , almost part namely 42 (32.6%) with category good , and some small namely 1(7%) with category lacking in quality system *E-learning* .

Table 3. Distribution Frequency Student about *E-learning* with Indicator Quality Information

No	Category	Frequency	Presentation
1	Good	84	58.3%
2	Enough	52	36.1%
3	Not enough	8	5.6%
	Total	144	100%

Based on Table 3 it is explained that from 144 students UMLA fixes on indicators quality information produce part large 84 (58.3%) with category ok , almost part namely 52 (36.1%) with category enough , and some small namely 8(5.6%) with category lacking in quality information *E-learning* .

Table 4. Distribution Frequency Student about *E-learning* with Indicator Quality Service

No	Category	Frequency	Presentation
1	Good	53	36.8%
2	Enough	80	55.6%
3	Not enough	11	7.6%
	Total	144	100%

Based on Table 4 it is explained that from 144 students UMLA fixes on indicators quality service produce part big namely 80 (55.6%) with category enough, almost part namely 53 (36.8%) with category good , and some small namely 11 (7.6%) with category lacking in quality service *E-learning* .

Table 5. Distribution Frequency Student about *E-learning* with Indicator Satisfaction Users

No	Category	Frequency	Presentation
1	Good	90	62.5%
2	Enough	42	29.2%
3	Not enough	12	8.3%
	Total	144	100%

Based on Table 5 it is explained that from 144 students UMLA fixes on indicators satisfaction user produce part big namely 90 (62.5%) with category ok, almost part namely 42 (29.2%) with category enough, and some small namely 12 (8.3%) with category less than satisfactory user *E-learning*.

Table 6. Distribution Frequency Student about *E-learning* with Indicator Use

No	Category	Frequency	Presentation
1	Good	95	66%
2	Enough	36	25%
3	Not enough	13	9%
	Total	144	100%

Based on Table 6 it is explained that from 144 students UMLA fixes on indicators user produce part big namely 95 (66%) with category well , some small namely 36 (25%) with category sufficient , and 13 (9%) with category less on usage *E-learning* .

Table 7. Distribution Frequency Student about *E-learning* with Indicator Use

No	Category	Frequency	Presentation
1	Good	96	66.7%
2	Enough	37	25.7%
3	Not enough	11	7.6%
	Total	144	100%

Based on Table 7 it is explained that from 144 students UMLA fixes on indicators benefit clean produce part big namely 96 (66.7%) with category well, some small namely 37 (25.7%) with category sufficient , and 11 (7.6%) with category less on usage *E-learning.*

DISCUSSION

On quality system This researcher Already use a number of method in collection the data that is with questionnaire . Based on table on Can taken conclusion that quality system This student Already Can use system *E-Learning* wherever and whenever it's time good , available features , speed access , will but seen from frequency second the biggest everything lies in the range choice Enough well , that's it This should become repair for party campus For Can shrink the doubtful value especially in indicators time response .

Indicator quality information *E-learning* categorized well, that's it This indicates that E-learning provides complete, useful information for students, accurate, free and precise time. Research results This support theory success system information created by DeLone & McLean, which states that use A system can influenced by quality information generated. Meanwhile, in the research of Abdulkareem & Mohd Ramli (2021), it was stated that quality information generated influential positive and significant to use *E-Government* in Nigeria. Research results This confirm that importance provide accurate information , easy understood , current as well as reliable . The more tall quality the given system so will impact on users who with voluntary do use return so that intensity usage will increase.

Indicator quality service *E-learning* categorized Enough well , that's it This indicates that *E-learning* responsive in respond complaint student with responsive , giving guarantee that covers information , free from doubt , and give convenience communication student with lecturer . On the quality service obtained results similar with research that has been done previously Laksono , supported by Cho & Sagynov

(2015), stated that that the quality provided by a website can influence How level convenience in its use . The same results were also shown in studies that have conducted by Pratama & Amalia (2019), in the study This use Siskeudes in Ogan Komering Ilir Regency is influenced by the increasing height quality services produced. Research results This confirm that importance giving service from developer Village Finance System in the form of responsive in respond problem , reliability system , guarantee information and empathy in increase use Siskeudes . Based on table on Can taken conclusion that quality service This student Already Can get service in respond complaint, get freedom and guarantee in use *E-learning*, and is provided convenience in communicate with lecturer, will but seen from frequency second the biggest everything lies in the range choice Enough well, that's it This should become repair for party campus.

Indicator satisfaction users on *E-learning* categorized well , that's it This indicates that student satisfied with *E-learning* web in help in seek and fulfill needs related students with lectures . In the field of education , research satisfaction user with this model also ever implemented with *E-learning* media objects For learning at Yogyakarta State University. Research the done with focus period time dive Covid-19 pandemic . The results student satisfied with variable *content, accuracy, easy to use* , and *timeliness* . The format variable gets results that student satisfied with variable This (Prasetya et al,. 2020). Based on table on Can taken conclusion that satisfaction user This student Already satisfied in use *E-Learning* in look for related information with lectures . With thus party campus can maintain satisfaction user in use *E-learning* .

Indicator use in *E-learning* categorized well , that's it This indicates that student often use *E-learning* in search and get information lectures . Many studies have been conducted done in relation to with with analysis use *E-learning*, According to Wiwin (2016), The success of E-learning is supported by the existence of interaction maximum between educators and participants educate , between participant educate with various facility education , between participant educate with wish participant educate others , and the existence of pattern learning active in interaction Based on that . table on Can taken conclusion that use *E-learning* Already Can used For look for material lectures needed by students so that student feel satisfied with services available in *E-learning* , so that party campus expected maintain the quality contained in *E-learning* .

The last indicator that is benefit clean *E-learning* categorized well , that's it This indicates that *E-learning* can increase knowledge students and make it easier student communicate with lecturer in lectures . Net benefits describe different perceptions from *stakeholders,* organization or individual . Net benefits is evaluation comprehensive from the past and hopes for the future on implementation technology information (Seddon, 1997 in Noviyati , 2016). Influence positive benefit clean to satisfaction user with value 10.20 where mark the more big from 1,963 can interpreted that the more tall benefit net obtained, then matter That will followed by an increase satisfaction users, and vice versa, (Andarwati , 2016). Based on table on Can taken conclusion that benefit clean *E-learning* Already Can used if *E-learning* at the faculty UMLA Health Sciences can increase as well as make it easier interaction student with lecturer in lectures .

CONCLUSION

Based on results analysis of data that has been done about perception student about *E-learning* in the faculty Health Sciences , Muhammadiyah University of Lamongan, can concluded that almost all over perception student about use *E-learning* on indicators quality system is in the category enough , some big perception student about use *E-learning* on indicators quality information is in the category well , some big perception student about use *E-learning* on indicators quality service is in the category enough , some big perception student about use *E-learning* on indicators satisfaction user is in the category well , some big perception student about use *E-learning* on indicators use is in the category good , and some big perception student about Usage *E-learning* on indicators benefit clean is in the category Good.

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Research Article

Relationship Between Diabetic Peripheral Neuropathy and Ankle Brachial Index: A systematic Review

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ABSTRACT
Background: Inappropriate management of diabetes mellitus can cause complications of diabetic peripheral neuropathy. Diabetic peripheral neuropathy is a symmetric peripheral nerve disorder characterized by sensory, motor and autonomic abnormalities affecting the distal extremities. Measuring the ABI value to detect the presence of diabetic peripheral neuropathy which is caused by peripheral vascular disorders in diabetes sufferers. More than 50% of peripheral neuropathy without showing initial symptoms. The prevalence of diabetic peripheral neuropathy worldwide reaches 66%. Diabetic peripheral neuropathy has a wide impact on patients, including recurring infections, ulcers that do not heal and amputation of fingers and toes. Objectives: The purpose of this systematic review is to determine the relationship between peripheral neuropathy and ankle brachial index in diabetes mellitus patients. Methods: The research design used is the Systematic Review method. Science direct, Pubmed, Google Scholar is Data Based which is used in article search. The articles obtained were filtered based on full text, 20 articles were found, and nine articles were analyzed through analysis of objectives, suitability of topics, research methods used, characteristics of respondents, and the results of each article, published 2014-2024, in English and Indonesia. Results: The ABI value has a significant relationship with diabetic peripheral neuropathy, which causes the severity of diabetic foot ulcers in diabetes mellitus patients. Conclusion: DM patients who have complaints of diabetic neuropathy are very susceptible to the risk of foot ulcers, so physical exercise on the lower extremities can be an appropriate alternative to improve diabetic neuropathy, improve blood circulation in the feet with the criteria of an increased ABI score and can help control blood glucose levels.

Keywords
Ankle Brachial Index, Diabetic, Peripheral, Neuropathy

INTRODUCTION

Diabetes Mellitus (DM) is a chronic disease because the pancreas is unable to secrete insulin or the body is unable to use insulin effectively. DM is said to be a global emergency disease due to its high incidence and wide impact. The incidence of DM in the world increases every year. The prevalence of DM in 2017 was 8.8% (total world population aged 20-79 years: 4.84 billion people) and is predicted to increase to 9.9% (total world population aged 20-79 years: 6.37 billion people) in 2017. 2045. The prevalence of DM in urban areas is 10.2%. The incidence of DM in urban areas is predicted to increase in 2045 due to global urbanization. The death rate for DM aged 20-

79 years in 2017 is predicted to be around 4 million people. Health care costs for DM cases reach USD 727 billion (Arista et al., 2022).

Indonesia ranks sixth highest in DM sufferers below China, India, America, Brazil and Mexico with a total of 10.3 million DM sufferers aged 20-79 years. The prevalence of DM in Indonesia based on a doctor's diagnosis is 2.0% (total population aged >15 years).

DM management is focused on 4 pillars. Management of DM starts from DM management education, Medical Nutrition Therapy (TNM), Physical Exercise and Pharmacological Intervention with oral, injectable and/or combination anti-hyperglycemic drugs. The success of DM management is evaluated through various parameters including body weight, blood pressure, blood glucose, HbA1C and blood cholesterol. This management requires patient independence to carry it out.

Achievement of glycemic control targets has not been optimal. Reported results from the National Health and Nutrition Examination Survey (NHANES) only 50% of adult DM patients in America achieved HbA1C below 7.0 and The Healthcare Effectiveness Data and Information Set (HEDIS) reported that 40% of DM patients with private insurance and 30 % of DM patients with government insurance achieve HbA1C below 7.0. Riskesdas results found that 8.5% of the Indonesian population experienced hyperglycemia (total population aged over 15 years).

Poor management of DM can cause complications of diabetic peripheral neuropathy. Diabetic peripheral neuropathy is a symmetric peripheral nerve disorder characterized by sensory, motor and autonomic abnormalities affecting the distal extremities. More than 50% of these cases appear without showing initial symptoms. The prevalence of diabetic peripheral neuropathy worldwide reaches 66%. The prevalence of diabetic peripheral neuropathy type 2 DM is 50.8% while type 1 DM is 25.6%. The prevalence of diabetic peripheral neuropathy is higher in women, namely 26.4%, while in men it is 20.0% and is higher in urban areas at 75.3%. The prevalence of neuropathic pain in type 2 DM sufferers is 26.4%. These data indicate a high incidence of diabetic peripheral neuropathy. Efforts that can be made by DM sufferers to determine peripheral circulation disorders are measuring the ankle brachial index (ABI). ABI is the highest ankle systolic blood pressure value divided by the brachial systolic pressure value. Ankle Brachial Index (ABI) Value with Diabetic Peripheral Neuropathy in Type 2 Diabetes Mellitus Patients. ABI measurement is a simple method for detecting peripheral arterial circulation disorders and for evaluating the prognosis of cardiovascular disorders. Low ABI values (<0.9) in DM sufferers are associated with atherosclerosis. Monitoring ABI values in DM sufferers is important to diagnose specific foot symptoms, especially peripheral neuropathy (Crawford et al., 2016).

Diabetic peripheral neuropathy (NPD) can occur due to microvascular complications that result in damage to the innervation. Until now, the pathogenesis of NPD is not completely understood, however, there is various evidence that hyperglycemia and ischemia are the two main factors that contribute to the occurrence of diabetic peripheral neuropathy. The prevalence of NPD ranges from 30-50%. Diabetic peripheral neuropathy has a wide impact on patients, including recurring infections, ulcers that do not heal and amputations of fingers and toes. The most frequent complication that arises due to NPD is the occurrence of diabetic feet or diabetic foot ulcers (DFU), which is twice as high as in patients without diabetes. (Asir et al., 2020).

METHOD

The research design used is the Systematic Review method. Science direct, Pubmed, Google Scholar is Data Based which is used in article search. The articles obtained were filtered based on full text, 20 articles were found, and nine articles were analyzed through analysis of objectives, suitability of topics, research methods used, characteristics of respondents, and the results of each article, published 2014-2024, in English and Indonesia

RESULTS

The ABI value has a significant relationship with peripheral neuropathy or diabetic neuropathy, which causes the severity of diabetic foot ulcers in diabetes mellitus patients (Kristiani et al., 2015). Diabetic ulcers occur through two mechanisms, namely angiopathy and neuropathy. Ulcers can occur as a result of one mechanism or as a result of both mechanisms. Diabetic ulcers due to neuropathy usually have a normal ABI, but if the neuropathic ulcer is accompanied by angiopathy, the grade of the ulcer can increase in severity according to the severity of tissue ischemia. The lower the ABI value, the greater the ulcer severity value. Statistically, the degree of peripheral ischemia can influence the occurrence of diabetic foot in line with the severity of the ulcer. Special attention must be given to the feet of DM sufferers to prevent injuries by controlling risk factors, identifying feet at risk, and educating DM sufferers. Prevention of non-traumatic limb amputations due to DM must be a top priority, namely by examining the circulation of the lower extremities, especially in long-standing DM sufferers with or without cardiovascular risk factors (Kristiani et al., 2015).

Table 1. Review Articles

Author	Research Title	Research purposes	Research method	Result
Chuanwei Li, Wen Zhang, Jun Xiao, Chunyu Zeng, Chunmei Xu (Li et al., 2024)	The importance of ankel-brachial index in prediction vascular complications in transradial access procedures	The study aimed to explore the predictors of vascular complications (VCs) associated with transradial access, as the occurrence and severity of these complications were found to be significantly lower compared to femoral access	A retrospective case-control study was conducted on individuals who underwent per-cutaneous coronary diagnostic or therapeutic procedures at Daping Hospital, following the inclu-sion and exclusion criteria. The study compared demographic characteristics, VC types, ankle brachial index (ABI), and severity of coronary artery stenosis between the two groups	Patients who exhibit a lower ABI and have a history of prior radial access proce- dures may be at an increased risk of developing radial access VC. Therefore, it is recommended to routinely measure ABI prior to these procedures, as it may serve as a predictive tool for asses- sing the risk of VC
Francisco José Cervilla Suárez, Francisca Muñoz Cobos, Phd, Antonio García Ruiz, Phd, Luis Federico Gálvez Alcaraz, Phd (Mu et al., 2024)	Alteration of the ankle brachial index, follow-up of patients at risk of	The objective of this study was to detect peripheral arterial disease (PAD) by measuring the	Patients at risk of peripheral arterial disease of the lower limbs: diabetes mellitus (DM), cardiovascular disease (CVD), high	Doctor consultations in primary care are a favorable context for making an early diagnosis of PAD, by measuring the ABI. The performance of the ABI

Author	Research Title	Research purposes	Research method	Result
	peripheral arterial disease, a descriptive longitudinal study	ankle-brachial index (ABI) in patients attending medical offices in primary health care who presented a moderate or high risk on the risk scale of Framingham	cardiovascular risk (HCR) (SCORE>5%), and/ or compatible symptoms. Consecutive sampling, n=136 (expected prevalence 8%, alpha 0.05, precision 0.95, projected losses 20%). Dependent variable: ankle-brachial index (ABI). Indepen-dent variables: hypertension (HBP), age, sex, CVD, DM, glycosylated hemoglobin (HbA1C), hyperlipidemia (HLP), LDL cholesterol (LDL), smoking, body mass index (BMI), pulses, treatment. Multivariate analysis: linear	should be included as part of the annual examination for chronic patients who regularly attend consultations, particularly those with moderate or high cardiovascular risk. In this way, preventive measures could be intensified to prevent future cardiovascular complications in these patients. The predictors of ABI are age, diabetes, and palpation of pulses

Author	Research Title	Research purposes	Research method	Result
			regression. Confidence level 95%	
Antonio J.G. Pereira Filho, Fredrik Sartipy , Fredrik Lundin, Eric Wahlberg, Birgitta Sigvant (Filho, 2022)	Impact of Ankle Brachial Index Calculations on Peripheral Arterial Disease Prevalence and as a Predictor of Cardiovascular Risk	The aim of this study was to estimate the prevalence and predictive accuracy for cardiovascular (CV) morbidity by using different ankle brachial index (ABI) calculation methods in the general population	ABI measurements and questionnaire data were collected from 5 080 randomly selected citizens aged 60 –90 years. A 10 year follow up with data from Swedish national health registries was carried out. ABI was calculated using as numerator the highest (ABI-HI) or the lowest (ABI-LO) ankle BP obtained in each leg. Subjects were defined as references or having peripheral arterial disease (PAD) based on ABI-LO (Group 1) or ABI-HI (Group 2). Prevalence, mortality,	An ABI < 0.9 should be considered a strong risk marker for future CV morbidity. Applying the traditional ABI calculation method of using the highest measured ankle BP, a group of subjects with high CV risk may be overlooked for intervention, and this why the lowest ankle BP should be the preferred for risk stratification. However, as a single predictive tool an ABI < 0.9 cannot adequately discriminate which individual will have a future CV event regardless of calculation method used

Author	Research Title	Research purposes	Research method	Result
			CV events and risk were then analysed for these three groups, and their predictive power by using the area under the curve (AUC).	
Katherine E. Hawkins, MD,[a] R. James Valentine, MD,[a] Julie M. Duke, MD,[a] Qi Wang, MS,[b] (Hawkins et al., 2022)	Ankle-brachial index use in peripheral vascular interventions for claudication	The ankle-brachial index (ABI) has been recommended as the first-line noninvasive test to establish a diag- nosis of peripheral arterial disease in patients with claudication (grade 1, level A evidence). The ABI can also be used to monitor disease progression and assess the benefits of treatment after peripheral vascular intervention	We conducted a review of the Upper Midwest Region of the Vascular Quality Initiative to identify PVI per- formed for claudication from native artery atherosclerotic occlusive disease in nondiabetic patients from 2010 to 2020. Patients who had undergone PVI with infection, tissue loss, rest pain, bypass graft stenosis, or aneurysmal disease were excluded. The primary	Despite the grade 1, level A evidence, ABI had been used before and after PVI for only 22.5% of the patients who had undergone PVI for claudication. In addition, we found overall functional status had decreased significantly after PVI for those patients who had never had an ABI performed. Accurately identifying patients with claudication due to PAD using the ABI remains critically important before PVI. Given the lack of overall improvement in ambulation after PVI found in the present study, identifying the patients who will

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		(PVI).	outcomes included the ABI, ambulation status, and functional status before and after PVI.	benefit from PVI to treat claudication remains elusive
Giovanni Sartore, Rosaria Caprino, Eugenio Ragazzi, Lorenza Bianchi, Annunziata Lapolla, Francesco Piarulli	The ankle-brachial index for assessing the prevalence of peripheral artery disease and cardiovascular risk in patients with type 2 diabetes mellitus	The main goals of this study were to establish the prev- alence of PAD in a T2DM population, and assess the relationship between PAD and the CV risk calculated with the CUORE Project score (CPS) (https://www.cuore.iss.it/). The association between the ABI, the main risk factors for PAD and T2DM complications was also investigated	Two hundred patients were consecutively enrolled. The prevalence of PAD in this population was 17%. The CV risk tended to be higher (p Z 0.0712) in the group with a pathological ABI than in the group with a normal ABI. Glycated hemoglobin (r Z 0.1591; p Z 0.0244), total cholesterol (r Z 0.1958; p Z 0.0054), LDL cholesterol (r Z 0.1708; p Z	The data reveal a high prevalence of PAD in patients with T2DM. The CPS confirmed that patients with a pathological ABI have tendency to a higher CV risk. The results point to the importance of an accurate CV assessment e also measuring individuals' ABI and calculating their CPS - to better pinpoint those at high risk of PAD, especially among patients with T2DM

Author	Research Title	Research purposes	Research method	Result
			0.0156) and systolic blood pressure (r Z 0.1523; p Z 0.0313) correlated significantly and inversely with the left ABI. The frequency of diabetic retinopathy was significantly higher in the group with a pathological ABI (p Z 0.0316).	
I Gede Peri Arista, IDewa Putu Gede Putra Yasa, Ni Made Wedri, I Made Widastra,VM. Endang SP. Rahayu (Arista et al, 2022)	Ankle Brachial Index (ABI) Value with Diabetic Peripheral Neuropathy in Type 2 Diabetes Mellitus Patients	The study aims to determine relationship between value ankle brachial index (ABI)and diabetic peripheral neuropathy on type 2 DM patients at public health center of I Klungkung	This study used an analytic correlational design with cross sectional approach. The sample this study were 82 person and was selected by using purposive sampling techniques	The results of the study found that the average age of respondents was 67.8 years, the average duration of DM respondents was 7.26 years, 61.0% of respondents were female, 42.7% of respondents had neuropathy and 32.9% had ABI for vascular disorders. The conclusion of this study is that there is a significant relationship between value ankle brachial index (ABI)

Author	Research Title	Research purposes	Research method	Result
				and diabetic peripheral neuropathy (p = 0,000) and value of Odd Ratio = 1.45 which means that type 2 DM patients who experience vascular disorders have 1.45 times the chance of neuropathy peripheral diabetics
Taufik Rizkian Asir, Dono Antono, Em Yunir, Hamzah Shatri (Asir et al., 2020)	The Association between Degree of Diabetic Peripheral Neuropathy with Ankle Brachial Index, Toe Brachial Index, and Transcutaneus Partial Oxygen Pressure in Patients with Type 2 Diabetes Mellitus	This research was conducted to assess the relationship between the degree of diabetic peripheral neuropathy assessed using the Toronto Clinical Scoring System (TCSS) and the process of atherosclerosis in the leg blood vessels, both macrovascular with the ankle brachial index (ABI) and toe brachial index (TBI) and microvascular with	Cross-sectional study was carried out in patients with type 2 DM with DPN with TCSS values> 5 in the Integrated Cardiac Polyclinic, Endocrine and Metabolic Polyclinic, and Internal Medicine Polyclinics at Cipto Mangunkusumo Hospital. Data were obtained from interviews, medical records, as well as ABI, TBI and, TcPO examinations. Bivariate analysis of each variable	Total of 36 subjects who met the selection criteria were included in the study, the average age was 62 years (SD 9.2) with 20 (55.6%) of whom were women and the median duration of diabetes was 12 years. Based on bivariate analysis with the Spearman test, there was a statistically significant negative correlation with moderate correlation coefficient between the degree of diabetic peripheral neuropathy assessed by TCSS with ABI (r = -0.475, p = 0.003) and TBI (r = -0.421, p = 0.010)

Author	Research Title	Research purposes	Research method	Result
		the transcutaneous partial oxygen pressure (TcPO) in type 2 diabetes mellitus (DM) patients.	was performed using Spearman test.	
Amelia L. Kristiani Richard M. Sumangkut Hilman P. Limpeleh (Kristiani et al., 2015)	Relationship between Ankle Brachial Index and Ulcer Severity in Diabetic Foot Patients	This study aimed to determine the relationship between ankle brachial index (ABI) and the severity of ulcer using Wagner classification among patients with diabetic foot in Prof. Dr. R. D. Kandou Hospital Manado	This was an observational study with a cross-sectional design conducted at the Department of Surgery and Department of Internal Medicine of Prof. Dr. R.D. Kandou Manado Hospital	The results showed that there were 38 patients with diabetic foot ulcers. The highest proportion was the group of patients with Wagner grade 4 (10 patients - 26.3%), followed by grade 1 (9 patients - 23.7%), grade 2 and 3 (each of 8 patients - 21.05%), and grade 5 (3 patients - 7.9%). There were 22 patients (57.9%) with normal ABI values, followed by moderate ischemia in 8 patients (21.1%), mild ischemia in 7 patients (18.4%), and only 1 patient (2.6%) with severe vascular obstruction. The Spearman test showed a P value of 0.008 which meant that

Author	Research Title	Research purposes	Research method	Result
				there was a significant correlation between ABI and the severity of ulcer. The lower the ABI value, the more severe the ulcer of diabetic foot cases **Conclusion:** ABI value had a significant relationship with the severity of ulcers of diabetic foot patients.
Taufik Rizkian Asir, Dono Antono Em Yunir, Hamzah Shatri (Asir et al., 2020)	The Association between Degree of Diabetic Peripheral Neuropathy with Ankle Brachial Index, Toe Brachial Index, and Transcutaneus Partial Oxygen Pressure in Patients with Type 2 Diabetes Mellitus	This study was conducted to assess the association of the degree of diabetic peripheral neuropathy assessed by Toronto clinical scoring system (TCSS) with the process of atherosclerosis in the blood vessels of the lower extremity, both macrovascular with ankle brachial index (ABI) and toe brachial index	Cross-sectional study was carried out in patients with type 2 DM with DPN with TCSS values> 5 in the Integrated Cardiac Polyclinic, Endocrine and Metabolic Polyclinic, and Internal Medicine Polyclinics at Cipto Mangunkusumo Hospital. Data were obtained from interviews, medical records, as well as ABI, TBI and, TcPO examinations. Bivariate analysis of	Total of 36 subjects who met the selection criteria were included in the study, the average age was 62 years (SD 9.2) with 20 (55.6%) of whom were women and the median duration of diabetes was 12 years. Based on bivariate analysis with the Spearman test, there was a statistically significant negative correlation with moderate correlation coefficient between the degree of diabetic peripheral neuropathy assessed by TCSS with ABI (r = -0.475, p = 0.003) and TBI (r = -0.421, p = 0.010).

Author	Research Title	Research purposes	Research method	Result
2 2		(TBI), as well as microvascular with transcutaneus partial oxygen pressure (TcPO) in patients with type 2 diabetes mellitus	each variable was performed using Spearman test.	The TcPO examination also found a statistically significant negative correlation with moderate correlation coefficient (r-0.399, p = 0.016). **Conclusion.** There is a statistically significant negative correlation between the degree of diabetic peripheral neuropaty with ABI, TBI, and TcPO examinations.

DISCUSSION

Individuals with type 2 diabetes mellitus have a lower prevalence of ABI (68%) than individuals in general. A decrease in ABI values will be followed by a decrease in sensation in the DM's feet. This is because chronic hyperglycemia can cause blood vessel endothelial cells and nerve cells to become flooded with glucose (Hyperglycolia). Chronic hyperglycolia results in changes in intra-cellular biochemical homeostasis so that endothelial cells are damaged, which has the potential to change several chemical pathways, one of which is the protein kinase C pathway. Changes in the protein kinase C pathway result in the proliferation of vascular smooth muscle cells, resulting in thickening of the blood vessel walls. blood resulting in decreased blood flow to the periphery. (Akbar, 2023).

This prevalence was higher in men, at a later age, in subjects who continued treatment with oral anti-diabetics or insulin, leading to more advanced disease than in individuals with cardiovascular disease. Thus, a low prevalence of ABI exists in the diabetic population, related to age, sex, time of evolution of diabetes, and the presence of arteriosclerosis in other vascular regions. Determination in this population would allow high-risk individuals who are candidates for more energetic control of glycemic status, risk factors, and disease screening. A low ABI is associated with a significantly increased risk and an ABI lower than 0.9, and below this level, the risk continues to rise sharply. A high ABI over 1.3 was also associated with a significantly increased risk. ABI is associated with a distinct risk of type 2 diabetes complications in persons without symptoms for PAD and those in primary cardiovascular prevention.

The high incidence and severity of diabetic neuropathy varies according to age, duration of diabetes mellitus, glycemia control, and fluctuations in blood glucose levels since Diabetes Mellitus was diagnosed. Of the various risk factors that play a role in the pathogenic mechanisms of diabetic neuropathy, persistent hyperglycemia is the key pathological process that induces nerve damage and results in diabetic neuropathy. (Rahayu et al., 2022)

Based on several studies, the ABI value is associated with symptoms of diabetes mellitus. Research conducted by that macrovascular complications, the incidence of ischemic stroke is twice that of acute myocardial infarction, namely 7.7 (95% CI 7.0 to 8.6) and 4.1 (95% CI 3,6 to 4.7) per 1000 person-years, in the normal ABI group ($1.1 \leq ABI < 1.3$). As for microvascular complications, neuropathy presented the lowest incidence of 3.4 (95% CI 2.9 to 4.0) per 1000 person-years in the category with the usual ABI, a slightly higher incidence of retinopathy, and nephropathy had a much higher incidence. Ie, 24.4 (95% CI 22.9 to 25.9) per 1000 person-years. These results suggest that ABI assessment can be considered in the initial risk assessment of acute and chronic disease complications of diabetes mellitus to assist in treatment decision-making (Rahayu et al., 2022).

CONCLUSION

Type II diabetes mellitus is a carbohydrate metabolism abnormality characterized by an increase in blood sugar levels (hyperglycemia) due to decreased insulin sensitivity which will cause macro vascular and micro vascular complications and neuropathy. Peripheral vascular disease is one of the chronic complications of type II diabetes mellitus caused by

decreased peripheral blood circulation resulting toan abnormality value of the ankle brachial index (ABI) (Luh et al., 2017). DM patients who have complaints of diabetic neuropathy are very susceptible to the risk of foot ulcers, so physical exercise on the lower extremities can be an appropriate alternative to improve diabetic neuropathy, improve blood circulation in the feet with the criteria of an increased ABI score and can help control blood glucose levels. (Pratiwi, 2018)

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Research Article

Analysis of The Impact of Person Job Organization Fit and Person Job Fit in Increasing Job Satisfaction of Health Service Employees

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ABSTRACT

Background: In this modern era, efforts to create a healthy and productive society have Observation results from various studies state that organizations feel that some employees are dissatisfied with their jobs, causing a decline in organizational performance, dissatisfaction and decreased performance can be caused by various reasons such as the skills and abilities of an employee. Job Satisfaction and performance are important factors in achieving organizational goals. Good job satisfaction and performance can be achieved by adjusting individual values with the organization (person organization fit) and the suitability of individual characteristics with the job (person job fit). With this suitability, employee involvement in work will be higher and improve performance. This study was conducted to analyze the effect of person organization fit and person job fit on Job Satisfaction and employee performance. This Ktype of research is quantitative research with purposive sampling technique. Research data were collected by distributing questionnaires to all employees of the "X" Health Center. Data collection was carried out using the survey method and questionnaires were distributed to respondents who had worked for at least two years in the job. The number of samples used was 38 respondents. The results of this study are that Person Organization Fit has a positive effect on employee satisfaction and performance and person job fit also has a significant effect on employee satisfaction and performance.

Keywords

Person organization fit, person job fit, job satisfaction, performance

INTRODUCTION

Health centers provide health services by empowering various trained and educated employees to deal with and handle medical problems for the recovery and maintenance of good health. (Nguyen *et.al* 2018) The complex role and function of health centers demand the availability of competent human resources (HR) in health centers. One of the factors that influences the quality of service in a health center is the role of HR as service providers. The attitude, ability and integrity of employees in health centers affect the success of organizational governance. (Wulandari *et.al,* 2021) Good

organizational governance in an organization, especially a health service agency, of course, depends heavily on the HR owned by the agency. (Sheeraz *et.al* , 2021s) Therefore, the task of human resource management (HR) that represents it requires preparation and development of its human resources by placing a job with employees who are competent in their fields. Employees are expected to be able to provide good service to have good work enthusiasm, work ethic, and performance, and which are consistent for the benefit of the wider community. (Anindita *et.al*, 2019). HR development is one of the most important goals in an organization because it has an important role in improving company performance. Excellent performance from these employees will have a tremendous impact on them. Thus, organizations highly value employees with great potential to create superior and competitive human resources and are able to achieve organizational goals (Utami *et.al* , 2020).

Performance is behavior displayed by employees according to their role in the organization (Harahap *et.al,* 2020). Improving employee performance can be done by paying attention to Person job fit, person organization fit, and job satisfaction. Job satisfaction is an important thing in an organization ((Indriyani *et.al*, 2021),(Goestjahjanti *et.al,* 2020), (Bui *et.al* (2017)) especially for health care workers. Job satisfaction is a picture of what a person feels about their job. Employee job satisfaction at work leads to creativity in the workplace (Saxena *et.al*, 2019). Job satisfaction is caused by several factors such as the work environment, job characteristics, and employee suitability to the organization itself.

Person job fit is the concept of suitability between individual knowledge, skills, and abilities with job demands or individual needs with work (Majid *et.al* , 2021). Therefore, Person job fit needs to be applied to match the employee's ability to motivate their performance to achieve organizational goals. Person job fit is based on the employee's personality with his/her job. In this case, a person will understand the meaning of the work he is doing so that he can have the opportunity to develop himself in the world of work.

Person organization fit is a match between an individual and his organization, starting from thoughts to vision and mission, because the organization plays a very important role in the values held by each individual who has an influence on the level of performance of the individual, the match felt between employees who work in a company or government agency which is proven by the suitability of values, goals, fulfillment of needs and personality characteristics (Kooij *et.al* , 2018). Person organization fit also contributes to improving employee performance. This is defined as the match between organizational values and individual values (Istianti, 2018). Thus, there is a need for a match between individuals and organizations, so that they can feel satisfied with work, comfortable and motivated to work optimally. Therefore, the above factors need to be considered by the management of an organization in improving employee performance. The HR department in a health organization must maintain employee performance and performance, among other things, by motivating employees to carry out their duties in accordance with applicable provisions ((Sheeraz *et.al,* 2021),(Goestjahjanti *et.al,* 2020),(Badran & Akeel, 2019)).

Nowadays, organizations, both government and non-governmental sectors, are so aggressively implementing HR development programs in their organizations that aim to

enable members of the organization to maintain their performance. Job satisfaction is one of the elements that influences the performance of members of the organization, for that, efforts are made to improve the performance by adjusting Person job fit and Person organization fit

METHOD

This type of research is quantitative descriptive research, namely with an approach carried out by analyzing ordinal data from the results of respondents' questionnaire answers and the ratio obtained from data collection. Data analysis using descriptive can provide an overview of how much influence Person job fit and Person organization fit have on Job satisfaction and performance. The study was conducted at the "X" health center, Kediri Regency, East Java. The study was conducted for two months in April - June 2024. Sampling used purposive sampling, namely a sample determination technique based on certain criteria, namely with a minimum length of service of 2 years. In this study, the respondents to be studied were employees of the "X" Health Center, both medical and non-medical personnel. The instrument used in the study was a questionnaire, with an ordinal measurement level, the answer categories consisted of four levels (Likert scale). Data collection was carried out with a questionnaire. Data analysis in this study used the Partial Least Square (PLS) method. PLS can be used on any type of data scale (nominal, ordinal interval, ratio) and more flexible assumption requirements. PLS is a structural equation modeling (SEM) based on components or variances.

RESULTS

1. **Characteristics of Respondents**

Tabel 1. Characteristics of Respondents

Characteristics of Respondents	n	%	Total
Gender :			
1. Male	10	26	38
2. Female	28	74	
Age			
1. < 20 years old	0	0	38
2. 20-35 years old	24	63	
2. > 35 years old	14	37	
Education			
1.Elementary- Senior High School	5	13	38
2. D3	21	55	
3. D4/S1	10	27	
4. S2	2	5	
Period of Work			
1. ≤ 10 years	16	42	38
2. > 10 years	22	58	
Employee Category			
1. Doctor	3	8	38
2. Nurse	14	37	
3. Midwife	10	26	
4. Pharmacist	2	5	

5.Administration	6	16	
6. cleaning staff	3	8	
Employment Status			
1. Permanent Employee	29	76	38
2. Contract Employee	9	24	

Primary data processed, 2024

2. Hypothesis Testing Results

Based on the empirical model proposed in this study, testing of the hypothesis can be carried out through testing the path coefficient in the structural equation model. Table 5.25 is a hypothesis test by looking at the p value, if the p value is smaller than 0.05 then the relationship between the variables is significant. The test results are presented in Table 2 below :

Table 2. Hypothesis testing

Independent Variable	Dependent Variable	Direct Effect			
		Standaridize	C.R	p-value	Description
Person-OrganizationFit (P-O Fit)	Job Satifaction	0,192	2.109	0,034	Significant
Person Job Fit	Job Satifaction	0,224	1.893	0,046	Significant
Person-Organization Fit (P-O Fit)	Performance	0,198	2.579	0,009	Significant
Job Satisfaction	Performance	0,190	2.093	0,038	Significant

Primary data processed, 2024

DISCUSSION

1. Description of Respondent Characteristics

In this research, the characteristics of respondents are described through age, gender, education, length of service, type of work and employment status. In terms of gender, the largest number at the "X" Health Center is female with a total of 28 respondents or 74% while the remaining 10 respondents are male or 26%. In terms of age, the largest number is occupied by the age group in the range of 20-35 years, namely 24 people (63%), followed by the age group> 35 years as many as 14 people (37%). In the characteristics of respondents based on education level, elementary school graduates to high school graduates were 5 respondents (13%), diploma III had the largest number, namely 21 respondents (57%), D4-S1 as many as 10 people (27%), and with an education level of S2-S3 as many as 2 respondents (5%). In terms of type of work, the most are nurses with 14 respondents (37%), followed by midwives with 10 respondents (26%), then administrative staff with 6 respondents (16%), cleaning staff and doctors with 3 respondents each (8%). In terms of employee status, the most are permanent employees with the status of Civil Servants with 29 respondents (76%), and contract employees with 9 respondents (24%).

Based on the results of hypothesis testing in the table above shows the value of the regression coefficient (regression weight estimate) and critical ratio (t-count). The hypothesis is accepted if the critical ratio (t-count) is greater than the t-table value or p-value <0.05. The functional relationship of exogenous and endogenous variables can be described as follows:

2. **The Effect of Person Organization Fit on Job Satisfaction of Health Center Employees**

   The estimated coefficient value of 0.192> 0 indicates a causal relationship between Person-Organization Fit (P-O Fit) and job satisfaction is positive. The critical ratio value (t-count) of 2.109 is greater than 1.960 for a confidence level of 0.05 and a p-value of 0.034 <0.05 which indicates a significant level of 5%. The coefficient illustrates that the suitability of values between individuals and companies will create high job satisfaction for employees. Person Organization Fit is generally in accordance with job satisfaction Where individual values and organizational values affect job satisfaction. This is in accordance with the research of Purjiani et.al (2018) and Jin et.al (2018) which tested the suitability of individuals and organizations with job satisfaction, they found that P-O Fit was positively related to job satisfaction.

3. **The Effect of Person Job Fit on Job Satisfaction of Health Center Employees**

   The estimated coefficient value of 0.224> 0 indicates a causal relationship between person Job Fit and job satisfaction is positive. The critical ratio value (t-count) of 1.993 is greater than 1.960 for a confidence level of 0.05 and a p-value of 0.046 <0.05 which indicates a significant level of 5%. This coefficient illustrates that person Job Fit will increase employee job satisfaction. Based on the results of the analysis, person job fit has a significant effect on the job satisfaction of Health Center "X" employees. This means that the higher the compatibility between the individual and the employee's job, the higher the level of employee satisfaction. This is because the level of employee satisfaction will increase if they do work that is in accordance with their abilities and capacities that are in accordance with individual values. This is in line with the research of Bangun et.al (2017) which states that the suitability of individuals with jobs affects employee job satisfaction. The higher the suitability of individuals to their jobs, the higher the employee's job satisfaction will be.

4. **The Influence of Person Organization Fit on the Performance of health center employees**

   The estimated coefficient value of 0.198> 0 indicates a causal relationship between Person Organization Fit and performance with a positive sign. The critical ratio value (t-count) of 2.579 is greater than 1.960 for a confidence level of 0.05 and a p-value of 0.039 <0.05 which indicates a significant level of 5%. This coefficient illustrates that Person Organization Fit applied in the company will improve employee performance. This is in accordance with the research of Purjiani et.al (2018), Jin et.al (2018), and Astuti (2010) which tested the suitability of individuals and organizations with performance, they found that P-O Fit was positively related to performance.

5. **The Influence of Person Job Fit on Employee Performance at the Health Center**

The estimated coefficient value of 0.190> 0 indicates a causal relationship between Person Job Fit and employee performance with a positive sign. The critical ratio value (t-count) of 2.586 is greater than 1.960 for a confidence level of 0.05 and a p-value of 0.038 <0.05 which indicates a significant level of 5%. The coefficient illustrates that the compatibility between individuals and the work or tasks obtained will improve employee performance. The person-job fit variable has been proven to be able to improve employee organizational performance, which is measured based on the normative commitment dimension. Employees will be inspired to work well because employees are able to fulfill all the tasks and responsibilities given by the organization. In addition, the influence of person-job fit and performance because employees feel that the organization is the best place to work. Employees will devote all their abilities to work because employees assume that in this organization they can work well for now and are committed to working as well as possible for the sustainability of the organization

CONCLUSION

Based on the findings of this study, it can be concluded that to improve satisfaction and performance where job satisfaction itself is obtained from the suitability of individuals with the organization (person-organization fit). The suitability that can create job satisfaction is mainly the suitability of goals and fulfillment of employee needs, then the suitability of culture with employee personality, and suitability of values. Person-job fit has a positive and significant effect on employee job satisfaction and performance, this shows that the higher the person-job fit, the higher the employee's job satisfaction and performance will be towards the organization. Overall, the findings show that this research provides reinforcement and support for previous theories, so that this research can be used as a reference for research on the same topic in the future.

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Research Article

User Satisfaction of the RSI Sakinah Mojokerto Hospital Management Information System Using the End User Computing Satisfaction (EUCS) Method

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ABSTRACT

Background: Several problems were found in the implementation of SIRS, this risks reducing the level of user satisfaction. Several times double queue numbers and data were found, there was no drug stock transfer access system and the processing speed was slow and it was not equipped with a accounting system. Objectives: The aim of this research is to measure the level of SIRS user satisfaction at RSI Sakinah Mojokerto using the End User Computing Satisfaction (EUCS) method. Methods: This research is an analytical research, according to the place this research includes field research and was conducted from October to December 2023, located at RSI Sakinah Mojokerto. The research sample was calculated using the Slovin formula in purposive sampling with a total sample of 67 respondents. Research variables include the dimensions of Content, Accuracy, Format, Ease of Use, Timeliness and User Satisfaction. Results: The research results stated that based on 5 dimensions, the overall effect on User Satisfaction. The highest correlation coefficient value or in other words the most influential dimension is in the Ease of Use Dimension at 78.5%, while the lowest correlation coefficient is in the Content Dimension at 54.7%. Conclusion: The existence of a SIRS that suits user needs is expected to minimize the complexity of health services by increasing organizational efficiency through IS development innovation based on business process management, automation of service flow, reduction of costs, improvement of hospital performance, which aims to develop human resources, organizational development, improvement quality technology so that hospital service efficiency is achieved.

Keywords

EUCS, SIMRS, User satisfaction

INRODUCTION

Following the advancement of technology, the government has taken a decisive step by requiring health facilities to switch to electronic medical records. This step is specifically regulated through a regulation issued by the Ministry of Health, namely the Minister of Health Regulation No. 24 Year 2022 on Medical Records. The issuance of Permenkes No. 24 Year 2022 requires all health facilities including private practice health services to use electronic medical records. The Indonesian Ministry of Health gives time to all health facilities no later than December 31, 2023 to migrate to the electronic medical record system. This Minister of

Health Regulation (PMK) is an improvement of Permenkes No. 208 of 2008 as adjusted to the development of science and technology, policies, and the needs of the Indonesian people. Furthermore, the Minister of Health urged that the implementation of services using electronic medical records must prioritize data security and confidentiality. In its development, the design and implementation of an information system or application requires a lot of money to be able to produce an outcome that is in accordance with the expectations of the information system owner and its users (Stefan & Linköping, 2003).

The issuance of the Regulation of the Minister of Health of the Republic of Indonesia Number 82 of 2013 which states that every hospital is required to organize SIMRS and conduct guidance and supervision so that hospitals in Indonesia are required to implement a hospital management information system (SIMRS) to improve health services (Kemenkes, 2023). Hospital Management Information System is a series of activities that cover all health services at the administrative level that can provide information to managers for the management process of health services in hospitals. For hospitals, the use of information systems plays a role in storing patient data, both medical data and non-medical data, which in turn can be processed into reports so that reports can be made. From the report, it can be used by hospital management in determining the direction of policy making related to the organization (McLeod JR, 1998). Hospitals are known to have an agenda of activities that are intertwined with one another. In order for this to run smoothly and be directed, the hospital is required to have a system that can facilitate activities, namely the information system (Sinta, 2022).

Based on data from the Program and Information Section in the Directorate General of Health Services in 2017, out of 2743 total hospitals in Indonesia, there are 1423 that have used hospital information systems, while 134 hospitals that already have hospital information systems but are not functioning, and as many as 1177 hospitals that still do not have hospital information systems (Gamasiano, 2020).

System evaluation in a Health Information System (HIS) is a process to minimize errors in the information produced and measure user satisfaction (Noor, 2023). Therefore, it is necessary to evaluate the information system to determine whether the end users of the hospital information system are satisfied with the use of the SIRS. Program evaluation to achieve goals with more emphasis on the output aspect and can be carried out after running at least in the peroide stage (6 months - 1 year) according to the design stage and type of planning program (Antik, 2021). Various information system evaluation models that exist today have different contexts and specifications to accommodate the needs of users of these models. One of the parameters to determine the success of implementing an information system is user satisfaction. User satisfaction is the key to success because the desired expectations when using information systems are met (Sabdana, 2019).

Several methods can be used to measure the level of system user satisfaction, one of which is the End User Computing Satisfaction method (Marlindawati, 2016). EUCS (End User Computing Satisfaction) was first proposed in 1988 by Doll and Torkzadeh 8. This method is conceptualized as an effective relationship between a person who directly interacts with applications and certain computer applications (Prabandaru, 2018). EUCS is a method of measuring user satisfaction by comparing expectations with reality. This technique analyzes end-user satisfaction in terms of technology by assessing the content, accuracy, appearance, timeliness, and ease of use of the system (Suprapta, 2023).

The EUCS evaluation model emphasizes aspects of website or information system user satisfaction by considering the dimensions of content, accuracy, format, timeliness and ease of use of the system (Ismatullah et.al 2022).

The implementation of SIMRS at the Mojokerto Islamic Hospital "Sakinah" still has several problems faced by users. SIMRS still often brings up the same queue number and data (double), there is no access system for drug stock transfer and the processing speed is long and has not been equipped with a financial / accounting system (Pratama et.al, 2022). Functional problems in SIMRS will have an impact on user performance in using the system. This will have an impact on the acceptance and use of the information system. In addition, according to Yarbrough & Smith, 2007 personal characteristics, organizational characteristics, and information system characteristics also help in decision making related to the acceptance of SIMRS (Yarbrough & Smith, 2007).

Based on the explanation above, the use of the EUCS model is considered the most appropriate for this research because this model assesses the level of satisfaction with the use of an application based on the user's perspective while other models emphasize the level of acceptance of an information system/application that has been developed for the internal interests of the company.

This study aims to measure the level of user satisfaction of the Hospital Management Information System at RSI Sakinah Mojokerto using the End User Computing Satisfaction (EUCS) method.

METHOD

This research is an analytical study, according to the place this research includes field research and was conducted from October to December 2023, located at RSI Sakinah Mojokerto. The research sample was calculated using the Slovin formula in purposive sampling with a total sample of 67 respondents. The samples in this study were those who worked in the work unit: Ambulatory / Poly, Maternity Room / Hasyim Asyari, Casemix, Chasier, Finance and Accounting, Hemodialysis Room, Medical Record, Patient Registration Place (TPP).

The research variables include Content Dimension, Accuracy Dimension, Format Dimension, Ease of Use Dimension, Timeliness Dimension and User Satisfaction.

RESULTS

This research uses a questionnaire distributed to 67 respondents as a research sample. In this questionnaire there are characteristics of respondents which aim to find out the identity of SIMRS data entry HR selected as respondents. Classification of respondents based on: gender, age, occupation, latest education, length of service, unit and job position.

Table 1. Distribution of Respondent Characteristics at the Islamic Hospital "Sakinah" Mojokerto

Characteristics	n	%
Age (Years)		
20 – 30 Years	22	32,84
31 – 40 Years	30	44,78
41 – 50 Years	11	16,42

51 – 60 Years	4	5,97
Education		
High School (SMA)	11	16,42
Diploma (D3/D4)	23	34,33
Bachelor Degree (S1)	33	49,25
Length of Work		
1 – 5 Years	13	19,40
6 – 10 Years	22	32,84
11 – 15 Years	20	29,85
16 – 20 Years	2	2,99
≥ 21 Years *)	10	14,93
Gender		
Male	18	26,87
Female	49	73,13
Total	67	100

The variables in this study use the End User Computing Satisfaction method according to Doll & Torkzadeh which consists of the Content Dimension which consists of 5 questions, the Accuracy Dimension which consists of 6 questions, the Format Dimension which consists of 6 questions, the Ease of Use Dimension which consists of 5 questions, and the Timeliness Dimension which consists of 5 questions. The next variable is User Satisfaction which consists of 9 questions. It can be seen from the Content variable that SIRS is able to provide information that is correct and according to your needs, complete reports, useful for your work, fulfills management desires, completes daily work. Based on the Accuracy dimension, it is known that SIRS has an organized menu structure, excellent color composition so that it does not tire the eyes and is not boring, format, interface display is easy to understand and understand and ease of search. Based on the format dimension, it is known that security, rare errors, accurate information, information that is reliable, trusted, precise and correct, has met the needs. Based on the ease of use dimension, it is known that the information is timely, up to date, there is a reminder, can be used as decision-making material. Based on the timeliness dimension, it is known that it does not take a long time to learn, it is very easy to interact, there is a help menu, clear instructions for use, it is easy to find out about changes in information. Based on the User Satisfaction dimension, it is known that the existence of SIRS is able to support the vision and mission, improve quality, reduce the error rate, help with daily work tasks, help better performance, improve work efficiency, assist in decision making, help achieve goals effectively, improve communication between all system users.

Table 2. Frequency Distribution

Variables	Frequency Distribution				Total Score	Mean Composit
	STS (1)	TS (2)	S (3)	SS(4)		
Content	0	4	47	213	213	2,13
Accuray	0	1	56	210	210	2,1
Format	0	1	60	206	206	2,06

Easy of Use	0	2	58	206	206	2,06
Timeliness	0	0	59	209	209	2,09
User Satisfaction	0	0	59	209	209	2,09

In Table 2, it can be explained that of the 6 (six) research variables, the Content Dimension has the highest score of 213 with a composite mean of 2.13. These results were obtained from 67 (sixty seven) respondents who thought the majority chose to agree about the Hospital Information System (SIRS) which provides the right information and according to needs, provides complete reports and various types of reports that are useful for work. information that is appropriate and in accordance with needs, provides complete reports and various types of reports that are useful for work, the reports generated can fulfill management desires and assist in completing daily work.

Table 3. Coefficient of Determination and Variable Correlation Coefficient

Variables	**Coefficient of Determination R2**	**Correlation Coefficient R**
Content	0,299	0,547
Accuray	0,310	0,557
Format	0,493	0,702
Easy of Use	0,617	0,785
Timeliness	0,551	0,742

In the table above, it is found that all dimensions have an influence on user satisfaction. The highest correlation coefficient value or in other words the most influential dimension is the Ease of Use dimension of 0.785 (78.5%), while the lowest correlation coefficient is the Content dimension of 0.547 (54.7%).

DISCUSSION

Describe the significance of your findings. Consider the most important part of your paper. Do not be verbose or repetitive, be concise and make your points clearly. Follow a logical stream of thought; in general, interpret and discuss the significance of your findings in the same sequence you described them in your results section. Use the present verb tense, especially for established facts; however, refer to specific works or prior studies in the past tense. If needed, use subheadings to help organize your discussion or to categorize your interpretations into themes. The content of the discussion section includes: the explanation of results, references to previous research, deduction, and hypothesis. For writing, use Cambria 12.

The five dimensions are independent variables, while User Satisfaction is the dependent variable. The results of the study state that based on the 5 (Five) dimensions consisting of the Content Dimension, Accuracy Dimension, Format Dimension, Ease of Use Dimension, Timeliness Dimension, the overall effect on User Satisfaction / user satisfaction of the Hospital Management Information System (SIMRS) at Sakinah Mojokerto Islamic Hospital.

This is in line with research according to Merahabia (2022) where the level of satisfaction with the use of the SIMRS application at the Abepura Hospital, VK Ponek Emergency Department using the EUCS method has an average value above 80%, meaning that the use of the SIMRS application used by the Emergency Department VK Ponek Hospital has been running well and is very satisfying for users at Abepura Hospital. And for the 5 hypotheses proposed that the content variable (X1), accuracy variable (X2), format variable (X3), ease of use variable (X4), timeliness variable (X5) have a positive and significant effect on user satisfaction of SIMRS 17 application. This is in line with research conducted by Azrul A (2022) which states that the five End User Computing Satisfaction variables have a significant relationship to user satisfaction (satisfaction) of the Dr. Oen SOBAtku application at Dr. Oen Solo Baru Hospital. The results of user satisfaction on the EUCS variable show very satisfied results with an interpretation scale of 3.26-40 3.

However, there are different research results according to Ismatullah (2023). This study concluded that the effect of each variable on the satisfaction of medical record officers on SIMRS with the EUCS evaluation model is different, meaning that there are variables that have an effect and have no effect 10. Similarly, according to Marliana et.al (2023) where the results showed that the variable content (0.070), variable format (0.016), variable timeline (0.000), variable convenience (0.001) had a significant effect on user satisfaction of the Automated Registration System (APM) while the accuracy variable (0.826) did not have a significant effect. Meanwhile, according to Siregar (2020) there is 1 variable with a dissatisfied respondent satisfaction scale, namely thetimeliness variable. So that in this study it is recommended to Doloksanggul Hospital to improve SIMRS in terms of timeliness.

Based on the test results, it is known that the variables that have a significant effect on satisfaction are the ease of use variable with a t-statistic of 2.240 and the format variable with a t-statistic of 2.279. Variables that do not affect the satisfaction of medical record officers with SIMRM are content variables with a t-statistic value of 0.295,

accuracy variables with a t-statistic value of 0.320 and timeliness variables with a t-statistic value of 0.409.

The results state that based on the five dimensions, the overall effect on User Satisfaction. The highest correlation coefficient value or in other words the most influential dimension is in the Ease of Use Dimension of 78.5%, while the lowest correlation coefficient is in the Content Dimension of 54.7%. the results of the research Content Dimensions, Accuracy Dimensions, Format Dimensions, Ease of Use Dimensions, Timeliness Dimensions as a whole affect User Satisfaction / SIMRS user satisfaction at Sakinah Mojokerto Islamic Hospital. The highest correlation coefficient value or in other words the most influential dimension is in the Ease of Use Dimension of 0.785 (78.5%), while the lowest correlation coefficient is in the Content Dimension of 0.547 (54.7%). From the frequency distribution, it is found that in the Content Dimension of 0.08%, users need a SIRS that meets user needs, especially helping to complete their work and meet the needs of decision support information for management. Similarly, according to Marliana, 2023 related to the Display Dimension, researchers suggest that SIMRS managers can improve the selection of color composition on the SIMRS display to make it more attractive and not boring. A good display can be seen from the layout, color composition with aesthetic standards and uniformity of form standards that are met . In addition, in the Ease of Use Dimension, it was found that there was a need to use an alert system to make it easier for users to run SIRS in the hospital environment. Researchers suggest that training be given to users when they first use SIMRS or provide a SIMRS usage module so that users are not confused in using SIMRS. The ease of system users is very important, starting from the process of inputting, processing and searching data until the final data can be used by users. Hospital data management is actually quite large and complex, both patient medical data and administrative data owned by the hospital so that if managed conventionally without the help of SIMRS will result in the following things: Data Redundancy, Unintegrated Data, Out of date Information and Human Error (Agung et,al., 2023).

The improvement and development of SIRS must continue, because the existence of SIRS is absolutely necessary as well as the availability of valuable and quality information. Where decision makers are allowed to choose the optimal decision in each case and not the average decision will be optimal and to avoid events that will result in a loss. The quality of information depends on three things, namely, information must be accurate, timely and relevant. And this can be realized by the existence of SIRS in accordance with the needs of the hospital.

SIM RS supports decision making for management in determining strategies to achieve the objectives of organizing hospitals (Romodon, 2023). SIRS is expected to minimize the complexity of health services by increasing organizational efficiency through innovative development of information systems based on business process management, service flow automation, cost reduction, hospital performance improvement, which aims to develop human resources, organizational development, and improve the quality of technology so as to achieve hospital service efficiency.

CONCLUSION

There is an influence between the Content Dimension and User Satisfaction of 54.7%; There is an influence between the Accuracy Dimension and User Satisfaction of 55.7%; There is an influence between the Format Dimension and User Satisfaction of 70.2%; There is an influence between the Ease of Use Dimension and User Satisfaction of 78.5%; There is an influence between the Timeliness Dimension and User Satisfaction of 74.2%.

Overall, the implementation of SIRS has been running well, but for improvement, SIRS is needed to meet the needs of users, especially to help complete their work and meet the needs of decision support information for management. In order to improve the existing SIRS, the use of an alert system in SIRS can make it easier for users to run SIRS.

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Research Article

The Effect of Switching Barriers on Customer Retention at Muhammadiyah Babat General Hospital

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ABSTRACT

The large number of hospitals creates competition, which encourages improvements in health quality and how to make patients stay with these health services. Customer retention is a strategy to retain old customers so that customers become loyal for a long period of time. The aim of this research is to determine the influence of switching barrier factors on customer retention at the Muhammadiyah Babat General Hospital. The research used a cross-sectional method with a correlational analytical design. The sample size was calculated using a proportion estimation formula with 94 respondents. The independent variables are switching costs, attractiveness of alternatives, and interpersonal relationships; the dependent is customer retention. The data were collected using a closed questionnaire and analyzed using multiple linear regression tests. The research results show that there is no influence of switching costs on customer retention (p value = 0.75), there is a significant influence of attractiveness of alternative on customer retention (p value = 0.00), there is a significant influence of interpersonal relationships on customer retention (p value = 0.005), switching costs, attractiveness of alternative, and interpersonal relationships simultaneously influence customer retention (p value = 0.000) and contribute 58.4%; the rest is influenced by other variables not studied. It is hoped that RSUMB will be able to increase the attractiveness of alternatives and build interpersonal relationships with patients that are stronger than competitors so that patients remain.

Keywords

Switching Cost, Attractiveness of Alternative, Interpersonal Relationship, Customer Retention, Hospital.

INTRODUCTION

The number of hospitals in Indonesia, particularly in Lamongan Regency, has been steadily increasing each year. In 2022, Lamongan had three Regional General Hospitals (RSUD), one specialized hospital, and thirteen private hospitals. This growing number of hospitals has led to increased competition, which in turn drives improvements in healthcare quality and strategies to retain patients. Additionally, the rapid advancement

in technology present unique challenges for hospitals, as technology facilitates easy access to information about healthcare services, raises public awareness about the importance of maintaining health, and simplifies the process of choosing desired products or services. (Kemenkes, 2022)

Patients play a crucial role in achieving the success and prosperity of hospitals. Hospitals which can provide the best services and create patient satisfaction will dominate the market. Muhammadiyah Babat General Hospital (RSUMB) is located in Babat District, one of the regions in Lamongan Regency, covering an area of 63 km^2 with a population of approximately 76,282 people. It ranks third in population density at 1211.4 people per km^2 and is the second most populous area in Lamongan Regency. Babat District is strategically located near the Pantura highway, with numerous markets and shops, making the presence of healthcare services essential.

RSUMB faces intense business competition as it is not the only healthcare provider in Babat. Other competitors include RS Muhammadiyah Babat, RSU Permata Bunda, and RS NU Babat. Therefore, RSUMB must enhance its service quality to become the most superior and maintain its market share amidst competitors. The persistence of RSUMB in facing competition can be observed from the patient visit data graph below:

Figure 1.2 RSUMB Outpatient and Inpatient Visit Data

Source: Medical Records of RSU Muhammadiyah Babat, 2024

Figure 1.2 shows that the number of outpatient and inpatient visits has been increasing annually, reaching 36,054 outpatient visits and 7,062 inpatient visits from its inception in 2020 until 2023. The increase in visits includes more new patients compared to returning patients, particularly for inpatient visits, with a Bed Occupancy Rate (BOR) still below the standard at 42.16%.

Thus, the hospital needs to develop effective marketing strategies to retain existing customers. Customer retention involves strategies to keep existing customers loyal for a long time. Higher customer retention leads to greater profitability as loyal customers tend to purchase more products or services and try other offerings from the company. This reduces marketing costs as loyal customers provide positive word-of-mouth information (Lupiyoadi, 2013). According to (Syaqirah, 2014), there are three indicators of customer retention: repeat purchases, recommendations to others, and overall satisfaction.

States that maintaining customers can be achieved by providing satisfaction, but satisfaction alone is not enough to ensure loyalty and prevent switching to other companies. Customers may switch if they find other products or services more appealing. (Indahsari, 2018). Therefore, hospitals need to create switching barriers to retain customers. Switching barriers are factors which make it difficult or costly for customers

to switch to another service provider. Higher switching barriers increase customer retention. Lupiyoadi (2013) identifies three components of switching barriers: Switching Cost, Attractiveness of Alternatives, and Interpersonal Relationships.

This is consistent with previous studies by (Wulandari, 2014) and (Martha and Anugrah, 2023), which found that switching barriers positively affected customer retention. Sopiyan and Pipih (2021) also demonstrated that switching barriers had the most significant contribution to customer retention compared to other variables. Another study by (Istiqomawati et al, 2022) found that switching costs positively impacted customer retention. However, (Nurjannah and Juanim, 2020) reported that switching barriers did not directly affect customer retention.

METHOD

This research was a quantitative analytical study. The research data consisted of numerical values analyzed by statistical methods to obtain the research results. The research design was a correlational study aimed at determining the existence of a relationship or influence between two or more variables (Sugiyono, 2017). The approach used was cross-sectional, meaning that the measurement of both independent and dependent variables was conducted once at the same time.

The population in this study was all long-term inpatients at RSUMB, totaling 3,108 patients. The sample size was calculated using the proportion estimation formula, resulting in 94 respondents. The sampling technique employed in this research was non-probability sampling with purposive sampling, a method where subjects were selected based on specific criteria established by the researcher (Hardani, 2020).

The inclusion criteria specified that the respondents for children or elderly patients were their parents or family members who cared for them during the treatment period. According to the Ministry of Health, children are defined as those aged 6-11 years, and older people are those aged over 65 years. The patients were conscious and not in an emergency condition. The long-term inpatients were those in the wards of Jannatul Firdaus, Jannatun Naim, Jannatul Ma'wa, and Darussalam. The sample size from each ward was proportionally calculated using the percentage formula for each ward as follows:

$$\mathbf{N} = \frac{\sum \boldsymbol{TT\ per\ wards}}{\sum \boldsymbol{Total\ TT}} \times \mathbf{100}\ \%$$

The resulting sample sizes for each ward included: Jannatul Firdaus 11 patients (12.3%), Jannatun Naim 28 patients (29.6%), Jannatul Ma'wa 35 patients (37.03%), and Darussalam 20 patients (20.9%). The exclusion criteria included patients who were unwilling to be respondents or fill out the questionnaire, patients in critical condition or isolation wards, uncooperative patients, patients who were demented or disoriented, and patients with communication disorders such as speech or hearing impairments.

Data collection in this research was conducted using closed questionnaires and analyzed with multiple linear regression tests. This study has undergone an ethical review by the Health Research Ethics Committee of Universitas Muhammadiyah

Lamongan and has received an ethical clearance letter with number 062/EC/KEPK – S1/04/2024.

RESULTS

Validity Test

Table 1 Validity Test

Item Pertanyaan	r_{hitung}	r_{tabel}	Kesimpulan
Switching Cost **(X1)**			
X1.1	0. 786	0.361	Valid
X1.2	0. 523	0.361	Valid
X1.3	0. 722	0.361	Valid
X1.4	0. 767	0.361	Valid
X1.5	0. 835	0.361	Valid
X1.6	0. 628	0.361	Valid
Attractiveness Of Alternative **(X2)**			
X2.1	0. 754	0.361	Valid
X2.2	0. 756	0.361	Valid
X2.3	0. 865	0.361	Valid
X2.4	0. 626	0.361	Valid
X2.5	0. 755	0.361	Valid
X2.6	0. 751	0.361	Valid
Interpersonal Relationship **(X3)**			
X3.1	0.699	0.361	Valid
X3.2	0.744	0.361	Valid
X3.3	0.863	0.361	Valid
X3.4	0.590	0.361	Valid
X3.5	0.742	0.361	Valid
X3.6	0.806	0.361	Valid
X3.7	0.806	0.361	Valid
X3.8	0.657	0.361	Valid
Customer Retention **(Y)**			
Y.1	0. 721	0.361	Valid
Y.2	0. 802	0.361	Valid
Y.3	0. 802	0.361	Valid
Y.4	0. 693	0.361	Valid
Y.5	0. 731	0.361	Valid

All question items have an r-value greater than the critical r-value, indicating that all questions for the four variables are valid.

Reliability Test

The Cronbach's alpha values for the variables are as follows: Switching Cost was 0.798, Attractiveness of Alternatives was 0.835, Interpersonal Relationships was 0.876, and Customer Retention was 0.805. Thus, it can be concluded that all question items in the questionnaire were reliable, as they had Cronbach's alpha values greater than 0.70, indicating high reliability.

Normality Test

The normality test was conducted using the 1-sample K-S (Kolmogorov-Smirnov) test. The significance value (Asymp. Sig, 2-tailed) was 0.200, greater than 0.05, indicating that the data was normally distributed.

Linearity Test

The Deviation from Linearity significance values are 0.073 for X1, 0.452 for X2, and 0.477 for X3. Since the probability coefficients for Deviation from Linearity are greater than 0.05, there is a significant linear relationship between the variables X1, X2, X3, and Customer Retention (Y).

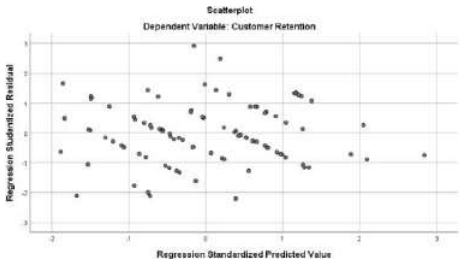
Autocorrelation Test

The Asymp. Sig. (2-tailed) value was 0.534, greater than 0.05, indicating that there is no autocorrelation in this study.

Multicollinearity

The Tolerance values for the variables are as follows: X1 was 0.509, X2 was 0.596, and X3 was 0.615, all of which were greater than 0.10. The VIF values for the variables are as follows: X1 was 1.965, X2 was 1.678, and X3 was 1.627, all of which were less than 10.00. Based on these criteria, it can be concluded that there was no multicollinearity in the regression model.

Heteroscedasticity Test



It was found that the data points were spread above and below or around the value of 0. The points were not clustered solely above or below. The spread of the data points did not form a wave-like pattern that broadens, narrows, and then broadens again. The data points did not follow a discernible pattern. Therefore, it can be concluded that there was no heteroscedasticity problem, ensuring a good and ideal regression model.

Multiple Linear Regression Analysis

Determination Coefficient Test (R^2)

Table 2 Determination Coefficient Test (R^2)

R	R Square	Adjusted R Square
0,773	0,598	0,584

The Adjusted R Square value was 0.584 or 58.4%, meaning that the variables Switching Cost (X1), Attractiveness of Alternatives (X2), and Interpersonal Relationships (X3) influence Customer Retention (Y) by 58.4%. The remaining 41.6% was affected by other variables not included in this study, indicating that the relationship would be more comprehensive if these other variables were included.

F-Test

Table 3 F-Test

Model	Sum of Squares	F	Sig
Regression	282,057	44,546	0,000
	189,954		
Total	**472,011**		

It was found that the significance value (Sig.) was 0.000, which was less than 0.05, and the F value calculated was 44.546, which was greater than the F table value of 2.70. Therefore, it can be concluded that H4 was accepted, meaning that the variables Switching Cost (X1),

Attractiveness of Alternatives (X2), and Interpersonal Relationships (X3) simultaneously affected Customer Retention (Y).

T-Test

Table 4 T-Test

Model	B	t	Sig
(constant)	-1,093		
Switching Cost	0,163	1,800	0,075
Attractiveness of Alternative	0,436	5,621	0,000
Interpersonal Relationship	0,210	2,899	0,005

The t-value for the Switching Cost variable was 1.800. Since the t-value of 1.800 was less than the t-table value of 1.990, it can be concluded that H1, or the first hypothesis, wa rejected. This indicates that Switching Cost (X1) did not affect Customer Retention (Y). The regression coefficient for the Switching Cost variable (X1) was 0.163 with a positive direction, meaning that a 1% increase in switching cost would result in a 16.3% increase in customer retention.

The t-value for the Attractiveness of Alternatives variable (X2) was 5.621, which was greater than the t-table value of 1.990. Thus, H2, or the second hypothesis, was accepted. This indicates that the Attractiveness of Alternatives (X2) influences Customer Retention (Y). The regression coefficient for the Attractiveness of Alternatives variable (X2) was 0.436 with a positive direction, meaning that a 1% increase in the attractiveness of alternatives would result in a 43.6% increase in customer retention.

The t-value for the Interpersonal Relationships variable (X3) was 2.899, which was greater than the t table value of 1.990. Thus, H3, or the third hypothesis, was accepted. This indicates that Interpersonal Relationships (X3) affected Customer Retention (Y). The regression coefficient for the Interpersonal Relationships variable (X3) was 0.210 with a positive direction, meaning that a 1% increase in interpersonal relationships would result in a 21.0% increase in customer retention.

Based on the above analysis, the following multiple linear regression model equation can be derived:

$$Y = a + b1X1 + b2X2 + b3X3 + e$$

$$Y = -1{,}093 + 0{,}163X1 + 0{,}436X2 + 0{,}210X3 + e$$

DISCUSSION

The Effect of Switching Costs on Customer Retention

Based on the results of the T-test in the multiple linear regression analysis, it was found that the t-value for the Switching Cost variable was 1.800, which was less than the t-table value of 1.990, and the significance value (Sig.) was 0.75, which was greater than 0.05. Thus, it can be concluded that H1, or the first hypothesis, was rejected. This means that Switching Cost (X1) did not affect Customer Retention (Y).

This finding aligns with the research conducted by (Amanah et al, 2021), which states that switching costs did not affect customer retention. Customers do not consider switching costs significantly when moving to different companies or brands. This may be due to the numerous competitors offering small switching costs when customers switch to other brands.

Similarly, this study revelaed that switching costs did not affect customer retention. This means that people did not worry about the costs, time risks, or effort incurred when they switch to other healthcare services. This is because many competing hospitals already cooperate with JKN/BPJS or other health insurance providers, making it easier for patients to switch healthcare providers without incurring significant costs, time, or effort, as most people already have JKN (National Health Insurance), which they can use for free treatment.

As of the end of 2023, 95.75% of the Indonesian population was registered as participants in BPJS Health. This indicates that the government has successfully implemented the JKN system in Indonesia, proven by the public's awareness of the importance and high cost of health, making them less concerned about the expenses as long as they can achieve recovery and health (Erna et al., 2020). Moreover, with the majority of respondents having only elementary education and moderate incomes averaging 1,500,001-2,500,000, they may be reluctant to take risks in switching.

On the other hand, the lack of influence between switching costs and customer retention can also be attributed to patients' perceptions of service quality based on pricing. Consumers tend to believe that higher prices usually correlate with better quality. Thus, patients might switch to more expensive hospitals expecting better quality, which is consistent with the theory by Fandy Tjiptono (Dewi, 2018).

However, this study's results do not align with the theory proposed by Lupiyoadi (2013), which states that switching costs are one of the factors influencing customer retention, especially in the service industry compared to manufacturing. Switching costs are considered adequate in complicating customers' attempts to switch to other providers.

The Effect of Attractiveness of Alternatives on Customer Retention

In this study, the attractiveness of alternatives was measured using three indicators: purchase place, social status, and service satisfaction. Based on the T-test results in the multiple linear regression analysis, it was found that the attractiveness of alternatives (X2) affects customer retention (Y) (t-value 5.621 > t-table 1.990, p=0.00 < 0.05).

This finding is consistent with the research conducted by Sjioen (2018)[16], Erowin et al. (2023), and Martha & Anugrah (2023), which indicate that the attractiveness of alternatives positively affected customer retention. The higher the attractiveness of the existing provider, the greater the customers' desire to stay with them.

Fornell (2016), Lupiyoadi (2013), and Jones et al. (2000) assert that the attractiveness of alternatives pertains to reputation, image, or impression and the superior quality offered compared to competitors. Suppose a company offers superior and unique services. In that case, it becomes difficult for competitors to imitate, thus

reducing the attractiveness of alternatives offered by competitors, making customers more likely to stay with the existing company.

This theory aligns with the field data, where the reputation, image, impression, and quality offered by RSUMB are better compared to competitors. Regarding the purchase place dimension, RSUMB's strategic location near a main road and easy accessibility were affirmed by 66.6% of respondents who strongly agreed. In terms of social status, 73.4% of respondents strongly agreed that RSUMB's reputation, image, and quality were better compared to other hospitals due to its unique offering of Islamic-based services with modern technology.

Regarding service satisfaction, 55.3% of respondents strongly agreed that RSUMB provided comfortable waiting areas and spacious parking, leading patients to stay with RSUMB rather than switch to other hospitals due to RSUMB's stronger attractiveness.

The Effect of Interpersonal Relationships on Customer Retention

Interpersonal relationships refer to the closeness built between the hospital or service provider and the patients, which establishes a strong bond and fosters long-term relationships. In this study, interpersonal relationships were measured using two indicators: customer-employee relationship and style of service. Based on the T-test results in the multiple linear regression analysis, it was found that Interpersonal Relationship (X3) affected Customer Retention (Y) (t-value 2.899 > t-table 1.990, p=0.005 < 0.05).

This finding aligns with the research conducted by Amiq (2018), Hanif (2021), Tahwin & Prasiwi (2016), and Wulandari (2014), indicating that interpersonal relationships, as an indicator of switching barriers, affected customer retention. The deeper the interpersonal relationship established by the service provider with the customers, the better the quality of the relationship, leading to increased customer retention.

Interpersonal approaches can understand every issue, need, and desire of the customers, which cannot be achieved without such an approach. This presents a significant opportunity for hospitals to meet patients' expectations regarding healthcare services.

Similar findings were reported by (Evani, 2020), showing that interpersonal relationships directly affected customer loyalty, preventing them from switching to competitors and representing a direct factor that companies must control. Onobrakpeya (2018) also showed that interpersonal relationships significantly positively impact customer retention and could be an effective strategy for building customer retention. Companies should enhance their employees' relational empathy to serve customers efficiently and effectively. Benesbordi et al. (2012) also demonstrated that interpersonal communication positively impacted customer retention and loyalty.

According to Fornell (2016), Lupiyoadi (2013), and Jones et al. (2000), interpersonal relationships involve building a connection between the service provider and the customers to establish a strong bond that fosters long-term relationships. Lupiyoadi (2013) also suggests that not only do companies seek to build interpersonal

relationships, but many customers also want to establish and continue such relationships, hoping that companies can provide value and comfort to them. Thus, good interpersonal relationships can enhance customer retention and prevent them from switching to competitors.

The data showed that 61.7% of respondents strongly agreed with the statement, "I think RSUMB staff provide clear information about the services provided," under the customer-employee relationship indicator. Additionally, 74.5% of respondents agreed with the statement, "I think RSUMB staff are responsive to the complaints conveyed by patients or their families." Regarding the style of service indicator, 58.5% of respondents agreed with the statement, "RSUMB provides quick, accurate, and precise healthcare services," and 57.4% agreed with the statement, "RSUMB provides professional and Islamic healthcare services."

From the above description, it can be concluded that respondents choose to stay with RSUMB due to the stronger interpersonal relationships built by RSUMB compared to other providers. RSUMB staff can provide clear information about the services and respond to patient or family complaints. The better the relationship and communication between staff and patients, the less likely patients are to switch to other healthcare services. Additionally, in terms of style of service, RSUMB provides quick, accurate, precise, professional, and Islamic healthcare services, aligning with patients' expectations and encouraging them to stay.

The Simultaneous Effect of Switching Cost, Attractiveness of Alternatives, and Interpersonal Relationships on Customer Retention

Based on the results of the F-test in the multiple linear regression analysis, it was found that H4 was accepted, meaning that the variables Switching Cost (X1), Attractiveness of Alternatives (X2), and Interpersonal Relationships (X3) simultaneously affected Customer Retention (Y) (F-value 44.546 > F-table 2.70, and Sig. value 0.000 < 0.05).

This finding aligns with the research conducted by Margarena et al. (2021), Martha & Anugrah (2023), Nurjanah & Juanim (2020), and Wulandari (2014), which indicates that switching barriers, consisting of switching cost, attractiveness of alternatives, and interpersonal relationships, simultaneously had a positive impact on customer retention. According to the research by Hardjanti & Amalia (2014) and Tamuliene & Gabryte (2014), switching barriers could strengthen behavioral intentions toward customer loyalty and contributed to customer retention.

The research by Sari et al. (2022) also showed that switching barriers significantly impacted customer retention. The barriers created involve providing maximum service to customers by offering detailed explanations and education about the product model, making it easier for customers to choose products and feel satisfied, leading to repeat purchases.

Another study supporting this finding was conducted by Sari & Suryadi (2018), showing that switching barriers influence customer retention. When high switching barriers are presented to dissatisfied customers, the risk of them switching to other

service providers is minimized.[29] Higher switching barriers lead to higher customer retention. According to the theory proposed by Fornell (2016), Lupiyoadi (2013), and Jones et al. (2000), switching barriers consist of three factors: Switching Cost, Attractiveness of Alternatives, and Interpersonal Relationships, all of which influence customer retention.

CONCLUSION

Based on the research results and the discussion, the following conclusions are drawn. There is no effect of switching cost on customer retention at RSUMB. The attractiveness of alternatives has a significant and positive effect on customer retention at RSUMB. Interpersonal relationships have a significant and positive effect on customer retention at RSUMB. There is a simultaneous effect of switching cost, attractiveness of alternatives, and interpersonal relationships on customer retention at RSUMB.

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Research Article

Analysis of Patient Satisfaction Factors Against Hospital Management

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ABSTRACT

Research describes the factors that influence patient satisfaction visiting the hospital. The research was in the form of a literature review by searching Publish or Perish, and was analyzed with VOSviewer. A total of 21 articles were reviewed to obtain information on research intensity in 2022 and 2023, research locations and the respondents, and factors determining patient satisfaction as hospital customers. The process of reducing the research theme used the PRISMA method, through meta data obtained from Google Scholar and the whole articles . The results showed that the factors that influence patient satisfaction include Tangibles, Reliability, Responsiveness, Assurance, Empathy, facilities and the physical appearance of the hospital, interaction, competence, environment, service, patient recovery, and attitude. This finding is an opportunity for researchers in the field of health and management to conduct more research in various hospitals in Indonesia. So that it becomes valuable information for stakeholders to provide policies and develop maximum service at the hospital for every patient who visits.

Keywords
hospital; patient satisfaction; service

INTRODUCTION

Quality interpreted internally and externally. Internally interpreted as how the service provider can meet specifications, and externally interpreted as how customers and patients can receive services as expected(1). The meaning of the philosophy of quality management guides all performance improvements in an organization. Performance improvement is fundamentally about the outcomes of changes within an organization, whether it is a clinic, hospital, surgical center, health department, insurance company, or healthcare system. According to James Langabeer (2018), the quality of healthcare services encompasses various dimensions: 1) Customers, meaning that healthcare facilities must provide what customers want and need, in this case, patients or those responsible for financing patient care; 2) Value, in this case, the cost of the services provided by the healthcare facility; 3) Suitability of use, indicating that the resources provided by the healthcare facility meet the needs of the customers; 4) Conformity, which refers to how well the services meet the needs of patients as users of healthcare services; 5) Excellence, regarding the efforts made by healthcare facilities in terms of innovation and becoming superior over time compared to other healthcare facilities.

Even further, James Langabeer stated that quality is the accumulation of strategy and leadership, culture and teamwork, customer focus, and methods/tools. It can be concluded that the quality of healthcare facilities is closely related to good management, work environment, human resources, facilities and infrastructure, and most importantly, a focus on patients as customers. Patients as customers determine the quality of a healthcare facility, which is reflected in the patients' happiness aligning with their expectations. That is labeled with a customer satisfaction level. Practically [2]states that patient satisfaction can be measured through five criteria of service quality provided by healthcare facilities, including Tangibles, Reliability, Responsiveness, Assurance, and Empathy.

Tangibles are defined as physical facilities [3], which represent physical facilities, adequate equipment, and the capabilities of the staff from healthcare providers. Reliability according to [4] is the ability of healthcare facilities to provide promised services accurately and reliably. Responsiveness is defined as the willingness to assist patients and provide services that are quick, responsive, and offer precise solutions to patients' needs [5]. Assurance is defined as a guarantee that refers to credibility, competence, and safety in providing services [6]. The last criterion of service quality according to Zeithaml is Empathy, a high level of empathy from healthcare providers is demonstrated by increasing patient satisfaction [7].

Various studies use the Parasuraman-Zeithaml-Berry theory as a benchmark for the quality of a service, especially in the context of healthcare facilities. A service becomes perfect with the achievement of customer satisfaction, with how its reliability satisfies customers. Finally, reliability is often seen as the ability of service providers to implement the promised services reliably and accurately. Another aspect that also serves as a standard for the quality of service of a healthcare facility is its image in the eyes of the community, also known as branding. Various marketing activities for a healthcare service have become increasingly massive nowadays, especially in the era of digital and social media proliferation. Marketing advertisements serve as a means for healthcare facilities to gain recognition, enhancing their image, so that the public becomes familiar with and trusts the positive image presented by the advertisements from the healthcare facilities [8].

The health sector is an indicator of a nation's prosperity; therefore, the government always prioritizes making healthcare facilities easily accessible to all segments of society, one of which is through the BPJS program[9,10]. One of the healthcare facilities that is quite complete in terms of facilities and services is the hospital. Hospitals have now been built in various regions in Indonesia, both hospitals built by the government (such as regional general hospitals) and private hospitals that provide excellent services, although at a higher cost. The selection of hospitals by the community is based on various reasons, ranging from the available facilities to the costs that patients must afford. Whatever the reason patients have for choosing a hospital, it is certainly influenced by how the hospital manages or implements management optimization[11].

The optimization of hospital management has become important, much like a service-oriented business that focuses on customers, in this case, patient satisfaction [12,13]. Various aspects have become the focus of academic research in the health field to continuously delve into what constitutes the success of healthcare facility services, including hospitals [14,15]. This is the reason the researchers conducted an analysis of various literatures that discuss scientific studies on the factors determining patient satisfaction, as the primary customers of the services provided by hospitals. Therefore, in this study, the researchers sought various domestic literatures focusing on quantitative

studies that prove the correlation with patient satisfaction, including various supporting factors.

The results of this research become important information for hospital HR, policymakers, and researchers or academics in the field of health. For hospital human resources, it is important information that, in general, patients really want to receive the best service from the staff at the hospital, including doctors, nurses, nutritionists, pharmacists, and even the cleaning and security staff. For policymakers, it is important information that patient satisfaction serves as validation of the quality or image of a hospital, which will impact the loyalty and indirect promotion of patients who have visited the hospital. For prospective hospital human resources, it becomes meaningful knowledge, providing them with the knowledge they need when they later serve and care for patients in their future workplace, so they can provide the best service to patients. Lastly, for researchers and educators in the health field, it serves as a reference for teaching in the classroom or as a research theme that still needs to be further developed to improve the quality of health services, which are quite complex and require the best strategies in serving patients.

METHOD

Research articles, methods must include the type and/or design of the research, the time and location of the study, the population and sample, variables, data collection methods for each variable, data analysis methods, and ethical feasibility. You are also allowed to break this section into several subsections if needed. This research adopts a qualitative method based on a review of various literatures. The acquisition of literature began with a search for metadata from Google Scholar using the Publish or Perish (PoP) program [16]. PoP was chosen because it is free to use and can filter all metadata from Google Scholar according to the keywords entered. The literature search is limited to the years 2022 to 2023. The selection of the search year is based on the fact that the last two years have been a turning point in the post-COVID-19 pandemic recovery. The same goes for everything related to health facilities, one of which is hospitals. The literature search selected keywords and titles covering service, commitment, and attitude. A total of 200 literature metadata were obtained, which were subsequently reduced through meta-analysis using the PRISMA method [17].

Examination of the metadata obtained with the literature category in the form of journal articles, and not in the form of books or theses. Next, a total of 111 selected literatures were obtained and the entire content was read by searching for the article content through Google Scholar. After reviewing the entire content of the article, the reference literature was further reduced with research criteria including 1) respondents are patients; 2) the research location is a general hospital (not a community health center, psychiatric hospital, or clinic); and 3) the variables measured are factors affecting patient satisfaction. The review results yielded 21 literatures ready for analysis with the help of the VOSviewer program [18].The 21 articles were compiled in RIS format in Mendeley, and subsequently analyzed with the help of VOSviewer. Overall process of literature selection using the PRISMA method is shown in Figure 1.

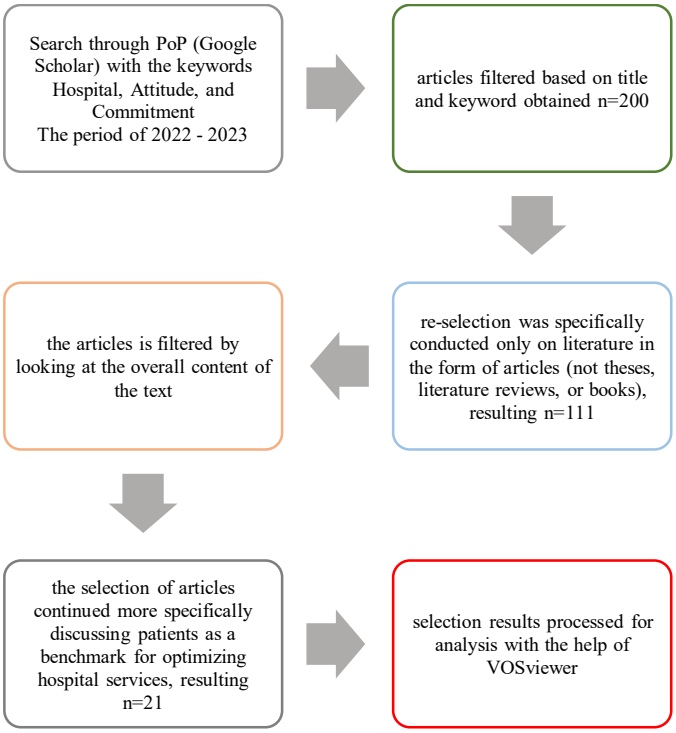

Figure 1. Stages of literature selection based on the PRISMA method

This research aims to identify the factors that determine patient satisfaction with hospital services. These factors were obtained based on various quantitative studies conducted in hospitals and have been proven to correlate with patient satisfaction levels. In fact, some studies have shown a correlation between these factors and the level of patient loyalty to return and use the services of the hospital where the research was conducted.

RESULTS

The researchers have analyzed a total of 21 articles with the help of the VOSviewer program. The analysis results are described based on the number of studies in 2022 and 2023, the location and number of research subjects, and the factors determining patient satisfaction with hospital services. VOSviewer can show how the intensity of keyword occurrences and their distribution over the years. Here are the findings and explanations from the analysis conducted by the researcher:

Amount of studies

Figure 2 shows that there is not much research focusing on patients, which fully intervenes in the public's trust in a hospital. Various studies used as the main material in this research quantitatively prove various factors that determine the quality of hospital management optimization through its impact as seen from patient satisfaction. A total of 21 studies have been analyzed by the researchers, and it was found that 10 studies were published in 2022, and 11 studies in 2023. The increasing number of studies is due to the fact that researchers in the health field are now more free to gather data from the community, specifically as research respondents with their experiences as patients. This

is also the reason why researchers chose the range of years for the literature search, considering that the research results were obtained since the post-pandemic period.

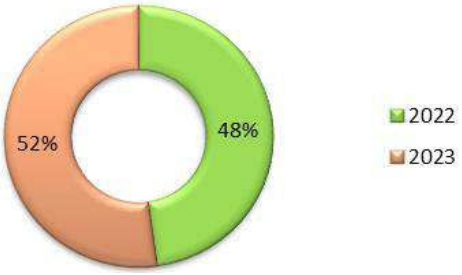

Figure 2. Literature intensity in 2022 and 2023

Literature analysis based on research location and number of respondents

The next analysis in this study is on the locations chosen from various reviewed articles. There are 21 hospitals that are the locations of the study, including General Hospitals (RSU), Islamic Hospitals (RSI), and Regional General Hospitals. (RSUD). The selection of literature from various locations, limited to hospitals, is the reason the researchers chose those particular works. Hospitals vary greatly in terms of services, human resources, facilities, and costs. Unlike community health centers or other smaller-scale health facilities. Hospitals have become the destination for many people seeking healthcare services that are considered more comprehensive compared to other healthcare facilities. Moreover, with the existence of the BPJS program, the public no longer hesitates to seek healthcare facilities at more comprehensive places, namely hospitals.

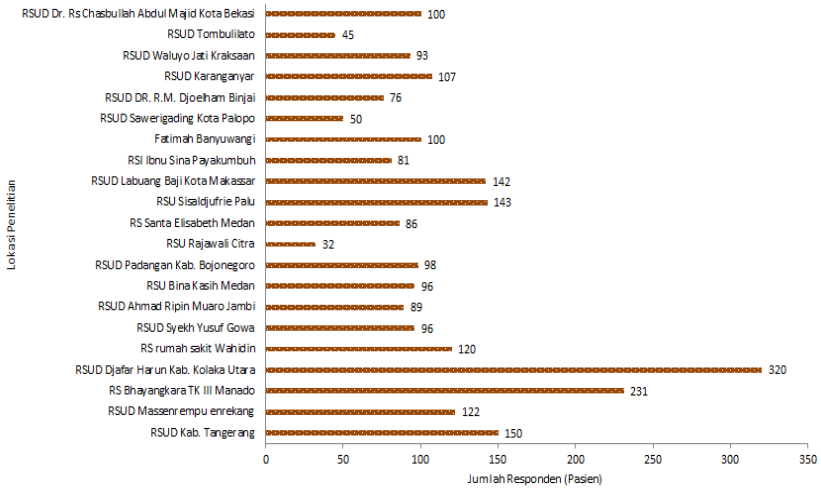

Figure 3. Research location (hospital) and number of respondents from the reviewed literature

Factors that influence patient satisfaction with hospital services

Based on the analysis of 21 research results, in general, the research adopts the service quality design from Parasuraman-Zeithaml-Berry, which includes Tangibles, Reliability, Responsiveness, Assurance, and Empathy. In Figure 4, the mapping results by

the VOSviewer program are shown, with two colors indicating clusters. Analysis with the VOSviewer program yielded 32 keywords, which were then reduced by the researchers according to the relevance to the objectives of this study. As a result, 13 keywords were obtained from the 21 analyzed literatures. Both clusters show red color with a lower intensity of keyword occurrence compared to the cluster with green color. The green color indicates patient satisfaction indicators based on the Parasuraman-Zeithaml-Berry theory [19], as seen from the larger circle sizes, particularly in Responsiveness, Assurance, and Empathy. In addition to the Parasuraman-Zeithaml-Berry theory, there is also the concept of confidence guarantee, which is the assurance of trust given by the hospital to the patients.

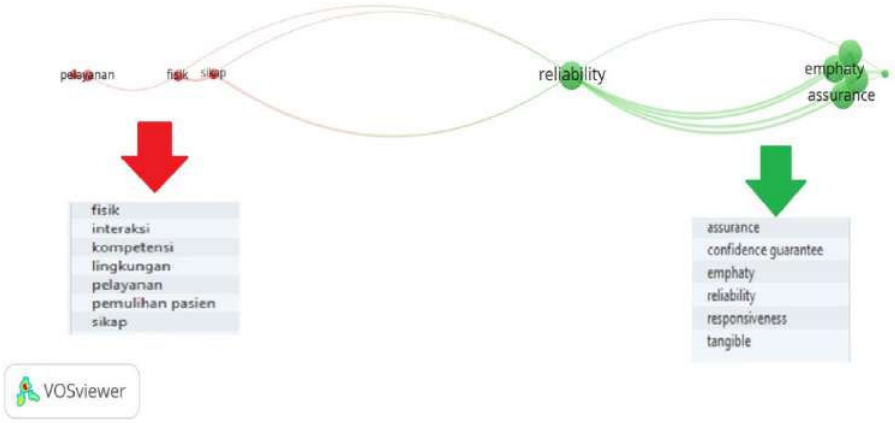

Figure 4. VOSviewer analysis on factors determining patient satisfaction with hospital services

Figure 5 shows the VOSviewer analysis based on the publication year of the reviewed literature. The increasingly yellow color indicates more recent research, while the blue color indicates earlier years. (2022). In the cluster with the blue color, it indicates that the factors adopting based on the Parasuraman-Zeithaml-Berry theory have been researched earlier compared to other factors. The yellow-colored cluster indicates that recent research directly shows patient satisfaction criteria with more keywords, namely physical, interaction, competence, environment, service, patient recovery, and attitude. Even so, there hasn't been much research applying that keyword.

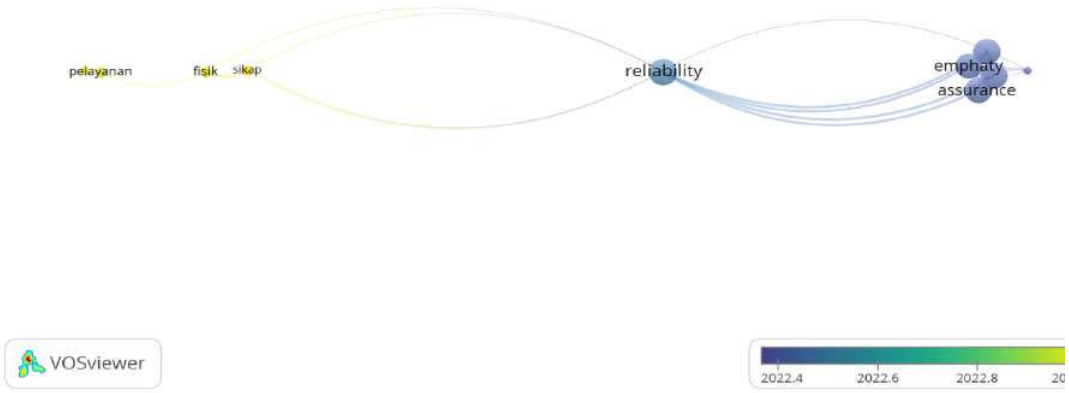

Figure 5. Factors determining patient satisfaction with hospital services based on the year of research

DISCUSSION

The existence of healthcare facilities is very important in the development of a country, as an effort to realize a healthy society. Various health facilities, whether primary, secondary, or tertiary, owned by the government or private entities, have been established in every region to facilitate public access to healthcare services. The presence of various types of health facilities in an area provides convenience for the community to choose healthcare services according to their needs, with the hope of delivering the best healthcare services to the public. Therefore, it is crucial for every healthcare service to improve the quality of its services.

The color red indicates keywords such as physical, interaction, competence, environment, service, patient recovery, and attitude. Keywords detected with the help of VOSviewer indicate the factors determining patient satisfaction from various literature. These factors lead to the conclusion that patient satisfaction encompasses all aspects present in the hospital. Patients not only need care that addresses their health complaints, but also all the facilities available in the hospital to support patient satisfaction as customers. Furthermore, the impact of customer satisfaction will result in loyalty, manifested in repeated visits to hospitals that are considered to meet the criteria and expectations of patients[20].

Another important reason why patient satisfaction is the main focus of hospital management optimization is that natural advertising, also known as word of mouth, is the most reliable form of promotion[21,22].Through direct invitations from patients who have personally experienced the quality of service at a hospital, it will quickly encourage others to also visit that hospital. On the contrary, research on promotional media in the form of enhancing the image or branding of hospitals has not been widely conducted. This finding serves as information for researchers and stakeholders that optimizing promotions in healthcare services is also important to enhance the image or brand of the hospital, while still maintaining alignment with the actual conditions of the hospital.

Various factors that provide quality service interventions according to patients have been identified through the review of 21 articles. The small number of articles compared to the initial findings through PoP metadata indicates that there are not many studies that detail the criteria for services that patients expect. Because the definition of service in the service sector is very broad, especially in the health sector, it certainly requires details that must be analyzed in depth. There is also not much research on quantitative analysis with a statistically significant number of respondents, especially those that prove patient satisfaction through multivariate analysis. This finding presents an opportunity for researchers in the fields of health and management to conduct more studies in various hospitals across Indonesia, thereby providing valuable information for stakeholders to formulate policies and develop optimal services in hospitals for every visiting patient.

CONCLUSION

Businesses in the service sector are always associated with service and customers, just like in the healthcare sector. Moreover, the healthcare field is a primary need that does not recognize the level of education, age, or occupation of the customers who use its services. Like the service sector, healthcare facilities, which in this study are hospitals, must be able to optimize their services to their customers, namely the patients. Therefore, in this study, a search and review of the literature containing quantitative research

proving the relationship between patient satisfaction and various factors were conducted. These factors were summarized by the researcher with the help of VOSviewer, totaling 21 articles. It was found that the factors influencing patient satisfaction include Tangibles, Reliability, Responsiveness, Assurance, Empathy, facilities and the physical appearance of the hospital, interaction, competence, environment, service, patient recovery, and attitude.

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I hope this article not only makes a meaningful contribution to this field but also reflects a commitment and willingness to continue learning and growing. Thank you to myself for all the efforts and commitments that have been given.

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Research Article

Determining the Type of Conflict Management based on The Leadership Style at Hospital in New Normal Era: Narrative Review

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ABSTRACT
Background: Studies are starting to focus more and more on the relationship between hospital mental health and occupational stress avoidance. High levels of stress, high emotional demands, and high job intensity are characteristics of the hospital workplace. Mental illnesses may occur as a result of certain circumstances. Leadership philosophies have an impact on employees' well-being and can either prevent or increase work-related stress. Objectives: This study to find the best conflict management based on leadership style. Methods: Eight papers from the Google Schoolar database and the reference lists of the included research were used in the review. We looked for research that was written between 2020 and 2024. Eligible studies were identified, analyzed and reported following PRISMA guidelines. The inclusion criteria were assessed according to PICo. The inclusion criteria were leadership, management conflict and hospital. Results: Hospitals employ charismatic, stress-preventive, cooperative, assertive, and interpersonally communicative leaders as well as toxic, narcissistic, and authoritarian leaders. Transformational leadership is also practiced. The following conflict resolution techniques work well in hospitals: cooperating, avoiding confrontation, cooperative, compromise, and competing. There are correlation between leadership and conflict management. Conclusion: Therefore, the leader should pick for integrating, obliging, and compromising if they possess transformational leadership. A charismatic leader uses non-confrontational tactics. Narcissistic leaders employ rivalry in their approaches. To choose the most effective conflict management method, leaders with interpersonal communication skills employ a collaborative style, whereas authoritarian leadership uses an integrative style.

Keywords
Conflict Management, Hospital, Leadership

INTRODUCTION

The coronavirus infection 2019 (COVID-19) widespread places an uncommon challenge for human creatures around the world. Owing to the oddity and tall infectivity, the infection is able of causing tall mortality and dismalness rates. Until early May, more than 3.5 million individuals had been analyzed with COVID-19 around the world and 82,883 in China (Sun et al., 2021).

The pervasiveness had a significant impact on healthcare workers, leading to actual mental health problems (Lai et al., 2020; Pappa et al., 2020). Weakening of people's mental wellbeing has been a issue in past pandemics of far reaching irresistible illnesses (Gu et al., 2015; Nachega et al., 2012; Stuijfzand et al., 2020), but COVID-19 may be a around the world scourge, and lockdowns and other development confinements have been taken in numerous nations. Healthcare professionals were anxious about these circumstances because they feared contracting the infection themselves (Sanghera et al., 2020)

Subsequently, push and mental issues among healthcare laborers working beneath such unforgiving conditions have accelerated genuine wellbeing conditions, counting a sleeping disorder, sadness, and uneasiness (Lai et al., 2020; Pappa et al., 2020) In expansion to workplace-associated stresses, limitations affecting existence, such as impediments on open excursions, have diminished openings for restorative faculty to discharge stretch, assist declining their mental status (Venkatesh & Edirappuli, 2020). Hence, deciding chance and strength components related with mental health problems auxiliary to COVID-19 (Holmes et al., 2020) is significant to supply bolster to people at chance and upgrade strength components.

Broad decisional vulnerability amid a widespread can be a result of an failure to handle the degree of changeability amid choice making due to an expanding need or impedance of prove and a quick increment in extra things that have to be be considered. Inside this goal changed environment of clinical care, ethical wounds can happen owing to the mental trouble coming about from choices that cause clashes with one's convictions or values.

This problem can gotten to be basic for understanding care amid the widespread (Giwa et al., 2021) and isn't constrained to crisis care due to diseases. Trouble in healthcare experts, as well as patients, due to COVID-19 has too been depicted in different clinical circumstances, such as in oncology (Rashid et al., 2022), seriously care (Azoulay et al., 2020; Moreno-Mulet et al., 2021) and geriatrics (Romdhani et al., 2022). In expansion, widespread stigmatization may potentiate impeded healthcare and choice making for fundamentally powerless quiet populaces, as well as for healthcare expert (Sukhera et al., 2021). Recently, we have described how specific patient subgroups can be identified based on their commitment to this decisional defenselessness, as well as the associated stress and problems (Haier et al., 2022). Additionally, in a territorial examination, we found that approximately 25% of experts in cancer care endure from decisional burden, but the characterization of this gather was not included in this littler trial (Beller et al., 2022).

The Indonesian Doctor Affiliation relief group declared that the information upgrade on wellbeing laborers who kicked the bucket from Covid-19 amid the widespread in Indonesia that kept going from 2020 to mid-January 2021 had come to a add up to of 647 individuals. In Indonesia, passings of restorative and wellbeing specialists are expanding and are the most noteworthy in Asia and the third-largest around the world. Numerous considers appear that pioneers have an imperative part within the struggle administration.

Clashes influence people, groups, and organizations. Struggle administration methodologies can be conveyed to decrease events and restrain negative impacts of interpersonal working environment strife. It is fundamental that those in authority positions as well as front-line staff be prepared with struggle administration abilities with the objective of anticipating assist acceleration.

Partial multiple-role struggle features a critical impact on execution, partial job push encompasses a noteworthy impact on execution, Adapting stretch mostly features a critical impact on execution, the impact of different part struggle on execution cannot be intervened by adapting push and the impact of work push on execution can be intervened by focused adapting (Latunusa et al., 2023). Identify and manage conflicts among the stakeholders important for the enhancement and sustainability of the required performances (Prasetyorini et al., 2022). It is vital that supervisors who have utilitarian movement in hospital ought to know authority styles and strife administration techniques. Knowing which administration conduct acclimates with which struggle technique contributes wellbeing directors and sciences that prepare wellbeing supervisor. This leads way to wellbeing directors how they discover more successful and beneficial arrangements for the strife they will confront.

By implementing the appropriate mechanisms for conflict management within an environment, conflict management is crucial for effective conflict resolution, conflict mode analysis, and conflict communication (Wang & Wu, 2020)It has been noted in the past that coordination can be facilitated by leadership (Fernandez Castelao et al., 2013). Effective leadership can also contribute to conflict avoidance (Buljac-Samardzic et al., 2010). To reduce conflict, transformational leaders are supposed to foster an environment of mutual respect and trust among their team members (Kessler et al., 2013) Because people may make or break an organization, leaders are essential to its success. They are in charge of handling conflicts and making decisions that affect the organization by using their influence and political acumen (Fusch & Fusch, 2015).

Of the many systematic reviews, none has comprehensively discussed the correlation leadership and management conflict. Through this study we know the leadership style that suitable for management conflict strategies at hospital.

METHOD

The methode used in this narrative review consisted of a search strategy, inclusion criteria, data extraction, and analysis. The journal article search strategy is carried out comprehensively, both quantitative and qualitative studies. An electronic database search was conducted in 2020 to 2024, namely from Google Scholar.

By defining the framework leadership, management conflict, and hospital studies taken into consideration in narrative review, the search strategy for publications was implemented. These considerations included the Participants, the Phenomena of Interest, and the Context (PICo). We conducted a narrative review using PRISMA guidelines to explor the realtionship between leadership and conflict management at hospital in New Normal Era.

To get pertinent articles for future narrative review research, inclusion and exclusion criteria were implemented in connection about leadership and management conflict at hospitals. The evaluation of the inclusion and exclusion criteria followed PICo. Included in the population or participants were research focusing on hospital employees. Research on leadership was the criterion for inclusion in the Phenomena of Interest. Studies with a management conflict focus met the inclusion criteria for the context.

Several indicators that are used to evaluate research publications were extracted from the data to determine which data were actually used in the study. The criteria also exclude articles that have been published more than ten years ago. Both qualitative and quantitative research that were found through peer-reviewed publication searches were included. The review did not cover editorials, viewpoints, comments, letters, conferences, or proceedings. Conflict in leadership and management for non-hospital settings was not included. Keywords from the narrative review include hospitals, leadership, and management conflicts.

The search strategy identified 30.900 studies. The elimination of studies more than 4 years in the removal of 22.460 studies. The tudies were performed in 8.440 studies that resulted in 8.394 unrelated studies about leadership, management conflict, hospital and not open acces, which should be excluded. A total of 46 articles were assessed for eligibility and resulted in 38 articles that were excluded for being not english and original article. The narrative review focused on papers written in English published in 2020-2024. This is an accordance with the implementation of the annual evaluation of the health program. We conducted a narrative review using PRISMA guidelines to identify the correlation betweeen leadership and management conflict. Furthermore, the articles that have been obtained from the database are then sent to the Mendeley library software, and if there are duplications, they will be deleted. The narrative review stage uses the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) method, as shown in Figure 1.

Data analysis was carried out by collecting and synthesizing information on general study characteristics. There were included research object, research type and design, unit of analysis and respondent. Information was explained dy descriptively focusing on leadership, management conflict and hospital. Data were managed and analyzed using Microsoft excel software and Mendeley.

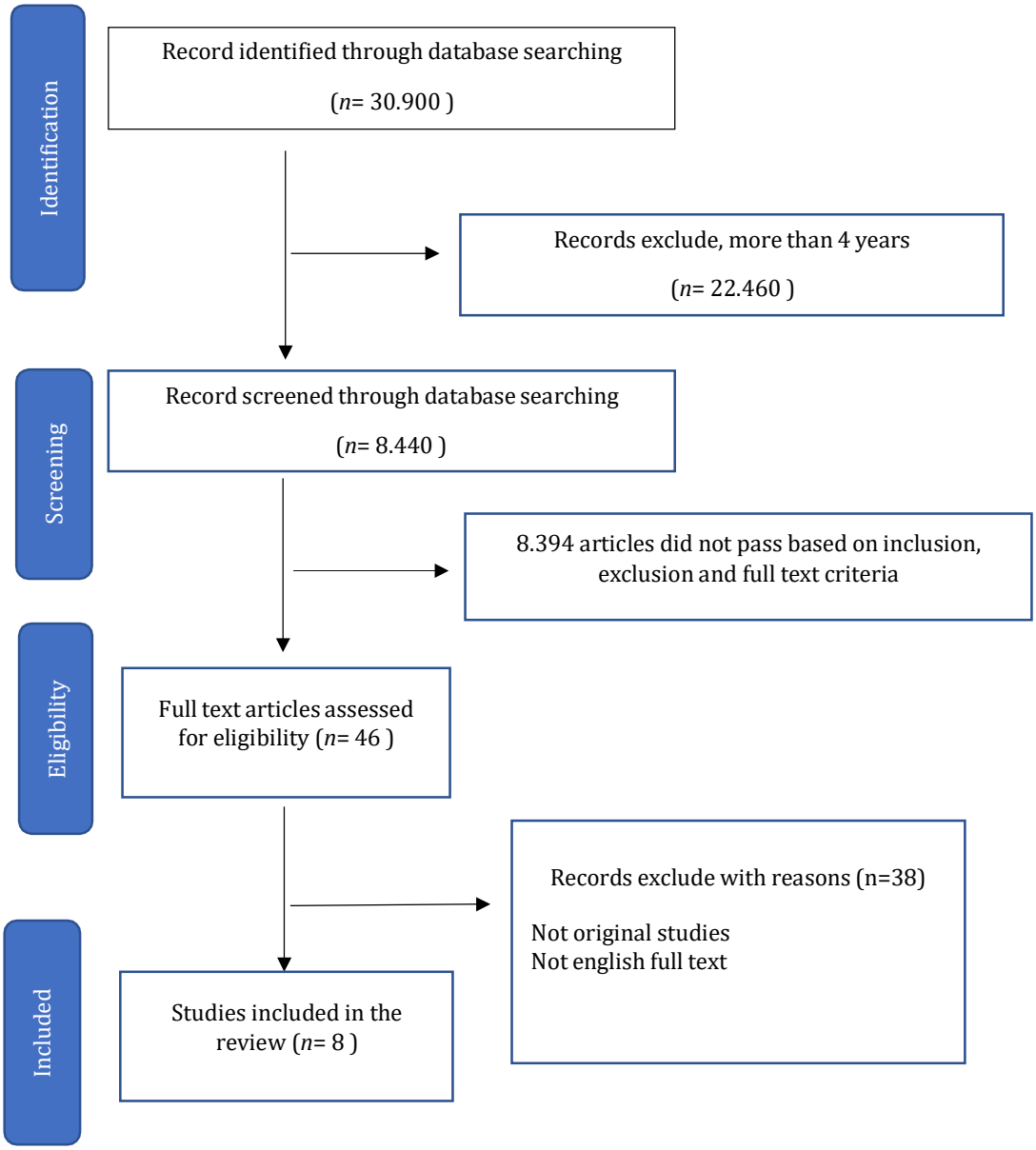

Figure 1: PRISMA flow diagram

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RESULTS

A literature search from five selected databases resulted in 30.900 articles. Then the articles were filtered based on the entire text with the results that 8 papers would be reprocessed, and the other articles were not be reprocessed because they did not meet the criteria. So, the articles relevant to this study are 8 articles, consisting of 3 qualitativeresearch reports and 5 quantitative research articles. The 8 articles obtained, according to the predetermined objectives, are shown in Table 1.

Table 1. Studies Review

Author & Year	Objectives	Research Type & Design	Unit of Analysis	Methods	Dimensions of Conflct management	Leadership style	Results
Heidari (2023)	to investigate the relationship between communication skills, conflict management, and leadership style among head nurses	Quantitative (crossectional study)	Head nurses	Survey	Dimension of conflict management based on Robbins' Evaluation of the Conflict Resolution : Non-confrontational strategy, Solution orientation strategy and Control strategy	4 dimension of leadership based on Bass and Avolio's leadership style: servant leadership, transformational leadership, contingent leadership, and charismatic leadership	There was a significant negative correlation (P-value = 0.031) between the charismatic leadership style and the total conflict management score. The majority of supervisors used a charismatic leadership style, and non-confrontational conflict resolution was the most common method of handling conflicts.
Tsarouha et al., (2021)	To we address leaders of middle management regarding the development of stress-preventive leadership styles through	qualitative research design (Participatory action research)	Leaders of middle management	FGD	-	stress-preventive leadership style	The findings show that middle management leaders thought they had the ability to adopt a stress-preventive leadership style (e.g., communicating gratitude, reflecting on one's own leadership role and behavior, and being aware of one's surroundings). But there were also mentions of limitations. For the purpose of

Author & Year	Objectives	Research Type & Design	Unit of Analysis	Methods	Dimensions of Conflct management	Leadership style	Results
	supporting interventions.						implementing stress-preventive leaders, these can be classified as self-referential, subordinate-related, and above all organizational barriers.
Yin et al., (2022)	to investigate the mediating mechanism of team leader's conflict management style on team passion and to determine the boundary condition of these impacts with emotional perspective	Quantitative (crossectional study)	Team leaders	Survey	There were cooperative and competitive conflict management style (Tjosvold et al, 2006)	-	Positive team emotional climate and team passion are significantly enhanced by a leader's cooperative conflict management style.
Paim et al., (2021)	To analyze the experiences of Nursing students during the mandatory hospital internship at a Material and Sterilization	Qualitative (case study)	nursing students	experience report	-	-	The development of people skills, managing orthotics and prosthetics, surgery planning, conflict resolution, and assertive communication were among the activities designed to foster leadership qualities.

Author & Year	Objectives	Research Type & Design	Unit of Analysis	Methods	Dimensions of Conflct management	Leadership style	Results
	Center with a focus on leadership development						
Jasim & Faris, (2024)	to assess the relationship between communication skills and conflict management styles used by nursing staf	Quantitative (crossectional study)	nursing staf	Survey	Thomas & Kilmann dimensions: collaborating , Accommodating , Competing, Avoiding, Compromising	-	In the current study, the majority of individuals adopt the collaborative approach, whereas the compromising style is used less frequently. When it comes to working together with nursing staff to solve problems, this approach is employed because the majority of participants have adequate interpersonal communication skills. Furthermore, a strong correlation has been observed between the communication skills section and the types of conflict management styles (avoidance, cooperation, accommodating, competition, and compromise).
Sarabi Asiabar et al., (2020)	to investigate the factors influencing the leadership	Qualitative study (phenomenology)	hospitals	Indepth interview	-	Internal and external	The knowledge, attitude, and abilities of the manager, as well as intraorganizational relationships and personality

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	effectiveness of hospital managers in Iran						qualities, were the most significant internal elements influencing the hospital managers' leadership. Extra-organizational relationships, macro-level health policies, access to specific financial resources, and social, economic, and political considerations were the most significant external factors.
Alsadaan & Alqahtani, (2024)	to assess the correlations between perceived toxic leadership, confict resolution strategies, and commitment dimensions among emergency nurses while evaluating confict tendencies as a	Quantitative (cross-sectional study)	Departement nurses	Survey	conflict management style based on Rahim Organizational Conflict Inventory-II: dominating, avoiding, obliging, compromising, and integrating	Toxic leadership assesment have five dimensions: abusive supervision, authoritarian leadership, narcissism, self-promotion, and unpredictability (Schmidt (2008))	The integration of management conflict with authoritarian leadership is its most common use. The significant indirect effect suggests that the association between organizational commitment and perceived toxic leadership was somewhat moderated by conflict management.

Author & Year	Objectives	Research Type & Design	Unit of Analysis	Methods	Dimensions of Conflct management	Leadership style	Results
	mediating mechanism						
Abou Ramdan & Eid, (2020)	to compare toxic leadership among intensive care nursing staff at Tanta University Hospital and El Menshawy hospital and assess its relation to their conflict management style used and organizational commitment at the two hospitals	Quantitative (cross-sectional research design)	Hospital	Survey	five independent styles dimensions: Avoiding style, accommodating style, collaborating style, compromising style, and competing style (Thomas & Kilmann, 1978)	Toxic leadership assesment have five dimensions: self-promotion, abusive supervision, unpredictability , narcissism, and authoritarian leadership (Özer et al. (2017); Schmidt (2008))	high degree of conflict management through collaboration and compromise. The nursing staff viewed their narcissistic superiors as both somewhat and excessively so. There is a connection between competing style and toxic leadership in general.

Table 1 shows that there are correlation between leadership and management conflict. Leadership style that suitable at hospitals are charismatic, stress-preventive, cooperative, assertive, and interpersonally communicative leaders as well as toxic, narcissistic, and authoritarian leaders. Transformational leadership is also practiced. The following management conflict techniques work well in hospitals are cooperating, avoiding confrontation, cooperative, compromise, and competing. Therefore, the leader should pick for integrating, obliging, and compromising if they possess transformational leadership. A charismatic leader uses non-confrontational tactics. Narcissistic leaders employ rivalry in their approaches. To choose the most effective conflict management method, leaders with interpersonal communication skills employ a collaborative style, whereas authoritarian leadership uses an integrative style.

DISCUSSION

Conflict management is an effort that consists of identifying the type of conflict, identifying the source of conflict, identifying conflict resolution strategies, identifying conflict resolution principles, identifying the impact of the conflict that has occurred and Identification of conflict prevention that has occurred carried out (Prasetyorini et al., 2022; Wang & Wu, 2020). Based on this narrative review, it shows that the type of conflict that was most often found in journals published during the pandemic in hospitals was interpersonal conflict, especially for medical personnel.

Rahim provided five methods for managing interpersonal conflict: (1) Integrating: Emphasizes cooperative problem-solving; (2) Obliging: Involves minimal concern for oneself and the other party; (3) Dominating: High concern for oneself and minimal concern for the other party; (4) Compromising: Moderate concern for oneself and the other party; and (5) Avoiding: Inaction, withdrawal, or ignoring (Rahim, 1983)

For two groups, transformational leadership is seen as the most popular type. The five elements of transformational leadership are as follows: (1) charisma - the leader is admired; (2) idealized influence - followers imitate their leader; (3) inspirational motivation - gives work purpose and challenge; (4) intellectual stimulation - challenges presumptions; and (5) individual consideration - mentor staff members according to their needs. In a health systems setting that is evolving, empowerment is a crucial part of transformational leadership and the main responsibility of leaders.

Visionary leadership possesses the capacity to express a future vision clearly. There was a noticeable difference between managers and staff in the obliging dimension of conflict management styles. As a result, a statistically significant correlation between conflict resolution techniques and leadership philosophies was discovered. Transformational leadership that can be used to integrate, comply, and make concessions (Kamer* et al., 2019).

Followers describe charismatic leadership as having this quality. A person can be perceived by their followers as either charismatic or non-charismatic, as well as a task, social, participatory, or directive leader, depending on the behaviors associated with their leadership role. Followers of the leader may perceive their own actions as manifestations of charismatic traits (Conger, 2015). Additionally, charismatic leaders frequently exhibit heightened awareness of their followers' abilities and emotional needs, which are crucial assets for achieving corporate objectives.

Enthusiastic trailblazers influence their followers by being empathetic, approachable, and modest. They don't seem to be as common in their skills and interactions. Or perhaps, despite being the organization's pioneer, they make an effort to be a valuable member of the group, eagerly cooperating with everyone to achieve shared goals. The majority of supervisors used a charismatic leadership style, and non-confrontational conflict resolution was the most common method of handling conflicts (Heidari et al., 2024).

Narcissistic leaders employ rivalry in their approaches. A combination of narcissistic personality traits and leadership practices driven primarily by self-interest desires and conceited views is known as narcissistic leadership. Leaders with narcissistic

tendencies frequently project charisma, possess exceptional vision, harbor strong egoistic tendencies and strive for dominance, exhibit blinding conceit and relish public recognition, exhibit an intense dislike for criticism, and actively disregard unfavorable comments. The traits of narcissistic leaders include grandiosity, a strong drive for success, and power-seeking (Grijalva & Harms, 2014; Rosenthal & Pittinsky, 2006). Generally, narcissistic leaders' characteristics and their output at work have more detrimental than beneficial effects (Khoo & Burch, 2008)

Communications are necessary to promote understanding and the transfer information between team members (Thompson et al., 2022). Employee communication satisfaction and supervisor communicator competency were shown to be strongly correlated, whereas employee job satisfaction and supervisor communicator competence were found to be moderately correlated (Abrahams et al., 2019; Madlock, 2008) So, the most effective conflict management method, leaders with interpersonal communication skills employ a collaborative style. Because collaborative style provides a basis for achieving mutual and satisfying agreements (Greeff & de Bruyne, 2000).

Authoritarian leadership philosophies are frequently linked to subpar output, complicated leader-follower dynamics, and strong followers' desire to quit (Schaubroeck et al., 2017). The work climate worsens if authoritarian leaders operate by suppressing subordinates' emotions (Chiang et al., 2021) However, during the Covid pandemic, even though authoritarianism is included in the negative category, it is necessary to implement an integrative style in conflict management because there are limits on space for movement and meetings. Whereas authoritarian leadership uses an integrative style

CONCLUSION

Leadership has a direct role and some even act as mediators of conflict management in hospitals during the new normal era. During the Covid pandemic, leadership styles that are suitable to be applied in hospitals are leaders who are charismatic, prevent stress, cooperative, assertive and interpersonally communicative as well as leaders who are toxic, narcissistic and authoritarian to manage interpersonal conflicts. Likewise, transformational leadership is also suitable for practice. The following conflict management techniques that have worked well in hospitals during the pandemic are working together, avoiding confrontation, cooperating, compromising, and competing. integration, obligation, and compromise are appropriate for hospitals that have transformational leadership. A charismatic leader can use non-confrontational tactics to resolve interpersonal conflicts. Toxic leadership suitable for competing management conflict style. Narcissistic leaders incorporate competition into their approach. To choose the most effective conflict management method, leaders with interpersonal communication skills use a collaborative style. Especially for authoritarian leadership, they can use an integrative style.

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Research Article

Effect of Rakudzi Therapy (Tumeric Water Pressure and Dzikir) on The Level of Pain in Gastritis Patients in Duduksampeyan Gresik Health Center

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ABSTRACT

Background: Gastritis is an inflammatory condition of the stomach mucosa which may be acute or chronic. This condition is mostly caused by the attitude of the patient who is less attentive to their health. In addition to pharmacology, gastritis treatment can be performed with non-pharmacological therapy to reduce pain, namely with turmeric juice and dhikr therapy.
Objectives: The purpose of this study was to determine the effect of turmeric juice therapy and dhikr on reducing pain in patients with gastritis.
Methods: This study utilized a pre-experimental design with a one group pretest posttest design. A sample of 55 gastritis patients was obtained using purposive sampling technique. The instruments in this study were Standard Operating Procedure (SOP), pain level observation sheet, numeric rating scale (NRS), demographic data sheet, and pain measurement based on PQRST. The data were analyzed using the Wilcoxon test.
Result: The results indicated that before being given turmeric juice and dhikr therapy, the average was 4.62, while after being given turmeric juice and dhikr therapy the average was 3.00, with a difference of 1.62. The results of the Wilcoxon test obtained a significant value of $p = 0.00$ ($p < 0.05$).
Conclusion: Meaning that there was a significant effect on the pain of gastritis patients before and after being given turmeric juice and dhikr therapy. The relaxing effect in dhikr therapy and curcumin content contained turmeric are a great combination to reduce pain in gastritis patients.

Keywords : Turmeric, Pain, Dhikr, Gastritis

INTRODUCTION

Gastritis is a significant problem in the world. Gastritis is a condition of inflammation or bleeding in the stomach lining, which can be acute or chronic. Gastritis occurs in children, teenagers, adults and the elderly of all ages. One of the causes of gastritis is the attitude of ulcer sufferers who do not pay attention to their health, especially the food they consume every day. Gastritis can interfere with daily activities, because sufferers feel pain

and discomfort in the stomach (Afsah, 2021). Based on the several countries in the world and obtained percentage results of the incidenceof gastritis in the world, it was found that the number of gastritis sufferers in England was22%, China 31%, Japan 14.5%, Canada 35% and France 29. 5% . The incidence of gastritisin Southeast Asia is around 583,635 of the total population every year. The prevalence ofgastritis confirmed via endoscopy in the population in Sanghai is around 17.2% which issubstantially higher than the population in the west which is around 4.1% and is asymptomatic (Widia, 2020). Based on data obtained from the Duduksampeyan Gresik Community Health Center. From the results of the initial survey on October 30 2023, therewere 122 gastritis patients from January-October. There are many gastritis patients from children, adults and old people who complain of heartburn, 42 of them are male and 82 are female. The pain scale in Gastritis patients also varies, 44 people have a mild pain scale, 50 people have a moderate pain scale, and 28 people have a severe pain scale. Theseresults show that the incidence of gastritis is still high, and on average patients only use pharmacological therapy to treat complaints which is felt but is less effective in reducingpain. This shows that the use of non-pharmacological therapy in gastritis patients is still low. Based on the background description above, the formulation of the problem in this research is: is there an effect of RAKUDZI therapy (turmeric juice and dhikr) on the levelof pain in gastritis sufferers at the Sit Sampeyan Gresik Health Center. and the aim of thisresearch was to determine the effect of RAKUDZI therapy (turmeric juice and dhikr) on the level of pain in gastritis sufferers at the Sit Sampeyan Gresik Health Center.

METHOD

This research uses a quantitative type of research. The research design uses pre-experimental with a one group pretest posttest design approach. This research was conducted at the Duduksampeyan Gresik Community Health Center. In February 2023. There were 55 people suffering from gastritis. Using the NRS (Numeric Rating Scale) measuring tool to measure pain levels and SOP pain levels. After the data is collected, it is then tested statistically. To determine the effect of the research results, the data was analyzed using the Wilcoxon test. With significant results $P < 0.05$.

RESULTS

Tabel 1 Distribution of characteristics based on general data of gastritis sufferers at the Duduksampeyan Gresik Community Health Center

Respondent Characteristics	Frequency	Percentage (%)
Age		
<45	31	56,4
45-55	17	30,9
56-65	2	3,6
66-75	5	9,1
Amount	55	100,0
Gender		
Man	26	47,3
Woman	29	52,7
Amount	55	100,0

Education		
Elementary School	2	3,6
Junior High School	13	23,6
Senior High School	30	54,5
Bachelor	8	14,5
No School	2	
Amount	55	100,0
Work		
Doesn't work	7	12,7
Self-employed	25	45,5
Farmer	2	3,6
IRT	19	34,5
civil servants	2	3,6
Amount	55	100,0

Shows that of the 55 gastritis sufferers at the Duduksampeyan Gresik Health Center, the majority (52.7%) were female, the majority (56.4%) were <45 years old, the majority (54.5%) had a high school education , and almost half (45.5%) work as entrepreneurs.

Tabel 2 Distribution of gastritis in respondents before being given combination therapy of turmeric juice and dhikr to gastritis sufferers at the Duduksampeyan Gresik Community Health Center

Pain Level	Frequency	Percentage (%)
No Pain	0	0,00
Mild Pain (1-3)	8	14,5
Moderate Pain (4-6)	45	81,8
Severe Pain (7-9)	2	3,6
Amount	55	100,0

It was found that gastritis sufferers before (Pre Test) were given a combination of turmeric juice and dhikr, almost all 81.8% of them experienced moderate pain.

Tabel 3 Distribution of gastritis in respondents after being given combination therapy of turmeric juice and dhikr to gastritis sufferers at the Duduksampeyan Gresik Community Health Center

Pain Level	Frekquency	Percentage (%)
No Pain	0	0,00
Mild Pain (1-3)	40	72,7
Moderate Pain (4-6)	15	27,3
Severe Pain (7-9)	0	0,00
Amount	55	100,0

obtained after (Post Test) being given turmeric juice and dhikr, the majority were found to be 72.7% who experienced mild pain.

Tabel 4 Tabulation of the frequency of the effect of turmeric juice therapy and dhikr on the level of pain in gastritis sufferers at the Duduksampeyan Gresik Community Health Center

Pain levels	N	Min-Max	Mean	SD	P *Value*
Pre Test	55	3-7	4,62	1,063	0,000
Post Test	55	2-6	3,00	0,839	

Based on the results obtained, the average value before (Pre Test) given turmeric water therapy and dhikr was 4.62, while the average value after (Post Test) was 3.00. Based on the statistical test, the Wilcoxon signed rank test showed that the results for theuric acid level variable showed a significant value of p = 0.000 < 0.05, which means that there is an effect of turmeric juice therapy and dhikr on gastritis sufferers.

DISCUSSION

Based on the research results, it can be explained that before being given RAKUDZI therapy (turmeric juice and dhikr) it was found that the majority of 81.8% of gastritis sufferers experienced moderate pain and a small percentage of 3.6% experienced severe pain. The results of this study also show that on average, almost 52.7% of gastritis sufferers are women aged >45 years. Based on gender, women suffer more from gastritis because women use feelings and emotions more than ratios so they easily experience psychological stress. This is supported by research by (Maulidiyah, 2020) where women are significantly more likely to experience depression than men. Gastritis can attack people of all ages, according to surveys showing that gastritis attacks people of productive age. In the productive age, thenumber of people affected is due to busyness and a lifestyle that is not paid enough attention so that health and stress can easily become a factor in recurrence.

In the opinion of researcher (Prasetyo, 2020) gastritis can occur in the elderly becausein the elderly various physical, biological, psychological and social problems will appear in old age. As we age, the gastric mucosal layer will become thinner and weaker, an increase in stomach acid beyond normal limits will cause irritation and damage to the mucosal and submucosal layers of the stomach and if this increase in stomach acid is leftalone, damage to the stomach lining or gastritis will get worse.

Based on the explanation above, researchers believe that the level of pain due to gastritis can affect daily activities. Pain in the stomach is caused by irritation of the stomach. The causes of the pain itself also vary, for example stress, eating careless food, drinking alcoholic drinks or taking drugs. The pain that each individual feels can be influenced by a person's attention to the pain they feel. The pain felt by one person to another varies, there are those who feel pain like stabbing, numbness or tingling that spreads, there are also those who feel pain that comes and goes, and also feel pain like

heat. Increased attention is associated with increased feelings of pain. If someone focuses too much attention on the pain they feel, it can affect their perception of the pain, while distraction can help reduce the pain they feel.

The level of pain due to gastritis can affect daily activities. Pain in the stomach is caused by irritation of the stomach. The causes of the pain itself also vary, for example stress,

eating careless food, drinking alcoholic drinks or taking drugs. The pain that each individual feels can be influenced by a person's attention to the pain they feel. The pain felt by one person from another person varies, some feel pain like stabbing, numbness or tingling that spreads, there are also those who feel pain that comes and goes, and also feel pain like heat (Prasetyo, 2020).

In Nguter Village which stated that gastritis sufferers before (pre-test) being given turmeric therapy had an average pain scale measurement with moderate criteria and after being given turmeric therapy an average of mild criteria.

This is because the compounds in turmeric have anti-inflammatory properties and can reduce inflammation and reduce pain in gastritis sufferers. The protective effect of turmeric extract on the gastric mucosa from the effects of paracetamol. Statistical testing showed significant differences with group P1 (paracetamol). This protective potential is due to gastroprotective and antiulcer effects, with several mechanisms, including because turmeric extract can block histamine receptors directly and inhibit gastrin receptors so that gastric acid secretion decreases (Kartika, 2020).

This research is also supported by research (Nasriati, Suryan, 2019) stating that dhikr meditation is a non-pharmacological action as a form of relaxation to reduce pain in the stomach, dhikr meditation practice can reduce pain because it stimulates the release of the beta endorphin hormone from the body as morphine experience. In this study, after being given intervention, the average pain intensity of the respondents decreased during the intervention 3 times.

Based on research conducted, researchers are of the opinion that after being given RAKUDZI therapy (turmeric juice and dhikr) it can reduce gastritis. This is because RAKUDZI therapy (squeezed with turmeric water and dhikr) results in relaxation and decreases or reduces pain by giving turmeric drink and continued dhikr, so that the pain in the part experiencing moderate pain is reduced to mild pain. However, this must also be supported by remaining focused on controlling gastritis pain so that it does not cause complications by eating healthy food, not smoking, reducing stress and consuming herbal plants such as turmeric. With RAKUDZI therapy (turmeric juice and dhikr) with a dose of 250 mg taken twice a day for 3 consecutive days, it can effectively reduce gastritis pain. This therapy is very helpful for gastritis sufferers in addition to administering pharmacological drugs.

Turmeric contains curcuminoid substances in turmeric which act as herbal medicine which is made in the form of juice to relieve pain in injure gastric mucosa and can reduce the levels of gastric acid in the stomach. And not only does it reduce stomach acid levels, turmeric juice can prevent an increase in stomach acid. Naturally, the phenolic compound content in turmeric is believed to be used as an antioxidant, analgesic, anti-microbial and anti-inflammatory. The active compound contained in turmeric is curcumine. The curcumine content can inhibit and reduce inflammation and will reduce pain in gastritis sufferers (Sari, 2020).

Apart from that, research conducted by (Jannah, 2020) showed significant results before and after being given dhikr. In spiritual therapy, dhikr or remembering Allah's name will cause the brain to work. When the brain receives stimulation from the outside, the brain will produce chemicals that will provide a feeling of comfort, namely neuropeptides. After the brain produces this substance, this substance will be connected to and absorbed in the body which will then provide feedback in the form of pleasure or comfort. This can also

stimulate the secretion of endorphins, so that the pain stimulus feltby the client is reduced. The results of this research are also strengthened by the results of research conductedby (Fadli et al, 2019) that there is an effect of consuming turmeric juice on pain in gastritis sufferers, there is a difference before and after being given turmeric juice.

CONCLUSION

Gastritis sufferers before being given turmeric juice and dhikr therapy found that almost all of them experienced moderate pain. Gastritis sufferers after being given turmeric juice therapy and dhikr found that the pain level was mostly mild pain. There was a significant effect of turmeric juice therapy and dhikr on pain in gastritis sufferers at the Duduksampeyan Gresik health center.

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Research Article

The Relationship of Social Media Use with Stress Levels and Sleep Quality in Adolescents

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ABSTRACT
The internet is a flow of communication and technological developments that is growing rapidly every year. Currently, the internet is widely used by the public, and the internet has become a communication stream that is routinely accessed every day. Many teenagers spend their time online on social media, including at night. One of the factors that causes sleep pattern disturbances is lifestyle changes, one of which is the use of gadgets, especially social media.
This research uses an analytical design using a cross sectional approach. In this research the sampling technique uses a non-probability sampling method using Accidental Sampling. Analysis by carrying out the Spearman Rho test. to determine the relationship between two variables with non-normally distributed data.
The test results have a p value of 0.01, which means there is a relationship between social media use and stress levels and sleep quality. As a result of insomnia at night, teenagers will often experience disturbances during the day such as fatigue, attention disorders, concentration problems, disturbances in social relationships, mood disorders or irritability, headaches, and digestive disorders. This can certainly have a bad impact on the student's learning process at school, namely decreasing learning concentration because when they hear the teacher's explanation in class they are sleepy, triggering feelings of anxiety because they are afraid of decreasing achievement, experiencing general health problems due to fatigue, a decrease in the immune system which can result in damage. on cells, affecting the brain's work to slow down due to not meeting sleep needs.

Keywords: Social Media, Stress Level, Sleep Quality

Introduction

The internet is a flow of communication and technological developments that is growing rapidly every year. Currently, the internet is widely used by the public, and the internet has become a communication stream that is routinely accessed every day. Indonesia is no exception, the importance of using the internet is increasingly being realized by people from various circles. Indonesia is one of the countries involved in technological and information advances. In the current era of globalization which is developing very quickly, information technology dominates humans, in other words humans depend on information technology. In line with these developments, the Internet has become the main focus in information technology(Arnoldina, 2017)

It becomes easier for people to get information and exchange information. The most phenomenal thing related to the internet today is social media. Social media can be interpreted as online media through internet-based applications. This indicates that the number of social

media users is increasing. Social media, which has various types, also has a significant impact on its users. Instagram, Twitter, WhatsApp, Facebook, YouTube, Line, Snapchat, Tik Tok and others are social media applications that are still accessed by users. With various interesting features and easy use, users find it difficult to leave social media (Sugianto, 2018) .

Statistical data from a survey conducted by the Association of Indonesian Internet Service Providers (APJII) and the Center for Studies and Communication (Puskakom), in 2017 internet use in Indonesia reached 143.26 million people, this figure increased compared to 2016 which was recorded at 132 .7 million people. APJII Secretary General Henri Kasyfi Soemartono explained that the number of internet users in 2017 covered 54.68% of Indonesia's total population which reached 262 million people. The survey results also showed that the majority of internet users based on gender were 51.43% men and 48.57% women. The most internet users are on the island of Java with a total of 86,339,350 users or around 65% of the total internet users. The Director General of Postal Equipment and Information Resources at the Ministry of Communication and Information stated that the number of internet users in Indonesia dominates Asia at 22.4%, with 55 million users out of the 245 million population in Indonesia. The number of users is increasing at young ages starting from 15-20 years and 10-14 years (Supani, 2022).

Indonesia is one of the countries involved in technological and information advances. In the current era of globalization which is developing very quickly, information technology dominates humans, in other words humans depend on information technology. In line with these developments, the Internet has become the main focus in information technology. It becomes easier for people to get information and exchange information. The most phenomenal thing related to the internet today is social media. Social media can be interpreted as online media through internet-based applications. This indicates that the number of social media users is increasing. Social media, which has various types, also has a significant impact on its users. Instagram, Twitter, WhatsApp, Facebook, YouTube, Line, Snapchat, Tik Tok and others are social media applications that are still accessed by users. With various interesting features and easy use, users find it difficult to leave social media (Sugianto, 2018)).

Social media has enormous benefits but also has an impact on its users, including teenagers. Teenagers are one of the most active social media users nowadays. They tend to use it to post their personal activities or just to scroll videos on TikTok, Instagram and so on. Social media users come from various circles, currently from many circles, including teenagers, parents, adults and children who are already familiar with social media.(Vinna Rahayu, 2023)

Health is a state of physical, mental and social well-being that allows everyone to live a socially productive life and needs to be a concern for everyone, both physical health and psychological health. The high economic burden, widening social gaps and uncertainty in the social situation cause people to experience psychological disorders. The academic demands that must be faced and the individual not being ready to face them can also result in psychological disorders such as stress (Syamsoedin, 2015).

Many teenagers spend their time online on social media, including at night. It is possible that this will disrupt the sleep process, resulting in poor sleep quality. Various physiological balance disorders such as decreased daily activities, feeling tired, weak, poor neuromuscular conditions, decreased endurance, can be caused by poor sleep quality. (Anik, 2022).

Sleep is a condition where there is a change in the status of an individual's awareness of the environment to a decrease (Setyawan, 2016). Karpinski said in Stuart & Sudden 2006 in Herma 2020, that students will lose time looking for friends and chatting with their friends. One of the factors that causes sleep pattern disturbances is lifestyle changes, one of which is the use of gadgets, especially social media. So it is not surprising that nowadays many teenagers

experience poor sleep quality. Someone who experiences poor sleep quality can cause a decrease in concentration (Hidayat, 2014 dalam Anik, 2022)

Activities carried out by students when accessing social media are searching for the latest information, uploading photos, watching videos on IG or YouTube or others. create statuses or view statuses, school assignments, shop online, like other people's posts and reply to chats. Regarding the use of social media, seven students said they had received negative comments on their social media. The negative comments received are often related to the student's body shape or physique. From these comments, there were three students who tended to think about the problem of the comments and cried when they received negative comments. And the rest choose to forget or not respond to negative comments on their social media (RSPH and the Young Health Movement (YHM), 2017).

In line with Nurshini's research results(A, 2017)) which shows social media addiction 66% of teenagers experience moderate social media addiction. Septiana's (2021) research shows that the use of social media among teenagers has increased by 79%. According to Shirley Cramer CBE, Chief Executive, RSPH UK describes that social media is more addictive than cigarettes and alcohol, because in the lives of teenagers now social media has become important for them and is difficult to ignore (Renaldo Fernando, 2020) .

Objects that are often the target of negative comments on social media are about fashion or how to dress, a person's body shape, ownership of an item, a person's romantic relationship, and so on. Some social media account owners rarely respond to sarcasm or negative comments on their social media. From this background, researchers are interested in the title "The Relationship between Social Media Use and Stress Levels and Sleep Quality in Adolescents".

METHOD

Quantitative with a correlational description research design or research that explains whether there is a relationship between the independent variable and the dependent variable through hypothesis testing (Nursalam, 2020). This research uses analytical methods, namely research that explores how and why health phenomena occur. Then analyze the dynamics of the correlation between phenomena or between risk factors and effect factors(Nursalam, 2020).

Continue until conclusions are drawn using statistical tests to analyze the data obtained. The research approach used in this research is cross-sectional, namely research to study the dynamics of the correlation between risk factors and effects, by approaching, observing or collecting data at one time (point time approach) meaning that each research subject is only observed once. only and measurements are made on the subject's character status or variables at the time of examination (Soekidjo, 2018).

This research design aims to reveal the relationship between. The use of social media on stress levels and sleep quality among teenagers in Sumberrejo Village, Trucuk District, Bojonegoro Regency. Population is subjects (e.g. humans; clients) that meet predetermined criteria (Nursalam, 2020). The population in this study is the population in this study are teenagers in Sumberrejo village, sub-district. Trucuk which corresponds to the entire research subject. Sampling in this research used Non Probability Sampling with the Accidental Sampling method. Inclusion criteria are the general characteristics of research subjects from a target population that is reached and will be studied (Soekidjo, 2018). The research sample of 62 teenagers was carried out at the Youth Posyandu in Sumberejo village, Trucuk District, Bojonegoro Regency from November 2023 to February 2024.

RESULTS

Presentation of Respondents' Demographic Characteristics

Table 1 Demographic characteristics of respondents regarding the relationship between social media use and stress levels and sleep quality at the Youth Posyandu

No	Characteristics	Criteria	F	%
1	Age	13 years old	9	30
		14 years old	13	43
		15 years old	8	27
TOTAL			**30**	**100**
2	Gender	Female	23	77
		Male	7	23
TOTAL			**30**	**100**

Based on table 1, it can be seen that from the sample of 30 respondents, there were 23 female respondents (77%) and 7 male respondents (23%). The majority of the sample was 9 respondents aged 13 years (30%), 13 respondents aged 14 years (43%), the remaining 8 respondents (27%) aged 15 years.

Use of social media among teenagers at the Youth Posyandu in Sumberrejo Village

Table 2 Use of social media among teenagers at Posyandu Youth

No	Question	Answer	F	%
1.	Long Use	<1 years ago	6	23
		1-3 years ago	4	30
		3-5 years ago	15	33
		>5 years ago	4	14
		Total	**30**	**100**
2.	Time	3 once a day	0	0
		2 once a day	0	5,7
		1 once a day	3	8,6
		Every time	27	85,7
		Total	**30**	**100**
3.	Reason	The majority of friends use	12	42,8
		Learning Supprter	9	28,6
		A trend that is booming	9	28,6
		Increases disire to share		
		Total	**30**	**100**
4.	Sumer koneksi	Own Kuota	15	50
		Use WiFi	15	50
		Tethering another HP	0	0
		Total	**30**	**100**
5.	Fasility	Parrents	29	88,6

		Buy it yourself	0	0
		Family	1	11,4
		Friends	0	0
		Total	**30**	**100**
6.	TypeMedia Sosial	Instagram	20	57,14
		Facebook	20	57,14
		Path	0	0
		Line	0	0
		Youtube	30	100
		Twitter	2	5,71

Table 2 shows that 10 respondents (33%) use social media highly and 7 respondents (23%) use social media lowly, seen from question no. 2, so it can be said that the majority of respondents experienced high use of social media. Questions other than no. 2 is a complementary question to find out the extent to which teenagers use social media. Other data for the type of social media owned by respondents, researchers used a method where each respondent wrote or ticked what social media they had, so that the data obtained was that YouTube is now almost owned by teenagers, as many as 30 respondents (100%) have this social media, followed by 20 respondents (57.14%) who had Instagram accounts. Facebook accounts are owned by 20 respondents (57.14%). The duration of respondents' use of social media, most of them used social media from 3-5 years ago with the number of respondents being 12 respondents (34.3%). As many as 30 respondents (85.7%) stated that they use social media all the time and the reason they use social media is that the majority of their friends use it or in other words they follow their friends, as many as 15 respondents (42.8%) stated this. , followed by supporting reasons for learning 10 respondents (28.6%). Respondents received connection sources partly from their own quota, 15 respondents (42.9%) and they got smartphones/cellphones as facilities from their parents, 31 respondents (88.6%) which proves that their parents supported them by facilitating facilities in the form of smartphone, as if a smartphone is a primary need in the current era.

Sleep quality in adolescents at the Youth Posyandu in Sumberrejo Village, Kec. Trucuk

Table 3 Sleep quality of teenagers at the Youth Posyandu in Sumberrejo Village, Kec. Trucuk

Sleep Quality	F	%
Bad	26	74,28
Good	4	25,72
Total	**30**	**100**

Based on table 3, it can be seen that the most frequent results were 26 respondents (74.28%) who experienced poor sleep quality and only 9 respondents who experienced good sleep quality (25.72%).

Tabel 4 Stress Levels of Adolescents at the Youth Posyandu in Sumberrejo Village, Kec. Trucuk

Stress Levels	F	%
Light	21	67

Medium	9	37
Heavy	0	0
Total	30	100

Based on table 4, it can be seen that the most frequent results were 21 respondents (67%) who experienced mild levels of stress and 9 respondents (57%) who experienced moderate levels of stress.

The relationship between social media use and sleep quality

Table 5 The relationship between social media use and sleep quality and stress levels

Use Social Media	Sleep Quality				Levels Stress			Total	
	Bad	%	Good	%	Light	Medium	Hight	∑	%
High	20	54,2	2	20,7	21	9	0	20	71,4
Low	6	20,08	2	5,02	0	0	0	10	28,5
Total	26	74,28	4	25,72	67	37	0	30	
			p=0,000						

Based on statistical analysis using the rho scatter correlation test with a significance level of <0.05, the result was p = 0.000. A p value of less than 0.05 indicates that H1 is accepted and H0 is rejected, meaning that there is a relationship between social media use and stress levels and sleep quality.

DISCUSSION

The results of the research show that teenagers are in the mild stress category. This is indicated by indicators that some respondents stated that they felt bothered by feeling tired after doing activities and were easily anxious. Most of the 21 respondents (67%) experienced mild stress, stress caused by teenagers feeling that their body condition was sometimes tense, anxious, tired and lack of rest. Factors that influence stress are too heavy a load, conflict, frustration, personality type and cognitive factors. In this study, it was found that respondents experienced stress more predominantly based on personality factors, where it was found that respondents felt disturbed by feeling tired after carrying out activities and were easily anxious. Respondents have a mild level of stress based on the respondent having difficulty controlling himself and his desires, known from easily feeling anxious when there are many problems at school, both based on a lot of assignments and problems with classmates. Based on research data, it can be seen that respondents who have mild stress levels are likely caused by an inability to control stress because the respondents are 13-15 years old.

Adolescents aged 13-15 years will often experience stress because at this time adolescents are not yet able to fully control the problems they face, so there is a need for parents to play a role in providing guidance to adolescents (Soetjiningsih, 2004). As a student, the stress experienced is mostly caused by personal problems, both in the family, school environment and social life. Hawari (2001) states that the main causes of stress in teenagers are mostly problems involving peers, family problems, relationships with parents, or problems related to school or feelings of pressure or behavior (feeling depressed or lonely, or getting into trouble due to actions Alone (Xanidis, 2016).

However, some respondents 9 (37%) experienced moderate stress. Moderate stress can last longer, namely several hours to several days. This stress causes symptoms including irritability, overreacting to a situation, feeling tired due to anxiety, restlessness, and irritability.

The majority of respondents with moderate stress have a habit of sleeping late at night and still use social media. Some respondents stated that busy activities, tired thinking, tutoring schedules, lots of homework piling up, limited time to do assignments until late at night, no free time to have fun, demands from parents, and facing exam preparations.

Rasmus (Perloff, 2014), explains how teenagers can control stress by getting enough rest, expressing feelings with trusted friends, being positive and optimistic and going on holiday or relaxing with friends or family or using social media in moderation. Teenagers who have a large workload must be able to divide their time in completing assignments explains how teenagers can control stress by getting enough rest, expressing feelings with trusted friends, being positive and optimistic and going on holiday or relaxing with friends or family or using social media in moderation. Teenagers who have a large workload must be able to divide their time in completing assignments

Based on the results of research that has been conducted, there is a relationship between the use of social media and sleep quality. The higher the use of social media, especially YouTube, Instagram, Facebook, the worse the quality of sleep, it is proven that the majority of respondents use social media highly and have poor sleep quality, conversely, respondents who use social media low and have good sleep quality are less than half. These results are in line with research (Scoott, 2016) which states that social media use is strongly associated with poor sleep quality. A novel contribution of this research is the finding that evening social media use is more strongly associated with poor sleep. Using social media while going to sleep will interfere with melatonin production through exposure to digital screens at bedtime, apart from that, social media warnings can disrupt teenagers' sleep processes. The difference in Woods & Scott's (2016) research is that not only sleep quality is used as a variable, several other variables that are associated with social media use include anxiety, anxiety, depression and low self-esteem

Research from Levenson, Shensa, Sidani, Colditz, & Primack (2016) has similarities in discussing the use of social media and sleep, the difference is, this research explains more about how social media can cause sleep disorders. They reveal several possible principles underlying the relationship between social media use and sleep disorders. First, the use of social media will replace sleep, for example someone is still busy with Instagram, so sleep time will be reduced. Second, social media use can increase emotional, cognitive and physiological arousal. Third, the bright light emitted by social media devices can delay circadian rhythms. Most of the respondents who use social media are women compared to men. Almost all of the women who were respondents had high levels of social media use. This is in accordance with the research results of Syamsoedin et al. (2015), it is said that female teenagers are more willing to interact with other people using social media.

Potter & Perry (2010) explain that there are several factors that influence sleep, one of which is lifestyle. The lifestyle of today's teenagers which cannot be separated from smartphones causes them to use social media all the time, according to a social media questionnaire which shows that almost all respondents said they use social media all the time. The sleep process is disturbed due to teenagers who focus on playing social media until late at night and still ignore warnings from social media when teenagers start to sleep. This statement is supported by the results of the completed PSQI questionnaire, which shows that the high scores that most respondents experienced were latency and sleep duration points. Latency is the duration from going to bed to falling asleep, while duration is the time from falling asleep to waking up in the morning. In line with research which states that teenagers who are addicted to smartphones tend to spend more time on their smartphones, but may not be able to use smartphones intensively during the day because of academic activities and school restrictions, so teenagers will use smartphones intensively at night which will reduce sleeping time.

Electromagnetics emitted by smartphones affect cerebral blood flow and melatonin, which is an important hormone that improves sleep quality (Liu et al. 2017).
High use of social media in teenagers directly results in poor sleep quality (Xanidis & Brignell 2016). Sleep quality is an individual's ability to stay asleep and get the right amount of NREM and REM sleep. Signs that a person has good quality sleep are sleeping peacefully, being refreshed when he wakes up in the morning and being enthusiastic about carrying out activities. Sleep quality affects overall health and quality of life (Syamsoedin et al. 2015).

From the research results, it can be seen that the use of social media is related to sleep quality in teenagers. The results of filling out the questionnaire show that the majority of teenagers at the Pungpungan Village Youth Posyandu use social media highly, apart from that the majority also experience poor sleep quality due to high use of social media. Some respondents use social media highly but have good sleep quality, this may be because they are able to regulate when to use social media and when to sleep so that they sleep on time. The poor sleep quality experienced by low social media users may be due to other factors that cause poor sleep quality, such as activities and schoolwork.

The new and sophisticated features of social media are able to attract the attention of all groups, including teenagers. Starting from Instagram, Facebook, YouTube and Twitter, where Instagram and YouTube are some of the social media that almost all respondents have. Wide unlimited access supported by ownership of their own quota means that users can enjoy it without paying attention to other activities so that the quality of sleep is sacrificed by most of them.

From the research results, the p value was 0.01, which means there is a relationship between the use of social media and stress levels and sleep quality. Most of the respondents 26 (74.28%) had poor sleep quality and the majority of respondents 21 (67%) experienced stress. light. Social media is an inseparable part for most teenagers. Increasingly sophisticated gadgets and affordable internet costs have created the need to constantly check notifications and virtual lives on social media, making it difficult for today's teenagers to stop their dependence on social media. The ease and comfort of social media sites can make someone lulled into using them excessively, causing a feeling of addiction (Ursa et al, 2013).

Teenagers like to spend their time playing on social media, so sleep time will be used to play on social media, so that reduced rest hours will cause physical disorders in the teenager's body. As explained by Kaplan & Sadock (2010), if teenagers' sleep quality is poor even though they have enough sleep, it will cause fatigue in the morning. Susanti (2015) explains that due to insomnia at night, teenagers will often experience disturbances during the day such as fatigue, attention disorders, concentration problems, disturbances in social relationships, mood disorders or irritability, headaches, and digestive disorders. This can certainly have a bad impact on the student's learning process at school, namely decreased learning concentration because when they hear the teacher's explanation in class they are sleepy, triggering feelings of anxiety because they are afraid of decreasing achievement, experiencing general health problems due to fatigue, a decrease in the immune system which can result in damage. in cells, affecting the brain's work to slow down due to not meeting sleep needs (Firman & Ngasis, 2012).

CONCLUSION

Based on the results of this research, it can be concluded that: The use of social media for most teenagers is high, as many as 19 respondents (73.2%), the majority of teenagers' sleep quality in posyandu in Pungpungan village is poor, with 26 respondents (74.28%), there is a relationship. Between social media use and stress levels and sleep quality in adolescents.

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Research Article

Intervention Strategies in Addressing Childhood Malnutrition: A Systematic Review

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ABSTRACT

Background: Childhood malnutrition is amajor public health concern, since it is associated with significant morbidity and mortality. The consequences of malnutrition among infants and children can be short-term, such as morbidity, mortality, and disability; or long-term, including impaired cognitive development, increased risk of disease due to either concurrent infections or metabolic disorders, and suboptimal economic productivity. Childhood malnutrition is a result of a complex interplay of nutrition-specific and nutrition-sensitive factors. Nutrition-specific factors include inadequate food and nutrient intake, poor feeding, caregiving, and parenting practices, and burden of infectious diseases. Nutrition-sensitive factors include food insecurity; inadequate caregiving resources at the maternal, household, and community levels; limited access to health services; and unhygienic environment. Improving childhood malnutrition requires effective implementation of nutrition-sensitive as well as nutrition-specific interventions. **Objectives:** The purpose of this systematic review is to determine the intervention strategies in addressing childhood malnutrition. **Methods:** The research design used was the Systematic Review method. Science direct, Pubmed, Proquest, Google Scholar was data based which was used in article search. The articles obtained were filtered based on full text, 20 articles were found, and ten articles were analyzed through analysis of objectives, suitability of topics, research methods used, characteristics of respondents, and the results of each article, published 2014-2024, in English and Indonesia. **Results:** Intervention strategies in addressing malnutrition in childhood could be education, nutrition supplementation, and modification of lifestyle. **Conclusion:** Education, nutrition supplementation, and home based intervention could manage of malnutrition in childhood.

Keywords

Childhood, Malnutrition, Interventions

INTRODUCTION

Childhood undernutrition includes wasting (weight-for-height z-score (WHZ) < −2SD), stunting (height-for-age z-score (HAZ) < −2SD), underweight (weight-for-age z-score (WAZ) < −2SD), and micronutrient deficiencies or insufficiencies (World Health Organization, 2017). The current World Health Organization (WHO) guidelines subsume these entities into the blanket term of childhood malnutrition, which is broadly categorized into acute and chronic malnutrition. Acute malnutrition is further classified on the basis of severity into moderate acute malnutrition (MAM) (WHZ between −3 and −2) and severe acute malnutrition (SAM) (WHZ < −3 and mid-upper arm circumference (MUAC) < 115 mm), whereas chronic malnutrition occurs due to long-term insufficient

intake of nutrients and a complex interplay of intergenerational and environmental factors, resulting in stunting (UNICEF, 2023).

In 2017, an estimated 155 million children under five years of age were stunted and 52 million were wasted (UNICEF, 2017). Asia and Africa still share the greatest burden of malnutrition, with more than half of all stunted children and two-thirds of all wasted children under five years of age living in Asia, and over one-third of stunted children and a quarter of wasted children living in Africa [4]. In Asia and Oceania, nearly 10% of children under five years of age are at increased risk of death due to wasting (UNICEF, 2019).

Childhood malnutrition is a major public health concern, since it is associated with significant morbidity and mortality (World Health Organization, 2017). The consequences of malnutrition among infants and children can be short-term, such as morbidity, mortality, and disability; or long-term, including impaired cognitive development, increased risk of disease due to either concurrent infections or metabolic disorders, and suboptimal economic productivity. Undernutrition, including stunting, severe wasting, deficiencies of vitamin A and zinc, and suboptimal breastfeeding, has been an underlying cause of approximately one-third of the mortality among children under five years of age (UNICEF, 2019).

Childhood malnutrition is a result of a complex interplay of nutrition-specific and nutrition-sensitive factors. Nutrition-specific factors include inadequate food and nutrient intake, poor feeding, caregiving, and parenting practices, and burden of infectious diseases. Nutrition-sensitive factors include food insecurity; inadequate caregiving resources at the maternal, household, and community levels; limited access to health services; and unhygienic environment. Improving childhood malnutrition requires effective implementation of nutrition-sensitive as well as nutrition-specific interventions. A systematic review evaluated the effectiveness of approaches to managing malnutrition in children.

METHOD

The study began with a systematic literature search. The next step was to determine the keyword chains, and the two components were used as the search terms to identify studies on 'Intervention Strategies in Addressing Childhood Malnutrition: (1) intervention strategies and childhood malnutrition, (2) childhood and malnutrition and interventions. The results of this keyword formulation were used to find relevant literature in 5 databases (Scopus, Science Direct, Pubmed, Pro Quest, and Research Gate). The keyword chain was as follows: ("intervention strategies") AND ("childhood malnutrition").

The first screening was based on the titles and abstract. At this stage, the publication was considered to be potentially relevant if the title and abstract had a link to the review topic. Articles that met the inclusion criteria were selected for all content. The selected articles totaled 10. This type of analysis requires themes that are relevant to the purpose of the review. The theme groups used for the review and for this form of analysis was what kind of intervention technique in addressing childhood malnutrition. The limitation regarding publication year was that it had to be between 2014 and now. The search results concluded on July 10th, 2024 with a keyword chain and limitation criteria, and obtained 261 articles. Various inclusion and exclusion criteria were applied; the publications must

be in English and the sample must children with malnutrition. Articles that were only a trial and that did not contain written results were not included.

RESULTS

The search results used a predefined keyword chain that generated 261 publications. In the first screening, 200 publications were excluded after reading the titles based on the inclusion/exclusion criteria. In total, 61 publications were included in the second screening. For the second screening, the publication was downloaded. Of the 61 articles, 51 publications were excluded after reading the full text. The reasons for exclusion because the sample was not children that malnutrition. After the second screening, 10 publications were selected for the systematic review. A detailed description of the publications has been presented in the Appendix.

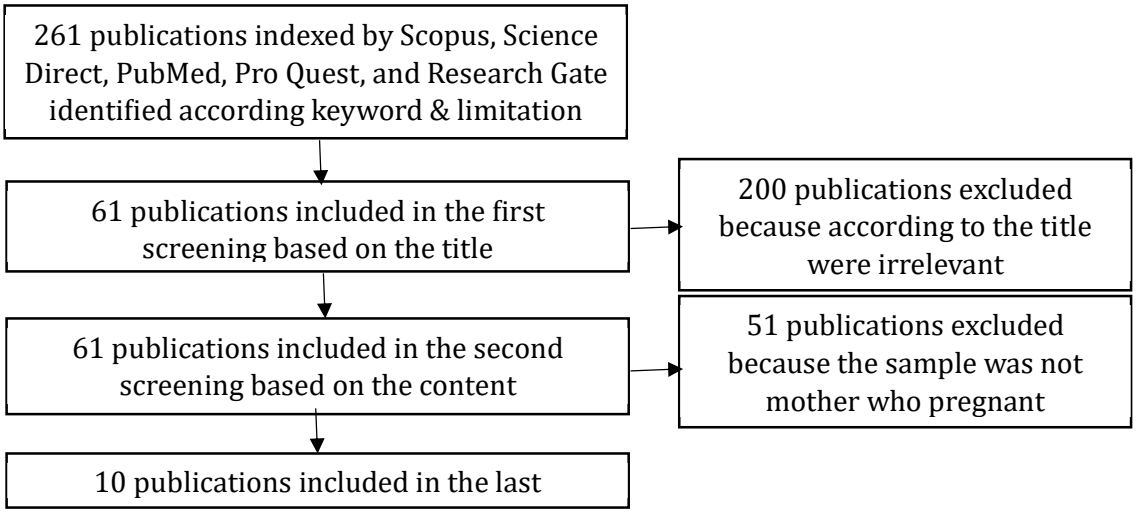

Figure 1. Results and selection procedure

Table 2: PICOT Analysis

NO	Title	Population	Intervention	Comparison	Outcome	Time
1.	Effectiveness and Implementation of a Text Messaging mHealth Intervention to Prevent Childhood Obesity in Mexico in the COVID-19 Context: Mixed Methods Study (Lozada-Tequeanes et al., 2024)	Population 494 (intervention group 230, comparison group 264)	NUTRES is an mHealth BCC strategy designed to prevent childhood overweight/obesity. It achieves this by disseminating SMS text messages to PCs of children under 5 years, as well as to health personnel operating within primary unit services in 2 Mexican states		Of the total 494 PCs enrolled in NUTRES, 334 persisted until the end of the study, accounting for 67.6% (334/494) participation across both groups. A majority of PCs (43/141, 30.5%, always; and 97/141, 68.8%, sometimes) used the SMS text message information. Satisfaction and acceptability toward NUTRES were notably high, reaching 98% (96/98), with respondents expressing that NUTRES was "good," "useful," and "helpful" for enhancing child nutrition. Significant	Over 36 weeks

					differences after the intervention were observed in PA knowledge, with social interaction favored (CG: 8/135, 5.9% vs IG: 20/137, 14.6%; P=.048), as well as in HF practice knowledge. Notably, sweetened beverage consumption, associated with the development of chronic diseases, showed divergence (CG: 92/157, 58.6% vs IG: 110/145, 75.9%; P=.003). In the difference-in-differences model, a notable increase of 0.03 in knowledge regarding the benefits of PA was observed (CG: mean 0.13, SD 0.10 vs IG: mean 0.16, SD 0.11; P=.02). PCs expressed feeling accompanied and	

					supported, particularly amidst the disruption of routine health care services during the COVID-19 pandemic.	
2.	Efficacy of Zinc Fortified and Fermented Wheat Flour (EZAFFAW): A randomized controlled trial protocol (Das et al., 2024)	1000 participants. Individuals will be randomly assigned in the four groups (red, blue, green, and black) through a computer-generated random number list. A statistician will assign the individuals into four groups by a computer-generated list and would then assign color codes (red, blue, green, black) without knowing which color belongs to which group. This randomization will be stratified on	Group 1: fermented high zinc wheat flour flatbread Group 2: unfermented high zinc wheat flour flatbread Group 3: zinc fortified (post-harvest) wheat flour flatbread Group 4: low zinc wheat flour flatbread	Group 1: fermented high zinc wheat flour flatbread Group 2: unfermented high zinc wheat flour flatbread Group 3: zinc fortified (post-harvest) wheat flour flatbread Group 4: low zinc wheat flour flatbread	Primary outcomes will include serum zinc concentration and metabolic markers, while secondary outcomes include anthropometric measurements, blood pressure, and dietary intake	The meal would be served once a day, six days a week for six months

		gender and age (10–13 years, 14-19years, 20–40 years old) and adjusted for serum zinc, BMI, zinc deficiency and HbA1C.				
3.	Comparison of home-based therapy with ready-to-use therapeutic food with standard therapy in the treatment of malnourished Malawian children: a controlled, clinical effectiveness trial (Alkhatib & Obita, 2024)	1178 malnourished children	Home-based therapy with ready-to-use therapeutic food (RUTF)	Standard therapy	Children who received home-based therapy with RUTF were more likely to achieve a weight-for-height z score >-2 than were those who received standard therapy	December to April
4.	Comparison of the efficacy of a solid ready-to-use food and a liquid, milk-based diet for the rehabilitation of severely malnourished	70 malnourished children	Receive 3 meals containing either F100 (n = 35) or RTUF (n = 35)	Receive 3 meals containing either F100 (n = 35) or RTUF (n = 35)	RTUF can be used efficiently for the rehabilitation of severely malnourished children	6 times

	children: a randomized trial (Ciliberto et al., 2005)					
5.	Nutrition Intervention Program and Childhood Malnutrition: A Comparative Study of Two Rural Riverine Communities in Bayelsa State, Nigeria (Nwachan et al., 2024)	105 respondents	Nutrition intervention program delivered in a primary health care facility	Standard intervention	Nutrition intervention program delivered in a primary health care facility can positively change nutrition behavior and prevent childhood malnutrition	
6.	Supplementary feeding of malnourished children in northen Iraq (Sawyer et al., 2013)	62 primary health care centres	High protein high energy biscuits	Standard intervention	Hight protein biscuits should distributed throughout instead of the mix	7 months
7.	Daily Supplementation With Egg, Cow Milk, and Multiple Micronutrients Increases Linear Growth of Young Children with Short Stature (Emlek Sert	472 children	Supplemented daily with an egg and 150 mL of milk, and 1 sachet of multiple micronutrient powder	Standard intervention	Daily directly observed milk, egg, and multiple micronutrient supplementation may improve linear growth of stunted children.	90 days

	& Bayık Temel, 2020)					
8.	Using a Community-Based Early Childhood Development Center as a Platform to Promote Production and Consumption Diversity Increases Children's Dietary Intake and Reduces Stunting in Malawi: A Cluster-Randomized Trial (Mahfuz et al., 2020)	60 community-based childcare centers	Standard ECD program with additional activities to improve nutritious food production and behavior change communication to improve diets and care practices for young children	Standard intervention	Preschool children in the intervention group had greater increases in nutrient intakes and in dietary diversity	
9.	Effectiveness of a community-based nutrition programme to improve child growth in rural Ethiopia: a cluster randomized trial (Gelli et al., 2018)	1790 children aged 6 to 12 months (876 in the intervention and 914 in the control areas)	Community-based participatory nutrition promotion (CPNP) programme	Standar intervention	Children in the intervention area showed an 8.1% (P= 0.02) and 6.3% (P= 0.046) lower prevalence of stunting and underweight, respectively, after controlling for differences in the prevalence at enrollment,	2 months

					compared with the control group	
10.	The effects of nutrition and health education on the nutritional status of internally displaced schoolchildren in Cameroon: a randomised controlled trial (Kang et al., 2017)	160 children	Nutrition education was carried out only with the caregivers of children in the test group	Standar intervention	Nutrition education alone was not effective in improving the nutritional status of the children and should be implemented together with other food-based nutrition interventions to improve the nutritional status of internally displaced schoolchildren in the West and Littoral Regions of Cameroon	Displaced schoolchildren (5–15 years) who were displaced by the on-going sociopolitical crisis in the Northwest and Southwest Regions to primary schools of the West and Littoral Regions of Cameroon and their mothers or caregivers

DISCUSSION

This systematic review discussed about interventions strategies in addressing childhood malnutrition. Ten articles have been reviewed. The results of this review showed that education about nutrition, home based therapy about nutrition and nutrition therapy as intervention strategy in addressing childhood malnutrition. Nutrition education significantly reduced the prevalence of clinical signs of malnutrition studied such as Bitot's spot and pallor. Home-based therapy with RUTF (ready-to-use therapeutic food) is associated with better outcomes for childhood malnutrition. Children who received home-based therapy with RUTF were more likely to achieve a weight -for-height z score >-2. Nutrition intervention program delivered in a primary health care facility can positively change nutrition behavior and prevent childhood malnutrition.

CONCLUSION

Education, nutrition supplementation, and home based intervention could manage of malnutrition in childhood

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Research Article

Qualitative Level of Consciousness and Quantitative Level of Consciousness Using The Four Score Measurement In Brain Injury Patients: A Cross-Sectional Study

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Abstrak

Trauma kepala merupakan gangguan struktur dan fungsi otak yang dapat menyebabkan penurunan kesadaran. Penurunan kesadaran dapat dinilai secara kualitatif dan kuantitatif (FOUR score, *Full Outline of Unresponsiveness Score*). Tujuan penelitian ini adalah untuk mengetahui hubungan antara tingkat kesadaran kualitatif dengan tingkat kesadaran kuantitatif menggunakan alat ukur FOUR score pada pasien trauma kepala. Desain penelitian ini menggunakan analisis korelasi dengan pendekatan *cross-sectional*. Jumlah sampel dalam penelitian ini adalah 85 pasien dengan trauma kepala di IGD RSUD Bangil Pasuruan yang diambil dengan menggunakan teknik *consecutive sampling*. Instrumen yang digunakan adalah lembar observasi FOUR Score untuk mengukur tingkat kesadaran kuantitatif dan lembar observasi tingkat kesadaran kualitatif. Data dianalisis dengan menggunakan Uji Fisher's Exact. Hasil penelitian menunjukkan bahwa sebagian besar tingkat kesadaran kualitatif responden adalah kesadaran composmentis sebanyak 85 responden (74.1%), sedangkan tingkat kesadaran kuantitatif dengan alat ukur FOUR Score sebagian besar adalah risiko rendah mortalitas sebanyak 85 responden (74.1%). Hasil analisis lebih lanjut menunjukkan bahwa terdapat hubungan yang signifikan antara tingkat kesadaran kualitatif dengan tingkat kesadaran kuantitatif menggunakan alat ukur FOUR Score pada pasien trauma kepala di IGD RSUD Bangil Pasuruan (*p-value* = 0,000; ∝<0,05). FOUR Score merupakan instrumen untuk mengukur tingkat kesadaran secara kuantitatif yang memberikan gambaran tentang status neurologis pasien. Salah satu indikator dari FOUR Score adalah penilaian pada refleks batang otak dan pola pernapasan sehingga tepat digunakan untuk mengkaji tingkat kesadaran pada pasien dengan gangguan neurologis.

Kata Kunci: FOUR Score, Tingkat Kesadaran Kualitatif, Tingkat Kesadaran Kuantitatif, Trauma Kepala

Abstract

Brain injury is a disruption of brain structure and function that can cause decreased consciousness. Decreased consciousness can be assessed qualitatively and quantitatively (FOUR score, Full Outline of Unresponsiveness Score). This study aimed to determine the relationship between the qualitative level of consciousness and the quantitative level of consciousness using the FOUR score measuring instrument in brain injury patients. This research design used correlation analysis with a cross-sectional approach. The number of samples in this study was 85 brain injury patients in the emergency department at Bangil Pasuruan Regional Hospital, taken using consecutive sampling techniques. The

instruments used the FOUR Score observation sheet to measure the quantitative level of consciousness and the qualitative level of consciousness observation sheet. Data were analyzed using Fisher's Exact Test. The research results showed that the majority of respondents' qualitative level of consciousness was compos mentis, 85 respondents (74.1%), while the quantitative level of consciousness using the FOUR Score measuring was a mostly lower mortality risk, 85 respondents (74.1%). The results of the further analysis showed a significant relationship between qualitative level of consciousness and quantitative level of consciousness using the FOUR Score measuring instrument in brain injury patients in the emergency department at Bangil Pasuruan Regional Hospital (p-value = 0.000; $\propto$<0.05). FOUR Score is an instrument for quantitatively measuring consciousness, providing an overview of the patient's neurological status. One of the indicators of the FOUR Score is an assessment of brain stem reflexes and breathing patterns. Hence, it is appropriate to use to assess the level of consciousness in patients with neurological disorders.

Keywords: Brain Injury, FOUR Score, Qualitative Level of Consciousness, Quantitative Level of Consciousness

INTRODUCTION

Brain injury is an emergency that is often encountered in the Emergency Department. Brain injury is one of the main causes of disability, morbidity, and mortality. Brain injury is a traumatic disorder of the brain that can cause changes in the function or structure of brain tissue as a result of the trauma experienced (external mechanical force) in the form of blunt or penetrating trauma which causes cognitive, physical, and psychosocial dysfunction, both temporary and permanent (Mulyono, 2021; Riduansyah et al., 2021). The World Health Organization (WHO) reports that 1.24 million people in the world die every year on the roads with 20-50 million people suffering from non-fatal injuries and head trauma is among the top three causes of death (especially among those aged 15-44 years). In the United States, there are around 2.9 million head trauma patients in the Emergency Department, around 224,000 patients are undergoing treatment in hospitals, and around 61,000 patients die from head trauma. Based on Basic Health Research data (2018), brain injury in Indonesia is ranked third, namely 11.9%. The prevalence of brain injury patients at Bangil Pasuruan Regional General Hospital is around 26 people every month.

An initial assessment of brain injury patients is very necessary quickly and precisely to determine a follow-up plan. One initial assessment that can be carried out is to assess the level of awareness both qualitatively and quantitatively. Qualitative levels of consciousness include compos mentis, apathy, delirium, somnolence, sopor, and coma. Apart from that, to assess the level of quantitative awareness, there are measuring tools such as the Glasgow Coma Scale (GCS) and the Full Outline of Unresponsiveness (FOUR) Score. The FOUR Score is a new assessment scale to assess a more comprehensive level of consciousness and was published by Wijdicks et al in 2005. The FOUR Score is an instrument used to assess consciousness quantitatively which provides additional details in the assessment that cannot be estimated by the Glasgow Coma Scale (GCS), these assessments include assessments of brainstem reflexes, visual tracking, breathing patterns, and respiratory drive. The FOUR Score assessment does not rely on verbal assessment, so this assessment can be used to assess patients undergoing intubation (Foo et al., 2019; Kholifah et al., 2019).

The FOUR Score assessment consists of 4 indicators and each indicator has a maximum value of 4, including: 1) Eye reaction; 2) Motor response; 3) Brain stem reflexes; and 4) Respiratory pattern (Keerthi et al., 2023). The FOUR score can provide a lot of information about several easy-to-use neurological signs that can indicate whether a patient is unconscious. These signs can be used to determine whether a patient is safe to transport or whether they require medical attention more quickly (Chavare et al., 2022). The aim of this research is to determine the relationship between the qualitative level of consciousness and the quantitative level of consciousness using the FOUR Score measuring instrument in brain injury patients.

METHOD

This research was quantitative research with a cross-sectional approach. The number of research samples was 85 brain injury patients in the Emergency Department at Bangil Pasuruan Regional Hospital, taken using consecutive sampling for 2 months. The instrument used to measure the level of qualitative awareness was a qualitative level of awareness observation sheet with assessment criteria including 1) Compos mentis; 2) Apathy; 3) Delirium; 4) Somnolence; 5) Sopor; 6) Comma. The instrument for measuring quantitative awareness was the Full Outline of Unresponsiveness (FOUR Score) with the lowest score of 0 and the highest score of 16 which consists of four indicators, including: 1) Eye response (0-4); 2) Motor response (0-4); Brainstem response (0-4); 4) Respiration (0-4). The FOUR Score assessment criteria were high mortality risk (score 0-7), moderate mortality risk (score 8-14), and lower mortality risk (score 15-16). Data were analyzed using the Fisher Exact Test.

RESULTS

Table 1 Respondent's Characteristics

Variable	Mean	Median	SD	Min-Max	95% CI *Lower-Upper*
Age*	37.79	37.00	18.05	2.00-72.00	33.89-41.68
Variable				**n**	**%**
Gender	Man			44	51.8
	Women			41	48.2
Marital Status	Single			23	72.9
	Married			62	27.1
Education Level	Illiterate			5	5.9
	Elementary School			4	4.7
	Junior High School			14	16.5
	Senior High School			45	52.9
	Collage			17	20.0
Medical Diagnosis	Mild Brain Injury			61	71.8
	Moderate Brain Injury			16	18.8
	Severe Brain Injury			8	9.4

*Data was normally distributed (Kolmogorov Smirnov Test)

The research results based on Table 1 showed that the mean age of respondents was 37.79 years with a standard deviation of 18.05 years. Most of the respondents were male, 44 respondents (51.8%). The marital status of most of the respondents was married, 62 respondents (27.1%). The education level of the respondents was mostly senior high

school with 45 respondents (52.9%). The prevalence of respondents' medical diagnosis was mostly mild brain injury, with 61 respondents (71.8%).

Table 2 Qualitative Level of Consciousness and Quantitative Level of Consciousness (FOUR Score)

Variable		n	%
Qualitative Level of Consciousness	Compos mentis	63	74.1
	Apathetic	3	3.5
	Delirium	4	4.7
	Somnolence	4	4.7
	Sopor	4	4.7
	Coma	7	8.2
	Total	**85**	**100.0**
Quantitative Level of Consciousness (FOUR Score)	Low Mortality Risk	63	48.2
	Moderate Mortality Risk	11	21.4
	High Mortality Risk	11	30.4
	Total	**85**	**100.0**

The research results based on Table 2 showed that the majority of the qualitative level of consciousness in brain injury patients was compos mentis awareness of as many as 63 respondents (74.1%), while the quantitative level of consciousness with the FOUR Score measuring instrument was mostly lower mortality risk as many as 63 respondents (48.2%).

Table 3 Correlation between Qualitative Level of Consciousness and Quantitative Level of Consciousness (FOUR Score)

Variable		Quantitative Level of Consciousness (FOUR Score)						p-value
		Low Risk of Death		Intermediate Risk of Death		High Risk of Death		
		n	%	n	%	n	%	
Qualitative Level of Consciousness	Compos mentis	63	74.2	0	0.0	0	0.0	0.000*
	Apathetic	0	0.0	3	3.5	0	0.0	
	Delirium	0	0.0	4	4.7	0	0.0	
	Somnolence	0	0.0	4	4.7	0	0.0	
	Sopor	0	0.0	0	0.0	4	4.7	
	Coma	0	0.0	0	0.0	7	8.2	
Total		**63**	**74.2**	**11**	**12.9**	**11**	**12.9**	

*Significant at p-*value* <0.05

The research results based on Table 3 showed that all respondents with a compos mentis level of consciousness had a quantitative level of consciousness (FOUR Score), namely lower mortality risk as many as 63 respondents (74.2%), all respondents with apathetic awareness had a moderate mortality risk as many as 4 respondents (4.7%), all respondents with somnolence awareness had a moderate mortality risk of 4 respondents (4.7%), all respondents with sopor awareness had a high mortality risk of 4 respondents (4.7%), and all respondents with coma awareness had a high mortality risk of 7 respondents (8.2%). %). The results of further analysis showed that there was a significant relationship between the qualitative level of consciousness and the quantitative level of consciousness (FOUR Score) in brain injury patients in the

Emergency Department at the Bangil Pasuruan Regional General Hospital (p-value = 0.000; α <0.05).

DISCUSSION

Qualitative Level of Consciousness

The results of the study showed that the majority of qualitative levels of consciousness in head trauma patients were compos mentis consciousness, with 63 respondents (74.1%). This is in line with research by Riduansyah et al (2021), showing that the prevalence of compos mentis awareness is 30.0%. Composmentis is a condition of being fully conscious and able to respond to questions about oneself and the environment. Consciousness is maintained by the reticular activation system (RAS) in the brain stem and brain connected to the thalamus and cerebral hemispheres. In this study, it was found that the majority of respondents experienced mild brain injury, 71.8%. This is in line with research by Riduansyah et al (2021), showing that the highest prevalence of head trauma is mild brain injury at 36.7%. Brain injury is a physical disorder that can cause impaired consciousness. Head trauma patients will remain fully conscious if the RAS in the brain stem remains intact or undisturbed (Tito & Saragih, 2018).

Quantitative Level of Consciousness (FOUR Score)

The research results showed that the quantitative level of consciousness using the FOUR Score measuring instrument mostly lowers mortality risk by 48.2%. This is in line with research by Matoha et al (2016), showing that the majority of patients with brain injury have a low risk of death of 56.9%. The FOUR score assessment is a clinical assessment scale for evaluating patients with a level of awareness of disability which consists of 4 perspectives, namely eye reflexes, machine reflexes, brainstem reflexes, and breathing (Airlangga et al., 2020). The results of the research (Edlow et al., 2017), showed that 14 studies had the reliability of the FOUR Score, 9 studies showed that the FOUR Score could predict mortality and functional outcomes, 32 studies showed that the FOUR Score had equality or superiority as the GCS for predicting mortality and functional outcomes.

The FOUR Score is superior to quantitative awareness assessment with GCS because it provides more detailed neurological status data in patients with decreased consciousness (Prasetyowati, 2020). The FOUR Score assessment does not include verbal like the GCS assessment so this assessment can be used to assess patients with intubation. Intubation is a management procedure in the Intensive Care and Emergency Care service areas. The FOUR Score is a simple measurement tool to use and offers a more comprehensive neurological assessment. The FOUR Score assessment consists of 4 indicators and each indicator has a maximum value of 4, including: 1) Eye reaction; 2) Motor response; 3) Brain stem reflexes; and 4) Respiratory pattern (Keerthi et al., 2023). The brainstem reflex assessment examines the condition of the pupillary and corneal reflexes, while the respiration assessment examines the patient's breathing pattern and the patient breathing spontaneously or assisted by a ventilator (Ansari & Rai, 2021).

Correlation Qualittaive Level of Consciousness and Quantitative Level of Consciousness (FOUR Score)

The results of the study showed that there was a significant relationship between the qualitative level of consciousness and the quantitative level of consciousness (FOUR Score) in brain injury patients in the Emergency Department at the Bangil Pasuruan Regional General Hospital (p-value = 0.000; α <0.05). One of the important parameters in the assessment of patients with neurological disorders is identifying the level of

consciousness that reflects the primordial structures of the central nervous system such as the brain stem and other brain areas. Changes in the level of consciousness are the first sign of a change in the patient's clinical status. Assessment of the level of consciousness is part of the assessment in nursing care which is considered a fundamental starting point both qualitatively and quantitatively (Pires et al., 2021).

The qualitative level of consciousness assessed includes compos mentis, apathy, delirium, somnolence, sopor, and coma. Meanwhile, the assessment of the quantitative level of consciousness can be measured using various measuring instrument approaches such as the Alert Voice Pain Unresponsive Scale" (AVPU), the "Full Outline of Unresponsiveness" (FOUR) Score, or the "Coma Recovery Scale-Revised" (CRS-R). FOUR Score is a measuring tool that can be used to quantitatively assess the level of consciousness. This measuring tool has better predictions compared to other measurement scales for classifying and describing the level of consciousness in patients in emergency care and intensive care areas (Chattopadhyay et al., 2024).

The research results showed that all respondents with a qualitative level of consciousness of composmentis had a lower mortality risk in the quantitative level of consciousness assessment of 74.2%. Composmentis is a condition of being fully conscious and able to respond to questions about oneself and the environment. Meanwhile, lower mortality risk describes that the patient's condition refers to the patient's reduced incidence of death. The relationship between the qualitative and quantitative assessment of the level of consciousness with the FOUR Score measuring instrument shows that the patient is fully conscious, the eyelids can open spontaneously or on command, the motor response can follow commands, the response of the pupils and the cornea is present, and the status of spontaneous respiration without assistance. breathing apparatus (ventilator). There is a correlation between the description of consciousness level with qualitative assessments and quantitative assessments using the FOUR Score measuring tool (Almojuela et al., 2019; Matoha et al., 2016).

CONCLUSION

FOUR Score is an instrument for quantitatively measuring consciousness, providing an overview of the patient's neurological status. One of the indicators of the FOUR Score is an assessment of brain stem reflexes and breathing patterns. Hence, it is appropriate to use to assess the level of consciousness in patients with neurological disorders.

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Research Article

The Effect of Islamic Yoga on Lung Capacity in TB Patients at Ngimbang Health Center, Lamongan Regency

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ABSTRACT
Background: TB patients often experience lung fibrosis, leading to a reduction in functional lung tissue and decreased lung diffusion capacity, causing ventilation-perfusion ratio imbalances. Objectives: This study aims to determine the effect of Islamic yoga on lung capacity in TB patients at Ngimbang Health Center. Methods: The design used in this study is a pre-experimental pre-post test design. The population consisted of 47 people, with a sample of 33 people obtained using purposive sampling. Data were collected through measurements using a Rossmax peak flow meter PF120A. Results: before Islamic yoga, the average lung capacity percentage was 48.42%. After Islamic yoga, the average lung capacity percentage increased to 82.33%. Paired sample t-test results showed a significant value of $p = 0.000$ ($p < 0.005$), indicating that Islamic yoga affects lung capacity in TB patients at Ngimbang Health Center. Conclusion: Controlled breathing in yoga and meditation can reduce anxiety, achieve relaxation, and provide more oxygen to the bloodstream, thus increasing lung capacity.

Keywords
lung capacity, Islamic yoga, TB, peak flow meter.

INTRODUCTION

In 2022, 13 million people died from TB (including 167,000 people with HIV). Worldwide, TB is the second deadliest infectious disease after COVID-19 (ahead of HIV and AIDS). (World Health Organisation, 2023).Pulmonary TB is caused by Mycobacterium tuberculosis infection, causing inflammation of the lung parenchyma. Decreased lung function causes symptoms such as a cough lasting more than three weeks, productive cough, hemoptysis, chest pain, shortness of breath, fever, night sweats, malaise, loss of appetite, and weight loss. This condition reduces lung capacity, increasing the risk of chest deformities (Pratiwi et al., 2020). According to WHO, an estimated 106 million people worldwide have tuberculosis (TB), including 58 million men, 35 million women, and 13 million children (World Health Organisation, 2023). Indonesia is the third country after India and China with the highest TB cases. In 2023, 969,000 people with TBC, and 28,000 people with drug-resistant TB. In Lamongan Regency, 2,758 people have tuberculosis (TB) (Kementrian Kesehatan RI, 2023). A preliminary study based on observations on December 21, 2023, showed that peak expiratory flow (PEF) measurements in three TB patients using a peak flow meter ranged from 200 to 360 L/min, with ages ranging from 46 to 58 years. The highest measurement was 360 L/min, and the lowest was 200 L/min, both lower than predicted values. It was concluded that TB patients experience a decline

in lung capacity. This decrease in lung capacity causes mechanical disturbances in gas exchange in the respiratory system. Reduced oxygen consumption usually leads to fatigue and shortness of breath during strenuous activities. The lower the lung capacity, the lower the functional ability. Therefore, to improve the functional ability of TB patients, their lung capacity must first be increased (Ariyana et al., 2022). To maintain good and optimal lung capacity, several activities should be undertaken, either individually or in groups, such as breathing exercises, aerobic exercise, interval training, cardiovascular exercises, quitting smoking, maintaining environmental health, strength training, maintaining ideal body weight, consuming nutritious food, and improving posture (Ariyana et al., 2022). Yoga is a suitable exercise as it trains the mind and breathing focus, benefiting both physical and mental health, and reducing the risk of stress and depression. Islamic yoga integrates spiritual readings into meditation, enhancing spiritual awareness and remembering God Almighty for patients (Amini & Ouassini, 2020). Islamic Yoga is a specialized approach to yoga integrated with Islamic values and teachings. Although yoga traditionally comes from Hindu and sometimes Buddhist spiritual heritage, some Muslim practitioners have adopted and adapted it to Islamic values. Islamic Yoga generally tries to maintain Islamic principles and incorporate yoga practices to achieve spiritual and physical balance and well-being. In Islamic yoga, the spiritual and meditative elements of yoga can be harmonized with Islamic values and used as a means to draw closer to Allah (Amini & Ouassini, 2020). The decline in lung capacity in pulmonary tuberculosis can reduce lung compliance. Breathing exercises are designed to achieve more controlled and efficient ventilation, maximize alveolar inflation, relax muscles, eliminate anxiety, eliminate useless, uncoordinated respiratory muscle activity patterns, slow down the breathing frequency, and reduce trapped air (Aminah, 2018). Based on the background problem where respiratory health is a parameter of human body health but decreases due to related health issues, the author is interested in researching the effect of Islamic yoga on lung capacity in TB patients in Lamongan District.

METHOD

This research uses a quantitative approach with a pre-experimental pre-pro test design. The study was conducted at Ngimbang Health Center in March 2024. The study involved 36 TB patients, but three were dropped from the study. The study used the Rossmax peak flow meter PF120A to measure lung capacity and followed SOPs for measuring lung capacity and Islamic yoga intervention. After data collection, statistical tests were performed. The data were analyzed using a paired t-test to determine the effect of the intervention, with significant results at $P < 0.05$.

RESULTS

Table 1. Respondent Characteristics

Characteristics	Frequency	(%)
Gender		
male	17	51,5
female	16	48,5
Age		
31-40	4	12,1
41-50	9	27,3
51-60	20	60,6
Education		
Elementary school	8	24,2

Middle School	15	45,5
High School	10	30,3
University	0	0
Occupation		
Entrepreneur	5	15,2
Civil Servant/Military	0	0
Farmer	28	84,8
TB duration		
1-3 months	6	18,2
4-6 months	19	57,6
>6 months	8	24,2
Other disease		
none	24	72,7
present	9	27,3

Table 1 shows that out of 33 TB patients at Ngimbang Health Center, the majority (51.5%) were male, most (60.6%) were aged 51-60 years, nearly half (45.5%) had middle school education, almost all (84.8%) worked as farmers, the majority (57.6%) had TB for 4-6 months, and the majority (72.7%) did not have comorbid diseases.

Table 2. Distribution of Lung Capacity Values Before Performing Islamic Yoga in TB Patients at Ngimbang Health Center

Lung Capacity Interpretation (Pre-test)	**Frequency**	**(%)**
Good Respiratory (>80-100%)	0	0,00
Narrowing Respiratory (>50-80%)	17	51,5
Severely Narrowed Respiratory (≤50%)	16	48,5
Total	**33**	**100**

Lung Capacity	**Min-max**	**Mean ± SD**
Pre test	120-450	249.70 ± 74.728
Male Pre-test	130-450	272.94 ± 78.004
Female Pre-test	120-310	225.00 ± 64.498

Table 2 shows that of the 33 respondents, the majority (51.5%) had narrowing respiratory, and nearly half (48.5%) had severely narrowed respiratory, with an average lung capacity of 249.70 lpm before Islamic yoga. The average lung capacity for males was higher (272.94 lpm) compared to females (225.00 lpm).

Table 3. Distribution of Lung Capacity Values After Performing Islamic Yoga in TB Patients at Ngimbang Health Center

Interpretation of Lung Capacity (post-test)	**Frequency**	**Percentage**
Good respiratory capacity (>80-100%)	16	48.5%
Beginning to narrow respiratory capacity (>50-80%)	17	51.5%
Severely narrowed respiratory capacity (≤50%)	0	0.00%
Total	33	100%

Lung Capacity	**Min-max**	**Mean ± SD**
Post-test	310-580	421.21 ± 49.038

From Table 3, it is shown that out of 33 respondents, the majority (51.5%) have respiratory capacities that are beginning to narrow, and nearly half (48.5%) have good respiratory capacities. After performing Islamic yoga for 8 sessions, the average lung capacity was found to be 421.21 lpm among the 33 TB patients, with a minimum value of 310 lpm and a maximum value of 580 lpm.

Table 4. Frequency Tabulation of the Effect of Islamic Yoga on Lung Capacity in TB Patients at Ngimbang Health Center

Persentase nilai kapasitas paru		Min-Max	Mean ± SD	P
Pre-test	33	22% - 80%	48.42 ± 13.318	0.000
Post-test	33	63% - 100%	82.33 ± 10.638	

The study on the effect of Islamic yoga on lung capacity in tuberculosis (TB) patients at the Ngimbang Health Center shows a significant impact. A notable increase in lung capacity was observed at the 8th session of the intervention. Using the paired t-test, a p-value of 0.000 ($p<0.005$) was obtained. The average lung capacity at the first meeting (pretest) was 249.70 lpm, while at the 8th meeting (posttest), it was 421.21 lpm, indicating an average increase of 171.51 lpm. Before conducting Islamic yoga, the average lung capacity percentage was 48.88%, with a minimum of 22% (significant narrowing of respiratory channels) and a maximum of 80% (onset of respiratory channel narrowing). After conducting Islamic yoga, the average lung capacity percentage increased to 82.33%, with a minimum of 63% (onset of respiratory channel narrowing) and a maximum of 100% (good lung function). This shows a significant increase in lung capacity in TB patients after practicing Islamic yoga for 8 sessions.

DISCUSSION

Lung Capacity Before Islamic Yoga

The study showed that out of 33 respondents, most had respiratory channels starting to narrow, with some already significantly narrowed. The average lung capacity before Islamic yoga was 249.70 lpm for the 33 TB patients. While there is no specific study measuring lung capacity in TB patients, the findings align with Firdahana, and Allivia (2021) on decreased lung capacity in COPD patients, showing that their lung capacity is lower than that of healthy individuals.

The study found that males had a greater lung capacity than females, consistent with the research by (Zuriel Jeffrey J, 2020), which reported a vital capacity of 3.99 in normal males and 2.50 in normal females. This study used a peak flow meter, while Jeffrey's used auto spirometry.

Gender differences influence lung capacity and respiratory performance. According to a study by the National Institutes of Health, lung capacity is largely dependent on body size, with women generally having smaller lung capacities due to smaller body size. Additionally, reproductive hormones in women can reduce lung function. Women have a smaller diffusion area compared to men, leading to poorer respiratory performance and lung function. Women also have to work harder to maintain breathing rates (Winanda Rizki Bagus Santosa & Paramita Ratna Gayatri, 2022).

The researcher believes that TB disease causes a decrease in lung capacity. When Mycobacterium tuberculosis bacteria attack the lungs, the body responds by forming scar tissue to fight the infection, a process called fibrosis. If untreated, this scarring can replace normal lung tissue, leading to reduced lung capacity. Scar tissue is not as elastic as normal

lung tissue, impairing expansion and contraction, resulting in symptoms like shortness of breath and decreased physical activity capacity.

Lung Capacity After Islamic Yoga

After practicing Islamic yoga for eight sessions, most respondents showed an improvement, with an average lung capacity of 421.21 lpm. This aligns with the research by (Putri Ramuja Dewi Sugata, 2023), which found a significant increase in vital lung capacity after practicing pranayama in adolescent girls.

This is also consistent with the study by (Ritu Soni, 2021) on the effect of yoga on lung capacity in COPD patients, showing a significant increase in the yoga group. Transfer factors for carbon monoxide increased in mild COPD from 17.61 ± 4.55 to 19.08 ± 5.09 ml/mmHg/min and in moderate COPD from 14.99 ± 4.02 to 17.35 ± 3.97 ml/mmHg/min. The researcher concludes that the increase in lung capacity after Islamic yoga therapy is due to breathing techniques that strengthen respiratory muscles, increase lung elasticity, and improve overall breathing efficiency. The integration of Islamic prayer and meditation in Islamic yoga provides significant relaxation, reducing stress and tension. Through meditation and breathing awareness in Islamic yoga, individuals learn to breathe more efficiently and deeply, increasing lung capacity.

Effect of Islamic Yoga on Lung Capacity

The study shows a significant effect of Islamic yoga on lung capacity in TB patients at the Ngimbang Health Center, with an average increase of 171.51 lpm after 8 intervention sessions. This aligns with (Yuharlina, 2018) study, which showed a significant increase in vital lung capacity after practicing Surya namaskar yoga.

The researcher assumes that lung capacity in TB patients can be improved with Islamic yoga twice a week. Controlled breathing in yoga and its meditation can alleviate anxiety, achieve relaxation, and deliver more oxygen to the bloodstream, enhancing and improving lung capacity. Combining spiritual values with physical techniques from traditional yoga, Islamic yoga can provide similar benefits in improving lung capacity and respiratory health. Consistent practice aligned with Islamic principles can help individuals achieve physical and spiritual well-being.

CONCLUSION

The study concludes that Islamic yoga significantly enhances lung capacity in TB patients at the Ngimbang Health Center, with an average increase of 171.51 lpm. It is recommended that TB patients, particularly at Ngimbang Health Center, be motivated to practice Islamic yoga as part of their physical conditioning to maintain good lung health and overall well-being.

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Research Article

The Effect of Demonstration Method on The Knowledge and Attitudes of Pregnant Women in The Detection of Danger Signs of Pregnancy

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ABSTRACT

Maternal death based on the definition of the World Health Organization is death during pregnancy within a period of 42 days after the end of pregnancy as a result of the condition of the pregnancy and its treatment and not due to injury/accident. Based on UNDP data for 2021, the MMR in Indonesia is 305/100,000 live births. Maternal deaths were caused by hypertension at 9.62%, bleeding at 9.38% and other causes at 68.18%. The supporting factors for the high maternal mortality rate are 4 too and 3 too late. 4 too: too young or too old, too close less 2 years, too much more. Another supporting factor is late 3. Efforts to reduce maternal mortality globally are carried out through the Safe Motherhood Program, Childbirth Planning and Complication Prevention (P4K) Program and Penakib.This research aims to determine differences in the level of knowledge and attitudes of mothers before and after being given counseling and demonstrations. This research is quantitative research using an experimental approach. The population of pregnant women was 150 people using accidental sampling technique carried out during ANC services so that 115 respondents were found.The results of data analysis using Wilcoxon, compared between pre and post, there was a significant difference of <0.05. The demonstration method provides experience to improve abilities and reduce errors in carrying out early detection of danger signs of pregnancy.

Keywords: Knowledge, attitudes, danger signs of pregnancy

INTRODUCTION

Definition of maternal death is death during pregnancy within 42 days after the end of pregnancy as a result of pregnancy conditions and their management and not due to injury/accident (Collier & Molina, 2019). The SDG's indicators is good health and well-being as a sustainable development goal. One of the pillars of social development is a healthy and prosperous life with the indicator being a maternal mortality rate of below 70/100,000 live births (UNPD, 2018). Based on the 2019 East Java Health Profile report, the maternal mortality rate was 89.92/100,000 live births and increased to 234.7 per 100,000 live births in 2021. Based on the 2018 Surabaya City Health Profile, the maternal mortality rate was in the range of 72.99/100,000 live births (Pemerintah Kota Surabaya, 2018).

Factors causing maternal death can be direct or indirect. Factors that indirectly affect maternal mortality rates include: maternal nutritional status during pregnancy, social status, economic status, availability of health services, parity (number of pregnancies), equality in the family and environment, and maternal social values. Other supporting factors that cause the still high maternal mortality rate in Indonesia include

4 late and 3 late (Ekwochi et al., 2015.) . Factors that indirectly affect maternal mortality rates include: maternal nutritional status during pregnancy, social status, economic status, availability of health services, parity (number of pregnancies), equality in the family and environment, and maternal social values. In addition to 4 late and 3 late, maternal mortality rates are caused by low levels of education, access to information and helplessness as a result of the mother's lack of knowledge about danger signs in pregnancy (Dinas kesehatan Provinsi Jawa Timur, 2022).

Based on several research results in several countries, it is known that the level of knowledge of pregnant women about danger signs in pregnancy is still very low (Haleema et al., 2019). One of the studies conducted in 2017 in Ethiopia stated that the level of knowledge of pregnant women (Bililign & Mulatu, 2017). Another study in 2015-2017 on maternal mortality determinants in the city of Surabaya, that contextual determinants were dominated by high school education (52.94%), mother's job as a housewife by 64.71%. Intermediate determinants were age 20-34 years by 65.8%, proxy determinants of maternal mortality by 14.71%, during childbirth by 20.59%, and during the postpartum period by 64.71% (Rochmatin et al., 2018).

METHOD

The method in this research uses a quantitative research approach with an experimental design approach. This study aims to determine the knowledge and attitudes of mothers regarding early detection of danger signs of pregnancy in the Sememi Health Center UPT and Jeruk Community Health Center UPT Work Areas in January - April 2024. The data used consists of quantitative data obtained through measuring the level of knowledge and attitudes of pregnant women, as primary data as well as secondary data obtained from various additional sources through documentation or written reports. The study population included all 150 pregnant women. After carrying out calculations using the Slovin formula, a research sample of 115 pregnant women was obtained through accidental sampling technique.

Data collection was carried out through distributing questionnaires online. The questionnaire distributed has been tested for validity and reliability through product moment testing. with the R table results with a significance of 0.5%, the validity value is between 322 - 705, which can be concluded that all knowledge questions are valid. The results of the reliability test of the knowledge questionnaire obtained 652 results which can be concluded that all questions on the knowledge questionnaire were declared reliable. In the validity test attitude questionnaire, the results were 353-835, which means that all attitude questions were declared valid. Meanwhile, in the reliability test, the results obtained were 754, this also states that the attitude questionnaire is reliable.

Data analysis used non-parametric methods with the Wilcoxon test because the normality test stated that it was not normal.

RESULTS

Table 1. 1. Characteristis responden

Characteristics	n	%
Education level		
Elementary school	3	2.6
Junior high school	3	2.6

Senior High School	91	79.1
Bachelor	18	15.7
Total	115	100
Age		
< 20 years	12	10.4
21-25 years	3	2.6
26- 30 years	34	29.6
31-35 years	66	57.4
Total	117	100

Based on table 1.1 regarding respondent characteristics, it was found that the majority had a high school education level of 79.1%, while the characteristics based on age were that the majority were 31-35 years old, as many as 57.4%.

Table 1.2. Pre – Post Treatment

	Pre treatment %	**Post- treatment %**
Knowledge		
High	37.4	10.4
Middle	51.3	35.7
Lower	11.3	53.9
Total		
Atitude		
High		
Middle	1.7	5.2
Lower	31.3	20.9
	67	73.9

Table 1.2 Pre Action Get Most have a medium level of knowledge of 51.3% and those who have less supportive attitudes of 67%. The data was tested first to determine the distribution before being analyzed. The normality test obtained normal distribution results so that data analysis used the Kolmogorov test because the number of samples> 50, which is stated normal if the significance value> 0.05. Based on the test results above, it was found that the Knowledge, Attitude data, both before and after were stated to be abnormal because the significance value <0.05.

DISCUSSION

The results of the research that has been carried out show that there is a significant use of the demonstration method on the knowledge and attitudes of pregnant women in detecting danger signs of pregnancy. Based on the theory explained by Bandura regarding social cognitive theory states that individuals can learn through observing and observing an object. In the learning process, changing behavior can be obtained from the process of imitation or modeling (Bandura, 1976). In the process of imitation, there is indirect reinforcement by using certain cognitive components, for example, the ability to remember and repeat activities taught. Observation activities provide a wider learning space and are free to obtain information that is not yet known. Apart from that, the observation process also requires attention and focus to be able to construct the observed picture, carry out analysis and make decisions. The use of demonstration methods in early detection of danger signs of pregnancy is appropriate as a learning process for pregnant women about early detection of danger signs in pregnancy (Haleema et al., 2019).

The demonstration method is characteristic of a learning process that requires learning aids as a medium for making observations (Wang & Ji, 2021). With the hope that pregnant women will gain real learning experience about the danger signs of pregnancy. Apart from that, demonstrations have the advantage of being able to show or demonstrate a skill for pregnant women in increasing their knowledge in detecting danger signs of pregnancy. Determining the method in learning is very important so that the learning process can run well. A good learning process is a learning process that uses many of the five senses as a means to observe in a focused manner and is easy to remember and easy to recall when memory of the learning material for detecting danger signs of pregnancy is needed (Karkee et al., 2013a).

The results of the research that has been carried out show that there is a significant use of the demonstration method on the knowledge and attitudes of pregnant women in detecting danger signs of pregnancy. Based on the theory explained by Bandura regarding social cognitive theory(Samdan et al., 2022), states that individuals can learn through observing and observing an object. In the learning process, changing behavior can be obtained from the process of imitation or modeling. In the process of imitation, there is indirect reinforcement by using certain cognitive components, for example, the ability to remember and repeat activities taught. Observation activities provide a wider learning space and are free to obtain information that is not yet known. Apart from that, the observation process also requires attention and focus to be able to construct the observed picture, carry out analysis and make decisions (Kian et al., 2022). Learning experience about the danger signs of pregnancy. Apart from that, demonstrations have the advantage of being able to show or demonstrate a skill for pregnant women in increasing their knowledge in detecting danger signs of pregnancy (Karkee et al., 2013b).

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CONCLUSION

The demonstration method provides experience to improve abilities and reduce errors in carrying out early detection of danger signs of pregnancy

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Based on the findings of the study, it is recommended that every pregnant woman can understand the danger signs of pregnancy as an anticipatory effort related to conditions that appear at any time that endanger the health of the mother and fetus

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Research Article

The Effect of Using Brain Exercises Videos on The Knowledge and Skills of Mothers to Improve The Soft Motoric of Stunting Toddler

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ABSTRACT

Stunting in children is the impact of nutrient deficiencies during the first thousand days of life. This causes irreversible problems with children's physical development, including an average Intelligence Quotient (IQ) score eleven points lower and Soft motoric skills that are lower than normal children. One intervention that can improve Soft motoric development is brain exercise or brain gym to help maximize the work of the right and left brain. The role of parents in handling stunting toddlers, stimulating the development of toddlers, depends on knowledge and experience. The aim of this research is to determine the effect of using brain exercise videos on the knowledge and skills of mothers of toddlers to improve the Soft motoric skills of stunted toddlers. The type of research used is quasi experiment. The research design used was one group pretest – posttest design. The research subjects were all mothers of stunted toddlers in Bedali Village, Ngancar District, Kediri Regency, totaling 50 respondents. The research results showed that there was an increase in the knowledge and attitudes of mothers of toddlers after being given video media. The knowledge of mothers of toddlers increased from 3.90 to 8.38, and the skills of mothers of toddlers increased from 11.71 to 20.63. The results of the Paired Sample T-Test show that there is a significant difference between the knowledge and skills of mothers of toddlers before and after being given video media. The p-value for knowledge is 0.000 and for skills is 0.000. It is hoped that the Health Service or Health Officers and Cadres can use brain exercise video media for the knowledge and skills of mothers of toddlers about improving the Soft motoric skills of stunted toddlers which can be directly understood and applied by the community.

Keywords: Brain Exercise, Knowledge, Skills, Soft Motoric, Stunting

INTRODUCTION

Stunting in children is the impact of nutrient deficiencies during the first thousand days of life. This causes irreversible disruption to the child's physical development, thereby causing a decrease in work performance. Stunted children have an average Intelligence Quotient (IQ) score eleven points lower than the average IQ score of normal children. If children do not receive early intervention, growth and development disorders due to malnutrition will continue into adulthood (Apriasih, 2020). Stunting has become an almost invisible tragedy. This stunting condition is the result of chronic malnutrition during the first 1000 days of life. The damage that occurs due to lack of nutrition can cause persistent child development and the child cannot

learn or get what he or she should be able to (Aurora, 2019). Currently, stunting in children in Indonesia has reached the 2nd highest rate in the Southeast Asia region. Meanwhile in the world it occupies the number 5 position. RISKESDAS data shows that the prevalence of stunting in toddlers in 2018 reached 30.8 percent. This means that one in three toddlers experiences short stature due to chronic malnutrition (Apriasih, 2020). Currently, stunting in children in Indonesia has reached the 2nd highest rate in the Southeast Asia region. Meanwhile in the world it occupies the number 5 position. RISKESDAS data shows that the prevalence of stunting in toddlers in 2018 reached 30.8 percent. This means that one in three toddlers experiences short stature due to chronic malnutrition (Apriasih, 2020).

Stunted children have lower soft motoric skills than children who are not stunted. Soft motoric skills are a child's ability to carry out movements that involve only certain parts of the body with the help of small muscles, coordination of the eyes, hands and fingers. One intervention that can improve soft motoric development is brain exercise or brain gym. This exercise can help maximize the work of the right and left brain so that it can help maximize brain function. Brain exercise or brain gym can stimulate enthusiasm for learning so that it can improve learning achievement (Paseno et al., 2020). The role of parents in handling stunting toddlers, stimulating the development of toddlers, depends on knowledge and experience. So there is a need for education so that it can influence or change parental behavior. When using audio-visual media, all senses, especially hearing and sight, are involved. The more knowledge you absorb, the more senses you use. Educational information is needed for fast and appropriate treatment. So that people are not only aware, know and understand but are also willing and able to carry out recommendations that are related to health (Meilani & Fitriana, 2023).

METHOD

The type of research used is quasi experiment. The research design used was one group pretest – posttest design. The research subjects were all mothers of stunted toddlers in Bedali Village, Ngancar District, Kediri Regency, totaling 50 respondents. The research was carried out April – July 2024 in Bedali Village, Ngancar District, Kediri Regency. The independent variable is the use of brain exercise video media, with an ordinal scale. The dependent variable is the knowledge and skills of mothers of toddlers regarding improving the soft motoric skills of stunted toddlers. The instruments used were questionnaires and observation sheets, with an ordinal scale. Analysis of the data obtained through the T-Test was then analyzed using SPSS for Windows version 22. The expected result is that there is an effect of using brain exercise videos on the knowledge and skills of mothers of toddlers to improve the soft motoric skills of stunted toddlers.

RESULTS

Results of Univariate Analysis of Knowledge and Skills of Mothers of Toddlers

Table 1. Frequency Distribution of Respondents Based on Knowledge and Skills

Variabel		**n**	**%**
Knowledge	Not Increasing	8	16
	Increasing	42	84
Skills	Not Increasing	11	22
	Increasing	39	78

Total	50	100

Table 1 above shows that 8 respondents' knowledge did not increase (15%) and 42 people's knowledge increased (84 respondents), while 11 respondents' skills did not increase (22%) and 39 respondents' skills increased. (78%).

Analysis of differences in knowledge and skills of mothers of toddlers before and after providing counseling using video media can be seen in the following table:

Tabel 2. Analisa Bivariat

Variabel	Pretest	Posttest	p Value	Information
	Average Score	Average Score		
Knowledge	3,90	8,38	0,000	Increasing
Skills	11,71	20,63	0,000	Increasing

Based on table 2 above, it shows that the p value is 0.000 < 0.05, which means that there is a difference before and after when giving material about brain exercise videos, so that giving brain exercise video media shows an increase and can have a positive effect on increasing the mother's knowledge and skills. toddlers to improve the soft motoric skills of stunting toddlers.

DISCUSSION

Video media is an example of audiovisual media that can convey messages with sound and image elements so that the target uses the senses of sight and hearing to receive the message (Damayanti, 2019). Knowledge was measured using a questionnaire given before and after counseling using brain exercise video media. Filling out the questionnaire aims to determine the initial condition of the respondent's knowledge. Meanwhile, filling out the questionnaire after being given counseling aims to determine the increase in the respondent's knowledge. Skills are measured using an observation sheet on skills before and after being given skills using brain exercise video media. Filling out the observation sheet aims to determine the initial condition of the respondent's skills. Meanwhile, filling out the observation sheet after being given counseling aims to determine the improvement in the respondent's skills.

The results of data processing that have been obtained using the paired sample test show that the p value is 0.000 < 0.05, therefore Ho is rejected. Ha is accepted, which means that there is a difference before and after when the method of providing brain exercise video media is given so that the brain exercise video media is This has a positive effect on increasing the knowledge and skills of mothers of toddlers with brain exercise video media to improve the soft motoric skills of stunted toddlers. The average value of knowledge and skills of mothers of toddlers before receiving intervention through brain exercise video media to improve soft motoric skills of stunted toddlers was 3.90 for the average value of knowledge and 11.71 for the average value of skills. Meanwhile, after being given intervention using brain exercise video media to improve the soft motoric skills of stunted toddlers, the average score of knowledge and skills of mothers of toddlers regarding stunting increased, namely the average knowledge score was 8.38 and the average attitude score was 20,63.

Growth and development in children is a continuous process that occurs from conception and continues until adulthood. In the process of reaching adulthood, children must go through stages of growth and development. Achieving optimal growth and development depends on a person's biological potential, which is the result of interactions between genetic factors and the

bio-physical-psychosocial environment (biological, physical and psychosocial). The unique process and different end results give each child its own characteristics. The process of growth and development in children requires stimulation. Children who receive a lot of stimulation will develop more quickly than children who receive little or no stimulation. Providing repeated and continuous stimulation to every aspect of a child's development means giving the child the opportunity to grow and develop optimally. A network of nerve fibers will form if there is mental activity that is active and enjoyable for the child. Every response to sight, sound, feeling, smell and taste will facilitate the connection between neurons (nerve centers). The more often the brain works, the more proficient and skilled it will be. The period from birth to 2 years of age is also a golden period which requires an important role from health cadres who work at Posyandu (Liyanovitasari et al., 2023).

Brain exercise video media is able to provide information that is related to knowledge. Mothers of toddlers who have high levels of information also have high levels of knowledge. Someone who is exposed to information about a particular topic will have more knowledge and skills than someone who is not exposed to information. This research is in line with research by Asriani (2023) which states that there is an influence on mother's knowledge after receiving counseling using video media about stunting, namely p value (0.000) < 0.05, and there is an influence on mother's attitude after receiving counseling using video media about stunting, namely the value p (0.000) < 0.05 and there is an influence of the mother's actions after receiving counseling using video media about stunting, namely p value (0.000) < 0.05 (Astriani, 2023).

Knowledge, attitudes and actions are stages of behavior change or behavior formation. Before a person adopts a behavior, he must first know what benefits it will bring to him. So to realize this knowledge, individuals are stimulated by health education. Once someone knows about it, the stimulus for the next process is assessing/acting on that stimulus. It can be concluded that providing education using media has a greater effect on the knowledge and skills of mothers of toddlers (Azarta et al., 2024). Audiovisual media can change the level of knowledge and skills of mothers of toddlers. Animated videos can be used as innovation in providing information to mothers of toddlers so that they can provide concrete steps in conveying health messages (Astriani, 2023).

CONCLUSION

This research shows that brain exercise video media is effective in increasing the knowledge and skills of mothers of toddlers regarding improving the soft motoric skills of stunted toddlers. This supports the proposed research hypothesis, namely that there is an influence of the use of brain exercise video media on the knowledge and skills of mothers of toddlers regarding improving the soft motoric skills of stunted toddlers.

It is recommended that brain exercise video media can be used as an educational medium to increase the knowledge and skills of mothers of toddlers regarding improving the soft motoric skills of stunted toddlers. Apart from that, further research needs to be carried out to test the effectiveness of brain exercise video media in increasing the knowledge and skills of mothers of toddlers regarding improving the soft motoric skills of stunted toddlers in the long term. And research needs to be carried out to develop other educational media that are more effective in

increasing the knowledge and skills of mothers of toddlers regarding improving the soft motoric skills of stunted toddlers.

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Research Article

Relationship Between Readiness of Darungan Village Health Cadres and Effort to Create a Healthy Village

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ABSTRACT
Background: In this modern era, efforts to create a healthy and productive society have become one of the main focuses in development in various regions throughout the world. One concept that is currently receiving attention is the concept of a Healthy Village. Healthy Villages is a holistic approach that aims to create an environment that supports the health and well-being of communities at the village level. One of the keys to the Healthy Village concept is active community participation. The closest group of people who have the potential to mobilize the community are village health cadres. Objectives: This research aims to determine the relathionship between readiness of Darungan village health cadres and effort to create a healthy village. Methods: This research was conducted using a cross sectional study approach. The total research sample was 40 respondents determined by purposive sampling consisting of cadres in Darungan Village. Data collection was carried out using a questionnaire that had been modified through previous validity and reliability tests regarding cadres readiness and effort to create a healthy village. Research data was analyzed using the Pearson correlation test. Results: The research results show that readiness of health cadres related to an effort to creating a healthy village with a significance value of 0.0001. Conclusion: By involving active participation and increasing the readiness of health cadres, it is hoped that the Healthy Village concept can be implemented in more areas throughout the country, thereby creating a healthy, prosperous and competitive society.

Keywords
Healthy village, Health cadres, Cadres readiness

INTRODUCTION

The Healthy Village concept involves various aspects of community life, such as physical health, nutrition, sanitation, education, economics and the environment. The aim is to create optimal conditions for village communities to achieve a healthy and productive life (Kalyanasundaram, Singh, & Singh, 2014). Law Number 6 of 2014 concerning Villages is a new chapter in the recognition and respect for Villages as the smallest government unit that takes the initiative. All village residents have the same life opportunities and nothing escapes the attention of the State in fulfilling basic needs, one of which is health through the realization of Health Care Villages (Rosidin, Eriyani, &

Sumarna, 2019). Ministry of Villages, Development of Disadvantaged Regions and Transmigration through Permendesa No. 21 of 2020 mandates sharpening the direction of development planning policies and refocusing the direction of development towards the Sustainable Development Goals (SDGs) agenda. The realization of Village SDGs contributed 74% to the achievement of National SDGs (Mardhiah & Fadhly, Zuhrizal, 2023).

Health Care Village is an effort by the government and village communities to placing health issues as one of the main directions and priorities in village development. The Health Care Village focuses on achievement efforts The 3rd SDGs goal, namely Healthy and Prosperous Villages (Pratiwi et al., 2012). Efforts to create a healthy village can be seen from improving maternal and child health through women's empowerment, characterized by lower maternal and infant mortality rates, improved reproductive health, improved nutritional status of the community, improved control of infectious diseases, improved performance of the health system and increased access to health services and increasingly public awareness of health literacy (Hill et al., 2022).

To achieve this goal, the government should ensure village residents' access to health services, as well as make promotional efforts for village residents to use them, because it cannot be denied that there are still many village residents who think that health problems can be solved with traditional medicine alone. (Astuty & Syarifuddin, 2019). There are differences in the use of health facilities between urban and rural communities, many factors can influence these conditions, including educational background, socio-economic background, ownership of health insurance, and ease of access (Wulandari & Laksono, 2019). The role of health cadres as the closest extension of health workers who are in the midst of society is very important in the current situation. Health cadres are a potential source for carrying out health promotion so that they can improve the health level of village communities (Ratno Susanto, Ari Nugrahani, Budijanto, Achmad Afandi, & Dany Miftahul Ula, 2023). A level of health areas can be measured by looking at the morbidity or morbidity rates where large numbers indicate a low level of health in that area. Based on data from Badan Pusat Statistik (BPS), there has been a downward trend in Indonesia's morbidity rate during the period 2015 to 2018, East Java Province is still in the top 10 positions with the highest morbidity (Lestari & Harsanti, 2022).

Villages are the smallest sector of state administrative governance, advancing villages means advancing state development (Wulandari & Laksono, 2019). Potential agents in the village can be empowered optimally so that village communities can change their understanding and healthy living behavior in the midst of the issue of widespread non-communicable diseases which often occur due to unhealthy lifestyles ranging from sweet foods, lack of activity, consumption of fast food, coffee culture. and staying up late can certainly change people's healthy lifestyles (Bugajski, Frazier, Moser, Chung, & Lennie, 2019). Potential agents, namely village health cadres, need to be prepared carefully so that they can then help prepare the community to collaborate with the government in efforts to create a healthy village. Cadre readiness includes cognitive readiness, emotional attitudes and readiness for daily habitual behavior (Willis-Shattuck et al., 2008). Cadres who have readiness in these three aspects are then also expected to have readiness to carry out efforts to develop healthy villages by being ready to

collaborate and coordinate with the government at the village level, ready to receive education through women's empowerment programs, as well as increasing health literacy so that they can carry out these promotive and preventive effort.

METHOD

This research uses a correlational descriptive design with a cross sectional approach. In this study the independent and dependent variables were assessed simultaneously at one time. The population in this study were health cadres from Darungan Village, Kediri Regency with inclusion criteria 1) being permanent residents in terms of KK; 2) have a decision letter as a health cadre issued by the local Community Health Center. Based on the specified inclusion criteria, a research sample of 40 people was obtained using total sampling techniques. Research data was collected using a questionnaire regarding cadre readiness, consisting of 20 questions, including those related to cadre readiness in health literacy, cadre readiness as facilitators, cadre readiness to implement government programs to improve village health and cadre readiness in collaborating with health workers. The questionnaire regarding healthy villages consists of 20 questions about community organization and consultation about health, women's empowerment and development, disease, education and literacy . Both questionnaires have been tested for validity and reliability and were declared valid and reliable with a reliability value of 0.768 for the cadre readiness questionnaire and 0.743 for the healthy village questionnaire, which means they are reliable as data collection tools. Data collection to cadres begins with the researcher explaining the purpose of the research and filling out informed consent. Demographic data consists of age, educational history, length of time as a cadre, cadre readiness and healthy village. The research data was then analyzed using the Pearson correlation test with a significance level of $p<0.05$. This research has been approved by the ethics committee of the STIKES Karya Husada Kediri Research and Community Service Institute No. 0107/EC/LPPM/STIKES/KH/III/2024.

RESULTS

The research results show that there is a relationship between the readiness of health cadres and efforts to create a healthy village in Darungan Village, Kediri Regency. Obtained demographic data on the characters of the research subjects are presented in table 1:

Tabel 1. Research Subject Characteristics Data

Characteristics	n	%
Education		
Elementary School	1	2,5
Junior High School	4	10
Senior High School	25	62,5
University	10	25
Long time as a cadre		
1-2 Years	4	10
3-5 Years	9	22,5
>5 Years	27	67,5
Main Job		
Entrepreneur	7	17,5

Characteristics	n	%
Employee	12	30
House wife	21	52,5
Age		
20-30 Years old	10	25
30-40 Years old	21	52,5
40-50 Years old	9	22,5

There are 4 indicators of research subject characteristics, namely the participant's highest level of education, length of time as a cadre, main job other than being a cadre and age. The final educational character, High School (SMA) level was the characteristic with the largest number of participants, namely 25 participants or 62.5%, followed by College graduates with 10 people (25%), Junior High School 4 people (10%) and 1 elementary school graduate (2.5%). Judging from the length of time they have been cadres, 27 people (67.5%) were recorded as having been cadres for more than 5 years, 9 people (22.5%) for 3-5 years and 4 people who had only been cadres for 1-2 years. (10%). Most of the cadres are housewives, namely 52.5% or 21 people with the largest age range being 30-40 years, 21 people. The tabulation results of the cadres readiness variable are presented in table 2:

Tabel 2. Tabulation of health cadres readiness

Indicator	N	%
cognitive readiness		
ready	16	40
not ready yet	24	60
emotive attitudinal readiness		
ready	21	52.5
not ready yet	19	47.5
behavioral readiness		
ready	11	27.5
not ready yet	29	72.5

Cadre readiness with cognitive readiness indicators showed that 24 people (60%) said they were not ready. Emotional readiness showed that 21 people (52.5%) were ready, in line with behavioral readiness showed that 29 people (72.5%) were not ready. Tabulation of healthy village variable are presented in table 3:

Tabel 3. Tabulation of healthy village variables

Characteristics	N	%
Community organization and consultation about health		
effective	23	57,5
less effective	14	35
ineffective	3	7,5
women's empowerment and development		
effective	27	67,5
less effective	13	32,5
ineffective	0	0
disease		
low	17	42,5

Characteristics	N	%
currently	18	45
High	5	12,5
education and literacy		
Often	20	50
sometimes	12	30
rarely	8	20

Hypothesis testing between variables uses pearson correlation with a p value of $p<0.05$. The results of the hypothesis test are presented in table 4:

Table 4. Research Hypothesis Test Results

		Cadres Readiness	Healthy Village
Cadres readiness	Pearson correlation	1	.714”
	Sig.(2-tailed)		.0001
	N	40	40
Healthy Village	Pearson correlation	.714**	1
	Sig.(2-tailed)	.0001	
	N	40	40

Based on the output of the hypothesis test results, a significance value or Sig is obtained. (2-tailed) is 0.0001 which is smaller than 0.05, so it can be interpreted that there is a significant relationship between cadre readiness and the realization of a healthy village. The level of strength or closeness of the relationship between variables, from the output above, a coefficient figure of 0.714'' is obtained. This means that the level of strength of the relationship between the cadre readiness variable and a healthy village is 0.714 or 71% interconnected. Meanwhile, according to the direction of the relationship between variables, the correlation coefficient figure based on the output above is positive, namely 0.714, so the relationship between the two variables is in the same direction. Thus, it can be interpreted that increasing cadre readiness will be followed by an increase in the realization of a healthy village.

DISCUSSION

The results of the tabulation of research data regarding the character of the research subjects, namely cadres, showed that the age of the majority of cadres was in the range of 30 - 40 years and most had a high school educational background. Age can influence a person's mindset and maturity. As one ages, one's experience in dealing with problems in life increases, so one hopes that one's response to conflict will become wiser. The task of being a cadre means that a person often interacts with various types of people with various problems. Mature age will make the cadre more capable of taking a stand (Mosadeghrad & Ferdosi, 2013). The cadre's educational background is also related to the cadre's ability to internalize the information received (Shagholi, Zabihi, Atefi, & Moayedi, 2011). Cadres who have graduates from higher levels of education will certainly influence the pattern of receiving knowledge and information, this is related to the cognitive aspect, according to the results of previous research a person's cognitive level can be influenced by age, education and type of work. A good level of education can improve a person's

cognitive abilities in learning and doing things, including the ability to recognize health problems and prevent and treat them (Gong et al., 2019).

Research findings show that the cadres have carried out their duties for more than 5 years and the majority are housewives. Housewives have flexible enough time to divide their roles as cadres and take care of their families at home. The longer a cadre's work period, the more experience they have so that it can be used as a basis for acting or making decisions (Selviana, Sari, Fadhila, & Ramadhan, 2023). On the other hand, novice cadres do not have much experience and are unfamiliar and hesitant, this condition can hinder their participation in an activity. Housewives whose activities are mostly spent in the home environment certainly have more time to interact with the community so that cadres with a background as housewives are the most common cadre characteristics. One of the reasons for the long working period of cadres is the difficulty of cadre formation (Ns. Ernawati, Prof. Dr. Nursalam, Dr. Shrimarti Rukmini Devy, & Ns. Arief Yanto, 2021). Health cadres are a social project that is not assessed by a fixed wage or salary, while in the modern era like now many women choose careers outside the home so they have very little time to play a role in the development of the surrounding environment.

Research findings show that the three indicators of readiness, namely knowledge and behavior readiness, generally state that they are not ready. Knowledge readiness includes the extent to which cadres know the goals and strategies for creating a healthy village, general knowledge of healthy living behavior carried out daily as a promotive, preventive effort for healthy living as well as knowledge of the duties and roles of cadres in mobilizing the community through these habits (Hall, Ozemek, Argüelles, Shaw, & Davis, 2022). Emotional attitude indicators show the mental emotional readiness and hope of cadres to participate in creating a healthy village (Kalyanasundaram et al., 2014).

The characteristics of healthy villages in the research location show that aspects of governance organization and easy access for cadres to initiate discussions or consultations with stakeholders regarding health issues are considered to have been effective in the village. This effectiveness is followed by effective empowerment and development of women in supporting the success of programs that promote the maintenance and improvement of village health (Tabrizi & Bazargani, Homayoun, 2020). Education and literacy indicators were also considered effective by respondents, this shows that the village has adequately facilitated cadres to increase knowledge about health (Rosidin et al., 2019). The indicator of a healthy village that was found to still be in the sufficient category was the disease incidence rate.

The research results show that there is a significant relationship between cadre readiness and creating a healthy village. The more cadres feel they are ready, in terms of cognitive, emotional attitudes and daily habits, the more a healthy village can be realized. Cadres are the most potential agents of change in the health sector in society (Saraswati & Lubis, 2020). Village health cadres play a role in collecting target data, calling targets, village or sub-district level coordination meetings, holding 5-table posyandu and posyandu meetings (Selviana et al., 2023). Cadres also take part in providing health information and providing examples of daily clean and healthy living behavior (Dewi, Handayani, & Junita, 2022).The performance achievements of village health cadres certainly have a big influence on the achievements of a healthy village. Increasing the capacity and readiness of cadres needs to be considered by stakeholders, both community

health centers under the health service and village officials. The readiness of health cadres can be influenced by several things, including individual, organizational and psychological aspects.

Cadres' cognitive readiness is included in individual cadre factors that are closely related to creating a healthy village. The existence of cadres is a concrete manifestation of community empowerment efforts in realizing village health. It cannot be denied that the existence of cadres consisting of women is the main driver of community activities. The role of women in all aspects of development can be felt but is often underestimated, for this reason women as citizens and individuals have the same rights and opportunities to receive education and increase their knowledge (Sulaeman et al., 2012). Village governments need to carefully plan training programs and increase the capacity of women as health cadres so that they have more knowledge and ability to provide health education to the community according to their capacity and are more confident in sharing information with the community (Tabrizi & Bazargani, Homayoun, 2020). The quality of healthy village development governance is determined by the quality of village community participation, including women's empowerment and development.

Villages are the foundation of progress and equitable development in Indonesia. Building villages means developing Indonesia. Apart from cadre readiness, organization and participatory communication models between the community and the village government need to be well coordinated (Zhao et al., 2023). This is intended to create synchronization of the goals and strategic plans that the government wants to achieve by empowering the community through cadres as the driving force closest to the community in creating a healthy village (Taejarernwiriyakul, Keatrungarun, Yuenton, Jantosee, & Sommatas, 2022). Government policies and strategies need to be socialized well so that implementers at the basic level have knowledge, understanding and change behavior to become caring so as to push towards healthy village development. Data and information about the facts of health conditions in the village are the key to planning and success in realizing a healthy village (Bai et al., 2022). This data will be very appropriate if used to identify and solve problems that occur in collaboration across sectors, cadres and community participation.

Rapid population growth has not been balanced with equitable development of facilities, rural areas which have limited resources cannot provide the necessary services (Milankov & Blizanac, Miodrag, 2019). In this situation, the healthy village concept provides an opportunity to maximize existing resources until the government is able to overcome the problem of equal distribution of welfare. This condition is exacerbated by the large population of the village which is mostly inhabited by the elderly because young people choose careers in the city (Hall et al., 2022). This phenomenon adds to the findings of morbidity in villages because many diseases with degenerative factors will emerge and the village's task is to create an environment that is friendly to the elderly.

The follow-up to efforts to develop healthy villages is preventive promotive activities through increasing community education and literacy and all these efforts must be data-based. Health promotion initiatives are activating, advocating and mediating. Healthy village project, with regard to some concepts such as hygiene training, environmental health and extension are helping the rural communities, practically (Kalyanasundaram et al., 2014). Health behavior has a positive relationship with health

promotion, if someone behaves healthily then the effectiveness of health promotion will increase (Bai et al., 2022). The behavior that appears is not only due to needs but also related to satisfaction. If needs are met then satisfaction will be met and the expectation of healthy behavior will increase even more.

A village is said to be healthy if the number of infectious diseases is low, access to health services is easy, people have clean and healthy living habits or in situations where their behavior does not endanger health (De Rosis & Barsanti, 2016). According to WHO, good health is not the absolute absence of disease, but is a social and emotional reflection of society's response to disease and efforts to anticipate disease when it appears (Tabrizi & Bazargani, Homayoun, 2020). The healthy village project is holistic, covering biology, psychology, social and economics.

CONCLUSION

Healthy villages are expected to become a stepping stone for village leaders and village residents in efforts to improve the health status of the community and build a superior generation in the future. The ability of village leaders and village residents to work together in building a healthy village is strengthened by increasing learning about health development. The easiest learning process is to imitate and apply various best practices of Village SDGs and optimize health cadres as community mobilization agents. Village health cadres need to improve cognitive readiness, emotional attitudes and readiness for healthy behavior. Village development aims to improve the welfare of village communities and the quality of human life as well as overcoming poverty through fulfilling basic needs, developing village facilities and infrastructure, developing local economic potential, and using natural resources and the environment in a sustainable manner.

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Research Article

The Effect of Social Skill Training (SST) Therapy on Social Skills Abilities in Mental Disorders

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ABSTRACT

Background: The impaired social skills occur because individuals do not present positive things such as being indifferent and permissive which makes the absence of communication so that the individual becomes an introverted person and chooses to spend his time by locking himself up. If this is not addressed immediately, it will make it more difficult for people with mental disorders to recover.

Objectives: The study aims is to improve the interpersonal skills of patients by practicing social skills that are carried out every day with other people.

Methods: This study used pre-experimental design with a one group pre-test posttest design approach. The population in this study were patients with mental disorders who had impaired social skills. The total sample size was 35 respondents obtained by total sampling. This research data was taken using a questionnaire. The data were analyzed using the Wilcoxon test with a significance level of P 0.05. The results showed that before being given therapy, 18 patients (52%) had very poor skills. After being given therapy, 12 patients (34%) had good skills.

Result: Based on the results above, the p significance was 0.000, meaning that there was an effect of social skill training therapy on the ability of social skills in patients with mental disorders.

Conclusion: In conclusion, there is an increase in social skills in people with mental disorders. Through this therapy, people with mental disorders can easily interact with people around them.

Keywords

Social skill training therapy, mental disorders .

INTRODUCTION

Mental health, according to the World Health Organization (WHO), is when an individual feels healthy and happy, is able to face life's challenges, can accept others as they are, and has a positive attitude towards themselves and others. Mental health is a condition where an individual can develop physically, mentally, spiritually, and socially, thereby recognizing their own abilities, coping with stress, working productively, and contributing to their community. Developmental conditions that do not align in an individual are referred to as mental disorders (Law No.18 of 2014).

Mental disorders can occur due to past traumatic experiences and genetic factors. Traumatic experiences encountered by patients can lead to mental health issues such as stress and depression (Harkoma, 2022). Generally, patients with mental disorders exhibit social behaviors by withdrawing from their environment and being passive in daily activities. This is because people with mental disorders (PMD) have already lost their identity and experience role and function failures in interacting with society. This failure makes it difficult for individuals with disorders to build and maintain social relationships (Harkoma, 2022). Damaged social relationships involve avoiding communication with others due to a sense of lost close relationships and a lack of opportunities to share feelings, thoughts, and failures. A common mental health issue found in people with mental disorders is a lack of social skills (Afrikhah, 2018).

The prevalence of mental disorders worldwide includes 264 million people experiencing depression and 20 million people with severe mental disorders (WHO, 2020). The prevalence of emotional mental disorders, indicated by symptoms of depression and anxiety in individuals aged 15 years and older, is approximately 6.1% of Indonesia's population. Meanwhile, the prevalence of severe mental disorders reaches around 400,000 people or about 1.7 per 1,000 residents (Ministry of Health RI, 2018). East Java is ranked 19th among Indonesian provinces for severe mental disorders, while emotional mental disorders with depression in East Java rank 19th, reaching 6.4% (Ministry of Health RI, 2018). Lamongan Regency, one of the regencies in East Java, covers an area of 1,812.80 square kilometers with a population of 1,200,500. According to the Department of Health's 2018 data, the pasung (shackling) rate in Lamongan Regency is 0%, but the number of people with mental disorders increased by 10.6% to 3,010 individuals (Department of Health,2018).

The problems often faced by individuals with mental disorders include a lack of social skills, which result from biological, environmental, and social factors. Biological factors include brain chemistry, chronic illness, and genetic or hereditary factors. Environmental factors contributing to poor social skills include overly permissive parenting that prevents individuals from learning stress coping mechanisms, and a decline in roles and functions within society. Social factors causing social skill deficiencies include a tendency to isolate oneself, appearing gloomy, avoiding eye contact, speaking little, lacking special attention, and being unable to express agreement or refusal or share stories with others (Rahayu, 2022). These social skill deficits occur because individuals do not engage

positively, leading to a lack of communication and making them closed off, spending more time in isolation. Social skill issues typically manifest as closed personalities, passive behavior, and dependence on others for motivation and attention, which can be distressing. Without intervention, these issues will worsen, making recovery from mental disorders more difficult (Lestari, 2020).

One non-pharmacological intervention to enhance social skills in individuals with mental disorders is Social Skill Training (SST) therapy. SST helps improve and develop social skills such as the ability to interact and communicate effectively both verbally and nonverbally, and the ability to form good relationships with others, aligning behavior with social expectations. This training aims to teach individuals to interact with those around them in both formal and informal relationships (Suwarni, 2020). Social Skill Training therapy is a form of nursing therapy provided to clients with social isolation. Previous studies have shown by Renidayati (2014) on the effects of SST on clients with social isolation showed that cognitive and behavioral abilities were higher in the group that participated in SST compared to the group that did not. The Peplau and Henderson theoretical approaches can assist nurses in interacting with socially isolated patients. Another study by Yadav (2015) stated that this therapy could improve speaking skills, assertiveness skills, and the ability to meet daily needs.

Based on the background, the author is interested in conducting research to determine whether there is an effect of social skill training (SST) therapy on social skills abilities in individuals with mental disorders at the Berkas Bersinar Abadi Foundation in Nguwok Village.

METHOD

This research was conducted at the Berkas Bersinar Abadi Foundation in Nguwok Village, Lamongan Regency, from March to April 2024. This study use quantitative research with a preexperimental design using a onegroup pre-test post-test design approach. This method reveals causal relationships by involving one group of subjects who are observed before the intervention and then observed again after the intervention. The population of this study consists of all patients with mental disorders (ODGJ) at the Berkas Bersinar Abadi Foundation in Nguwok Village. Sampling was done using total sampling technique with inclusion criteria including patients who rarely or never communicate, refuse relationships with others, and appear sad. The sample size was 35 patients who experience social skills impairments at the Berkas Bersinar Abadi Foundation in Nguwok Village. Data collection tools used in this study include Standard Operating Procedures(SOP) and a questionnaire. SOP is used for Social Skill Training (SST) to enhance social skills abilities in individuals with mental disorders, while the questionnaire is used to measure pretest and post-test Social Skills Abilities in patients with mental disorders. Data analysis methods include univariate analysis to determine frequency distributions and bivariate analysis using the Wilcoxon test to assess the effect of Social Skill Training (SST) therapy on social skills abilities in individuals with mental disorders.

RESULTS

Table 1. Characteristics of Respondents with Mental Disorders in Nguwok Village

Characteristics	Frequency	%
Age		
17-30 years old	18	51.4
31-40 years old	40	28.6
41-50 years old	4	11.4
50> years old	3	8.6
Gender		
Man	20	57.2
Woman	15	42.8
Education		
Elementary School	4	11.4
Junior High School	8	23
Senior High School	19	54.2
Bachelor	4	11.4
Woking Status		
Doesnot work	12	34.3
Self employed	13	37.1
Farmer	6	17.1
Other Job	4	11.5

Based on Table 1 shows that the respondents with mental disorders, most of the patients were aged 17-30 years, with total 18 patients (51.4%) and a small number of patients were aged >50 years, total 3 patients (8.6%). The Intervention group, most were male, 20 patients (57.2%) and a small number were female, 15 patients (42.8%). In terms of education, most of the patients were at the high school/equivalent education level, 19 patients (54.2%) and a small number of patients were at the elementary school education level, 4 patients (11.4%) and bachelor program, 4 patients (11.4%). In terms of type of work, most of the jobs were self-employed, namely 13 patients (37.1%) and a small number 4 patients (11.5%) chose others.

Table 2. Identification of the Level of Social Skills Ability Before and after Social Skill Training (SST) Therapy to patients with mental disorders (n=35)

Level of social skills ability	Pre Test		Pre Test	
	F	%	F	%
Very less	7	20	2	7
Not enough	18	52	4	1
Enough	5	14	11	31
Good	5	14	12	34
Very good	0	0	6	17
Total	35	100	35	100

Table 2 shows that of the 35 mental disorder patients before being given SST therapy, most were in the category of lacking in social skills, namely 18 patients (52%). And a small portion was in the category of sufficient and good in social skills, namely 5 patients (14%).

After receiving social skill training therapy, nearly half of the 35 psychiatric patients demonstrated good social skills, specifically 12 patients (34%), while a small portion exhibited very poor skills, specifically 2 patients (7%).

Table 3. Identification of the Effects of Social Skills Training on Psychiatric Patients.

	N	Mean	Min- Max	*P Value*
Pre Test	35	52.57	30-70	*0.000*
Post Test	35	80.06	60-95	

Table 3 shows that before Social Skills Training therapy, 18 patients had moderate social skills. After the therapy, 18 patients with moderate social skills changed to a majority of 18 patients (51.4%) with good social skills and 14 patients (40.0%) with very good social skills. From this data, it can be concluded that there is a difference before and after Social Skills Training (SST) therapy. The analysis results using the Wilcoxon signed-rank test with SPSS 26.0 for Windows yielded a significant value of P=0.000, standardized as significant at $p<0.005$, indicating that Social Skills Training therapy has a positive effect on improving the social skills of psychiatric patients at the Berkas Bersinar Abadi Foundation in Nguwok Village. Modo District, Lamongan Regency.

DISCUSSION

Social Skills Training is a specialized intervention designed to enhance skills in individuals with depression, mental disorders, behavioral issues, interaction difficulties, communication disorders, and anxiety. This therapy trains individuals who lack social interaction by enhancing relevant skills focused on thought processes, thus improving cognitive functions and interpersonal abilities to restore verbal and non-verbal communication skills. Moreover, this therapy helps improve interactions with others by observing, imitating behaviors, and practicing them in daily life (Prawitasari, 2022).

Social skill training can be administered individually or in groups, guiding individuals without pressure while sharing experiences during group discussions (Perezaranda et al., 2021). Various activities can be used to strengthen individuals under pressure, such as expressing thoughts and feelings to help individuals gain a better understanding of situations, explore various alternatives, and boost resilience and self-esteem. Individuals are encouraged to achieve their hopes and are assisted in making decisions and adapting to environments or situations that may be disappointing or unexpected. SST can be provided for short or long durations, with the number of therapy sessions needed depending on the severity of the issues (Mutiara, 2020).

Research by Renidayati (2014) indicates that Social Skills Training (SST) therapy administered four times a month has a positive impact on the social skills of individuals with mental disorders who lack social skills. Research by Rahmawati (2020) demonstrates that SST can train individuals to communicate their feelings and desires, thus enabling them to achieve goals and fulfill necessary roles for independent living. This training has also proven effective as a strategy to assist individuals with mental disorders

in coping with various stressors in interpersonal relationships (Yuswatiningsih & Rahmawati, 2020).

Social Skills Training focuses on developing abilities in interpersonal relationships, symptom management, and problem-solving skills. The principles of behavioral and social training involve developing skills such as independently managing emerging symptoms, coping with life stress, maintaining personal hygiene, resolving interpersonal issues, and enhancing communication skills (Maharani & Damayanti, 2017). This therapy can enhance an individual's ability to communicate and interact with others in socially acceptable and valued social contexts.

Social skill training has been widely developed and applied to address various social issues, such as social skill deficits, solitary personality traits, appearing gloomy, lack of eye contact, minimal speech, lack of special attention, and inability to express agreement or disagreement or share stories with others. As a form of psychotherapy, SST has proven effective in improving patients' ability to interact socially. This therapy aims to reduce patient anxiety levels, increase selfcontrol, enhance group activity participation, and improve social skills (Mutiara, 2020).

It can be concluded that Social Skills Training (SST) is an effective non-pharmacological therapy for improving social skills in psychiatric patients. This social skills therapy also enhances communication abilities in patients with mental disorders. Another study by Sukaesti (2019) indicates that this therapy can reduce symptoms and improve communication skills in both patients and their families.

CONCLUSION

Patients before with Social Skills Training SST, most individuals with mental disorders at the Berkas Bersinar Abadi Foundation in Nguwok Village, Modo District, Lamongan Regency, had poor social skills before receiving Social Skills Training (SST) therapy. And patients After receiving Social Skills Training SST most individuals with mental disorders at the Berkas Bersinar Abadi Foundation in Nguwok Village, Modo District, Lamongan Regency, demonstrated good social skills. There is an effect of Social Skills Training SST therapy on the social skills of individuals with mental disorders at the Berkas Bersinar Abadi Foundation in Nguwok Village, Modo District, Lamongan Regency.

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Research Article

Overview of The Use of Online Queue Applications for Patients in The Polyclinic Room at Islamic Hospital Lamongan

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ABSTRACT

Background: The use of the BPJS online queue application is currently spreading to the world of health and is very much needed by patients in terms of registering for health services. Objectives: In using the application it is not difficult to use it so that patients can register without having to go to the hospital to avoid queue buildup. **Objectives:** The purpose of this study was to identify the use of the BPJS online queue application in patients. **Method:** The research methodology used in the study was quantitative analytical descriptive. The research sample was all respondents who were controlled in the polyclinic room of the Nashrul Ummah Islamic Hospital, Lamongan Regency, which were taken using the Consecutive Sampling technique. This study was tested using a questionnaire sheet on the use of the BPJS online queue application that had been validated with SPSS. **Results:** All indicators showed a good category and one indicator was in the moderate category. The mean value for all indicators showed good results in patient perceptions of the use of the BPJS online queue application. The use of the BPJS online queue application by patients was categorized as good with a percentage of 100% of the total 31 respondents. **Conclusion:** The BPJS online queue application is categorized as good, as can be seen from the results of the study with 9 indicators in the good category and 1 indicator in the moderate category.

Keywords

BPJS Patient. Online Queue Application,

INTRODUCTION

The use of the online BPJS (Badan Penyelenggara Jaminan Sosial) or (Social Security Administrator) queue application is currently very much needed by nurses and patients in terms of health services. BPJS Health is the body that administers the social security program in the health sector which consists of five programs in the National Social Security System (SJSN), namely health insurance, work accident insurance, old age insurance, pension insurance and death insurance as stated in Law Number 40 of 2004 concerning the National Social Security System. BPJS Health is currently a government program within the scope of the National Health Insurance (JKN) unit which was

inaugurated on December 31 2013. BPJS Health itself has been operational since January 1 2014 (Permatasari et al., 2021).

The increasing number of users and the length of time they use JKN and the problems often faced by users of the National Health Insurance-Indonesia Healthy Card (JKN-KIS) include long queues for registration and other health services. This encouraged BPJS Health to create a new innovation, namely creating a JKN mobile application. The hope is that this application can help improve BPJS Health services. The JKN mobile application was first launched in November 2017, and underwent several changes. The JKN mobile application was initially created for administrative activities carried out in health facilities, but has been improved several times (Nurmalasari, Anggita Temesvari, et al., 2020).

According to WHO, the use of a queuing system based on the BPJS application can currently increase the effectiveness of health insurance services, especially in terms of the accuracy of program targets, program socialization, program objectives and program monitoring. However, researchers show that user satisfaction, user participation, user needs, and application maintenance are not fully effective in the Mobile JKN application. Therefore, it is necessary to improve services, socialize, maintain applications, and optimize available features (Nurmalasari et al, 2020).

This problem is that as advances in the fields of science and technology progress increasingly rapidly, BPJS Online service providers will continue to create innovations in providing services to the community. In responding to these developments, even though BPJS has launched the JKN mobile application, not all JKN participants have received it. Since its launch in 2017, the JKN mobile application has not been well distributed to the public about the importance of using the BPJS online queue application as a service medium (Suhadi, 2022).

METHOD

The research methodology this used quantitative design with analytical descriptive approch. In this study, the sample that will be used is all patients in the poly room at the Islamic Nashrul Ummah Hospital, Lamongan Regency in March 2024. The sampling technique used in this research is Consecutive Sampling, namely where all subjects who meet the inclusion and exclusion criteria are selected until the number is appropriate. with a predetermined sample size within a certain time period. The number of respondents in this study was 31 respondents. The inclusion criteria in this study were patient families who used the JKN Mobile online application in all clinic rooms and were willing to become respondents by signing informed consent when the research was carried out. The exclusion criteria in this study were the families of patients who used the JKN Mobile online application in all clinic rooms and were not willing to be respondents and refused to sign the informed consent form. The variables in this research use one variable, namely the Independent variable. Data processing uses editing, coding, scoring, and tabulating. Data analysis using mean, median, mode.

Data collection was carried out after obtaining permission from the hospital. After that, the researcher conducted research on respondents in all poly rooms and the

researcher gave them a questionnaire sheet and pen. After the respondent filled in the sheet, the researcher asked for permission to document the activities after that, the researcher went straight to the next respondent.

RESULTS

Table 1. Distribution of Use of the Online BPJS Queue Application Among Patients in the Poly Room of the Islamic Nashrul Ummah Hospital Lamongan Regency

Indicator	f	Percentage
Convenience		
Not agree	0	0%
Agree	14	45.2%
Very much agree	17	54.8%
Constraint		
Not agree	8	25.8%
Agree	10	32.3%
Very much agree	13	41.9%
Quality		
Not agree	0	0%
Agree	12	38.7%
Very much agree	19	61.3%
Security		
Not agree	1	3.2%
Agree	14	45.2%
Very much agree	16	51.6%
Cost		
Not agree	0	0%
Agree	10	32.3%
Very much agree	21	67.7%
Speed		
Not agree	0	0%
Agree	14	45.2%
Very much agree	17	54.8%
Excess		
Not agree	1	3.2%
Agree	19	61.3%
Very much agree	11	35.5%
Lack		
Not agree	18	58.1%
Agree	7	22.6%
Very much agree	6	19.4%
Understanding		
Not agree	2	6.5%
Agree	11	35.5%
Very much agree	18	58.1%

The convenience indicator stated that the majority of respondents' answers stated that they strongly agreed (54.8%) or 17 respondents' answers, and a small portion of respondents' answers stated that they agreed (45.2%) or 14 respondents' answers. Regarding the obstacle indicator, it was stated that the majority (41.9%) or 13 answers from respondents who answered strongly agreed, and a small portion (25.8%) or 8 answers disagreed. On the quality indicators, the majority (61.3%) or 19 respondents answered strongly agreed, and a small portion (38.7%) or 12 respondents answered agreed. Regarding security indicators, the majority (51.6%) or 16 respondents' answers stated that they strongly agreed, and a small portion (45.2%) or 14 respondents' answers stated that they agreed. Regarding cost indicators, the majority (67.7%) or 21 respondents answered strongly agree, and a small portion (32.3) or 10 respondents answered agree. On the stated speed indicator, the majority (54.8%) or 17 respondents' answers chose strongly agree, and a small portion (45.2%) or 14 respondents' answers chose agree. On the stated advantage indicator, the majority (61.3%) or 19 respondents chose the answer agree, and a small portion (3.2%) or 1 respondent chose the answer disagree. Regarding the deficiency indicators, the majority (58.1%) or 18 respondents answered that they did not agree, and a small portion (19.4%) or 6 respondents answered that they strongly agreed. Regarding the understanding indicator, the majority (58.1%) or 18 respondents said they strongly agreed, and a small part (6.5%) or 2 respondents said they disagreed.

DISCUSSION

The results of research that has been carried out on all respondents, regarding the description of the use of the online BPJS queue application for patients in the Poly Room at the Nashrul Ummah Islamic Hospital, Lamongan Regency, the data listed in table 4.5.1 - 4.5.9 of this data shows good results where the results are obtained through a questionnaire sheet containing 9 indicators regarding the use of the online BPJS queue application, namely 1) convenience, 2) obstacles, 3) quality, 4) security, 5) cost, 6) speed, 7) advantages, 8) disadvantages , 9) understanding, the existing questionnaire was then given and filled in by visitors and patients in all poly rooms at the Nashrul Ummah Islamic Hospital, Lamongan Regency.

In the convenience indicator, the ease of using the online BPJS queue application, most outpatient visitors said they agreed because using the online BPJS queue application can make it easier for patients to register. These results mean that overall visitors and patients find easy access in terms of online registration to obtain health services at the hospital. These findings indicate that the satisfaction factor is met by patients regarding the ease of implementing the system. Convenience itself can be interpreted as convenience, meaning that it is relatively easy, comfortable and efficient to obtain a product or service (Rohman et al., 2022).

Data that shows indicators of obstacles, the results obtained regarding the obstacles faced by visitors and patients whether they can be resolved independently by the user without the user making a report or complaint regarding system problems, the majority of visitors said that they answered strongly agree, and a small number of visitors

answered don't agree. These results can be interpreted that when visitors or patients encounter problems in the registration system they can solve them independently, but a small number of them cannot solve the problems that arise independently. In this case, it is also based on the factors of who uses and how the application is used. This is motivated by the age of the user and the level of knowledge possessed, in this case the researcher refers to the educational strata of users of the online BPJS registration application at the Nashrul Ummah Islamic Hospital, Lamongan Regency, based on the information in the demographic table and user characteristics of the application, it was found that some Most of the users are aged 41-50 years and a small percentage of application users are at the high school education level (Sholiha et al., 2019).

In terms of quality indicators, positive results can also be seen in this indicator, namely, which contains respondents' answers regarding the improvement in service quality after the implementation of the online BPJS queue application at the Nashrul Ummah Islamic Hospital, stating that the majority of visitors' answers regarding quality indicators were strongly agreed, and a small percentage is agree. With these results, the researcher believes that this proves that using the online BPJS queue application can improve the quality of health services in hospitals. These results are in line with research (Novianti & Gunawan, 2023), which states that the quality of services in hospitals can be seen from the use of media or supporting devices in the service, so that excellent service quality can be achieved based on the average satisfaction index of visitors or patients at the hospital.

In the security indicator, stating that the security of personal data and privacy of visitors or patients during online registration, it was found that the majority of respondents' answers were strongly agree and a small number of respondents' answers were disagree. These results prove that patients feel that personal data registered via the online BPJS queue application is safer and the patient's privacy is guaranteed. Data security and privacy protection for clients are included in the rights that patients must obtain during the treatment process, this is regulated in the Law on Hospitals, Article 32 of Law Number 44 of 2009, according to (Simamora, 2022).

In cost indicator that shows the amount of costs incurred by patients or visitors. Visitors said that the costs incurred during online registration were very economical and efficient. The data shows that the majority of respondents' answers were strongly agree and a small number of respondents' answers were agree. So researchers are of the opinion that online registration can save costs incurred by visitors in terms of petrol, photocopies, etc., in accordance with research conducted by Novianti & Gunawan, (2023), regarding the effectiveness of using mobile queuing applications where it is easier for users in terms of administration costs. and needs outside the hospital.

In the speed indicator, the service is shown in the speed indicator. The statement containing the speed of time regarding efforts to register for patients shows the results that the majority of respondents' answers are strongly agree and a small number of respondents' answers are agree. These results prove that there has been an increase in the efficiency of time needed by visitors or hospital patients in terms of registering for

health services, so that time wasted queuing at the hospital registration counter can be minimized as best as possible. These results are in line with research conducted by Nurmalasari, Temesvari, et al., (2020) which states, with the use of digital applications in administrative services in hospitals, this proves that there is an increase in performance and improvement in service quality so that it can provide guarantees of safety and hope. greater patient life.

In terms of the advantages indicator, the use of the online BPJS queuing application that can be felt by visitors or patients is found in the advantages indicator. The question that contains the advantages of the feature of using the online BPJS registration application at the Nashrul Ummah Islamic Hospital, Lamongan Regency shows that the majority of respondents choose the answer was agree and a small portion of respondents chose the answer disagree. The results of respondents' answers regarding indicators of the advantages of using the online application system tend to answer that there are advantages, this proves that the many features available in the application make visitors or patients helped by the various features available, with the existence of good features according to the researchers, this is can make it easier to select health services and check the availability hours of the doctor on duty. The existence of features that support service activities in hospitals in a digital application can provide additional information for visitors and patients when they want to undergo treatment and can provide efficiency in patient time (Nurmalasari, Temesvari, et al., 2020).

In terms of deficiency indicators, which may be present in the system during application use, there are deficiency indicators, data that shows whether there are many deficiencies in the BPJS online patient registration application system at the Nasrul Ummah Islamic Hospital, Lamongan Regency, this data shows the results that the majority of respondents chose the answer was disagree and a small number of respondents chose the answer strongly agree. These results indicate that there is a satisfaction index for users or patients with the use of the online registration service application, which means that most visitors are satisfied with the presence of the online registration service application so that it can increase visitor flexibility and increase efficiency. However, there are still a few shortcomings which might be taken into consideration by the hospital so that it can support excellent service and increase the visitor satisfaction index at the Nashrul Ummah Islamic Hospital, Lamongan Regency. The research results related to these deficiency indicators are in line with the results of research conducted by Trisna et al., (2020), the existence of mobile health service applications can provide good things in terms of community services in the available health facilities.

In the understanding indicator, which contains questions regarding the understanding of visitors or patients in using the online BPJS registration application at the Nasrul Ummah Islamic Hospital, Lamongan Regency, the data shows that the majority of respondents chose the answer strongly agree, and a small number of respondents chose the answer disagree. The researcher believes that the understanding indicator is influenced by the user's age and the user's education level. This is in line with research

conducted by Sholiha et al., (2019), age, education, relationships and self-will are supporting factors in how far a person can understand something.

CONCLUSION

Description of the Use of the Online BPJS Queue Application for Patients in the Poly Room of the Nashrul Ummah Islamic Hospital, Lamongan Regency, namely 31 respondents who were given a questionnaire with 9 indicators related to components. Description of the Use of the Online BPJS Queue Application for Patients in the Poly Room of the Islamic Hospital of Nashrul Ummah Regency. Lamongan. Based on the results of the research and discussion, it can be concluded that 8 indicators are in the good category and 1 indicator is in the medium category.

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Research Article

The Effect of Prayer Movement and Black Cumin Oil on Blood Pressure of Hypertension Patients

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ABSTRACT

Background: Hypertension or high blood pressure is a chronic condition when the blood pressure on the walls of the arteries increases which can be a major cause of cardiovascular disease.

Objectives: The purpose of this study was to determine the effect of prayer movement therapy and black cumin oil on blood pressure in patients with hypertension.

Methods: This study used a pre-experimental design with a one group pre-post test design approach, a sample of 53 hypertensive patients with Consecutive sampling technique. The instruments in this study were Standard Operating Procedure (SOP), blood pressure observation sheet and manual spignomanometer (blood pressure measuring device). Data analysis using the Wilcoxon test.

Result: The results of the study before being given therapy showed that blood pressure had an average systolic value of 154.17 mmHg and diastolic 93.19 mmHg, then after being given blood pressure therapy had an average systolic value of 143.91 mmHg and diastolic 84.34 mmHg. The results of the Wilcoxon test obtained a significant value of p = 0.00 (p <0.05) which means that there is an influence on the blood pressure of hypertensive patients before and after being given prayer movement therapy and black cumin oil significantly.

Conclusion: A decrease in sympathetic nerve activity and an increase in parasympathetic nerve activity found in prayer movements and Thymoquinone content in black cumin oil can help control blood pressure reduction in hypertensive patients.

Keywords

Black Cumin Oil, Blood pressure, Hypertension, Prayer Movement.

INTRODUCTION

Hypertension is an abnormal increase in blood pressure that can be a major cause of cardiovascular disease. Until now, hypertension is still a global health problem in all parts of the world. (Ministry of Health, 2018). High blood disease or hypertension is a

condition where a person has an increase in systolic and diastolic blood pressure which can be measured using a sphygmomanometer or other digital device. A person is declared to have high blood pressure if the systolic blood pressure is above 140 mmHg and diastolic 90 mmHg. While someone with normal blood pressure is systolic 120 mmHg and diastolic 80 mmHg. (Nurman, 2017).

According to the World Health Organization (WHO, 2019), 1.13 billion people worldwide suffer from hypertension and it is most prevalent in low-income countries. Low levels of education, knowledge, and income as well as little access to health education programs cause the population in low-income countries to have low knowledge of hypertension. Meanwhile, hypertension is the leading cause of premature death in the world. One of the global targets for non-communicable diseases is to reduce the prevalence of hypertension by 25% by 2025 (Riskesdas, 2018). Based on data from the World Health Organization (WHO, 2019), the highest prevalence of hypertension in Africa reaches 40%, America 35%, and Southeast Asia 36%. Indonesia is the 5th country with the most hypertension patients, the prevalence of hypertension patients in Indonesia, reached 34.1% and the highest was occupied by South Kalimantan 44.13%.

Based on the results of the 2018 Riskesdes, the prevalence of people with high blood pressure in East Java Province was 36.3% (East Java Provincial Health Office, 2022). In Lamongan Regency, people with hypertension in 2020 amounted to 96.5% with a proportion of 92.5% men and 100.1% women (Lamongan Regency Health Office, 2021). Based on an initial survey conducted in Dinoyo Village, there were 42 people with hypertension. The average hypertensive patient is 20-70 years old with an average systolic blood pressure of 120-190 mmHg and diastolic blood pressure of 90-100 mmHg. On October 31, 2023, 8 people were found, 3 (37.5%) people were male and 5 (62.5%) people were female with grade 1 and grade 2 hypertension categories.

Factors that play a role in the occurrence of hypertension include uncontrollable risk factors and controllable risk factors. Uncontrollable risk factors such as heredity, gender, race and age. Meanwhile, risk factors that can be controlled are obesity, lack of exercise or physical activity, smoking, drinking coffee, sodium sensitivity, low potassium levels, alcohol, stress, occupation, education and diet. (Rahmadhani, 2021). High blood pressure disease if left untreated will become a major risk factor for atherosclerotic cardiovascular disease, heart failure, stroke, and kidney failure. Hypertension is a big and serious problem because it is often undetectable even though it has been years. (Azizah et al., 2022). So that the impact of the hypertension problem if not immediately resolved will be able to cause death.

Hypertension can be minimized by pharmacological therapy and nonpharmacological therapy that can help prevent or delay the occurrence of health problems due to hypertension. Pharmacological therapy can be in the form of antihypertensive drugs while non-pharmacological therapy can be done by starting a healthy life by trying the relaxation technique of prayer movements. When all organs in our body are relaxed and there is no tension, it will have an impact on the sympathetic nerve response to reduce the production of the hormones epinephrine and

norepinephrine in the blood, thereby minimizing the risk of stress and increasing abnormal heart rate. (Istiana et al., 2021).

Prayer is a physical and psychological activity at the same time, inducing parasympathetic nerve activity and suppressing sympathetic nerve activity through the release of alpha waves of the brain (Boy., et al., 2021). The prayer movement stimulates a decrease in sympathetic nerve activity and an increase in para-sympathetic nerve activity which affects the decrease in adrenaline, norepinephrine and catecholamine hormones as well as vasodilation in blood vessels which results in oxygen transport throughout the body, especially the brain, smoothly so that it can reduce blood pressure and pulse to normal. (Sudarso., et al., 2019). The movements in prayer can be a health therapy, especially physical health, because the movements in prayer will be able to nourish the physical and the movements in prayer can be interpreted as a work of art that acts as a deterrent from various diseases. (Azizah et al., 2022).

The next non-pharmacological therapy that can be used to treat blood pressure lowering is by using black cumin oil or often known as nigella sativa, this therapy can be used orally or tropically, but to lower blood pressure oral administration will be more effective, mechanisms such as vasodilator effects, active compounds in black cumin oil, especially thymoquinone, have been shown to have vasodilator effects, thymoquinone is the main compound found in black cumin oil, has been studied for its potential in lowering blood pressure. Thymoquinone has shown vasodilator effects in studies, which means it can help dilate blood vessels, reduce vascular resistance, and ultimately lower blood pressure. (Ahmad et al., 2018). In the traditional system of medicine practiced in the Arabian Gulf region, Black cumin oil or the name known as habbatussauda is recommended for a wide variety of ailments, including fever, cough, bronchitis, asthma, chronic headache, migraine, dizziness, dysmenorrhea, obesity, diabetes, paralysis, hemiplagia, back pain, infection, inflammation, rheumatism, hypertension, and gastrointestinal disorders such as dyspepsia, flatulence, dysentery, and diarrhea. (Tariq M, 2018).

Based on research conducted by (Istiana et al., 2021) which states that there is a significant effect in dhuha prayer movement therapy 4 rakaat for 7 days can reduce systolic and diastolic blood pressure. Then the results (Ananda & Narmawan, 2020) also stated that consuming black cumin oil at a dose of 500mg 1x a day can reduce blood pressure without any side effects. That way in theory if the two non-pharmacological therapies are combined it will be very effective for people with hypertension to easily overcome their illness, the blood pressure experienced by hypertensive patients can decrease due to prayer movements and black cumin oil.

Based on the above background, the authors found a solution to combine the two non-pharmacological therapies between prayer movements and black cumin oil, because there is no research that combines prayer movement therapy and black cumin oil that can reduce blood pressure in people with hypertension. The purpose of this study was to determine the effect of RELAJITAM therapy (prayer movement and black cumin oil) on

blood pressure in patients with hypertension in Dinoyo Village, Deket District, Lamongan Regency.

METHOD

In this study using a type of quantitative research. With a research design using pre-experimental with a one group pretest posttest design approach. This research was conducted in Dinoyo Village, Deket District, Lamongan Regency. The research was conducted in April-May 2024. The independent variable of this study is RELAJITAM (Dhuha Prayer Movement and Black Cumin Oil). The dependent variable in this study is blood pressure. The population of this study were 53 hypertensive patients in Dinoyo Village, Deket District, Lamongan Regency. The research sample was obtained as many as 53 hypertensive patients with cosecutive sampling technique. The inclusion criteria in this study were willing to sign informed consent, suffering from hypertension with blood pressure> 140 mmHg, adult age, Muslim, male / female, not pregnant / breastfeeding. Exclusion criteria in this study were hypertensive patients with severe complications such as stroke, osteoarthritis, unable to pray standing up and no history of kidney disease. Female hypertensive patients during menstruation at the beginning, middle or end of the research procedure. Hypertensive patients who take hypertension drugs / cannot temporarily stop hypertension drugs and drop out criteria in this study are respondents who resign in the middle of the study and respondents who do not follow the research series according to the complete procedure. The instruments in this study were Standard Operating Procedure (SOP), blood pressure observation sheet and manual spignomanometer (blood pressure measuring device). Data were analyzed using the Wilcoxon test through SPSS for windows 25.0 with a significance level of p=0.000. This research has received ethical approval with number 064/EC/KEPK-S1/04/2024.

RESULTS

Table 1. Frequency Distribution of Respondent Characteristics in Hypertension Patients in Dinoyo Village, Deket District, Lamongan Regency in April 2024 (n=53)

Characteristics	Frequency	%
Age		
17 – 25 Year	2	3.8
26 – 35 Year	3	5.7
36 – 45 Year	9	17.0
46 – 55 Year	13	24.5
Gender		
Male	20	37.7
Female	33	62.3
Education Level		
Not in School	2	3.8
elementary school	8	15.1
Junior High School	9	17.0
Senior High School	26	49.1
College	8	15.1

Jobs		
Not Working	21	39.6
Self-employed	18	34.0
Farmer	13	24.5
Civil servants	1	1.9

Based on table 1 above on the characteristics of respondents based on age, it can be explained that more than almost half of the respondents with hypertension in Dinoyo Village are aged 56-64 years (49.1%) and a small proportion of hypertensive patients aged 17-25 years (11.3%). In the gender table, more than most of the respondents with hypertension in Dinoyo Village were female, namely 33 respondents (3.8%) and almost half were male, namely 22 respondents (37.7%).

Table 2. Distribution of blood pressure before and after being given RELAJITAM therapy (Prayer Movement and Black Cumin Oil) in Dinoyo Village, Deket District, Lamongan Regency.

Blood Pressure	PRE				POST			
	Systolic		Diastolic		Systolic		Diastolic	
	f	%	f	%	f	%	f	%
Normal	0	0	1	1.9	22	41.5	41	77.4
Pre-hypertension	36	67.9	44	83.0	23	43.4	12	22.6
Grade I hypertension	14	26.4	7	13.2	7	13.2	0	0
Grade II hypertension	3	5.7	1	1.9	1	1.9	0	0
Total	53	100	53	100	53	100	53	100

Based on table 2, it can be seen that of the 53 respondents before being given therapy for hypertension, systolic blood pressure was obtained more than most 67.9% of hypertensive patients experienced mild hypertension and a small proportion of 5.7% of hypertensive patients experienced severe hypertension. Diastolic blood pressure almost all 83.0% experienced mild hypertension and a small portion of 1.9% experienced normal and severe hypertension. And tthe 53 respondents after being given therapy for hypertension, almost 43.4% of hypertensive patients experienced mild hypertension and a small proportion of 1.9% of hypertensive patients experienced severe hypertension. Diastolic blood pressure is almost all 77.4% of hypertensive patients with normal blood pressure and none of 0% have moderate and severe hypertension.

Table 3. Distribution of blood pressure before and after RELAJITAM therapy (Prayer Movement and Black Cumin Oil) in Dinoyo Village, Deket District, Lamongan Regency.

Blood Pressure	N	Mean	Min	Max	SD	t	P value
Systolic Pre Test	53	154.17	140	198	13.605	10.26	0.000
Systolic Post Test	53	143.91	128	179	13.037		
Diastolic Pre Test	53	93.19	80	112	5.657	8.85	0.000
Diastolic Post Test	53	84.34	70	97	5.961		
Uji Wilcoxon P = 0,000 *(P<0,05)*							

Based on table 3, it is explained that the blood pressure of hypertensive patients before being given RELAJITAM therapy (Prayer Movement and Black Cumin Oil) systolic has an average of 154.17 and after being given systolic blood pressure therapy has an average value of 143.91 with a difference in value of 10.26. Then the diastolic blood pressure value before therapy has an average of 93.19 and after therapy has an average value of 8.85 with a difference in average value. The decrease in blood pressure of the patient occurred because it had been given RELAJITAM therapy (Prayer Movement and Black Cumin Oil).

DISCUSSION

Based on the results of research before given RELAJITAM therapy (Prayer Movement and Black Cumin Oil) on blood pressure in hypertensive patients obtained an average value of 154.17 mmHg for systolic pressure and 93.19 mmHg for diastolic pressure. And after being given RELAJITAM therapy (Prayer Movement and Black Cumin Oil) on blood pressure in hypertensive patients, the average value is 143.91 mmHg for systolic pressure and 84.34 mmHg for diastolic pressure. This shows that there is a decrease in blood pressure in hypertensive patients. The results of the pre-test blood pressure observation showed that there were still many hypertensive patients who did not understand how to treat hypertension with non-pharmacological therapy for hypertension. Average Patients who experience hypertension may be caused by internal and external factors, one of the internal factors includes gender, age and education. (Hepilita & Saleman, 2019).

RELAJITAM therapy (Prayer Movement and Black Cumin Oil) itself is a therapy carried out by carrying out prayer movements and also giving capsule-shaped black cumin oil that can be taken once a day for 1 week. Physical activity therapy of prayer movements aims to stimulate a decrease in sympathetic nerve activity and an increase in parasympathetic nerve activity which affects the decrease in the hormones epinephrine (adrenaline), norepinephrine and catecholamines as well as vasodilation and can also relax the muscles of the body so as to reduce blood pressure in hypertensive patients. While traditional medicine therapy black cumin oil contains Thymoquinone. Thymoquinone contained in Black Cumin seeds (Nigella sativa) has vasodilator and anti-inflammatory properties that can help dilate blood vessels so that black cumin oil can reduce blood pressure in people with hypertension. (Beheshti et al., 2016).

This research is in line with research Siregar & Purba (2021)In this study, one of the complementary therapies used for independent intervention is prayer movements. The purpose of this study was to analyze the effect of prayer movements on lowering blood pressure in hypertensive patients, useful and easy-to-do therapies such as RELAJITAM therapy (Prayer Movement and Black Cumin Oil) can be used as an alternative to help in efforts to lower blood pressure in hypertensive patients. Patients in this study in the treatment of high blood pressure, especially hypertension drugs were temporarily stopped. This is in accordance with the exclusion criteria carried out by researchers and

researchers also collaborate with families to stop treatment during the study so that in this study the function of the drug does not affect the results of giving RELAJITAM therapy (Prayer Movement and Black Cumin Oil).

Based on the research conducted, researchers argue that after being given RELAJITAM therapy (Prayer Movement and Black Cumin Oil) can reduce blood pressure in people with hypertension. This is because RELAJITAM therapy prayer movements can result in oxygen transport throughout the body, especially the brain smoothly so as to lower blood pressure as well as black cumin oil contains Thymoquinone which can dilate blood vessels and can lower blood pressure.

Based on the results of the study, it shows that there is a significant effect on the decrease in blood pressure of hypertensive patients in Dinoyo Village, Deket District, Lamongan Regency before and after giving RELAJITAM therapy (Prayer Movement and Black Cumin Oil). This is evidenced by blood pressure before being given RELAJITAM therapy (Prayer Movement and Black Cumin Oil) has an average value of 154.17 mmHg for systolic pressure and 93.19 mmHg for diastolic pressure. Then after being given RELAJITAM therapy (Prayer Movement and Black Cumin Oil) obtained an average value of 143.91mmHg for systolic pressure and 84.34 mmHg for diastolic pressure. The decrease in blood pressure occurred because it was given RELAJITAM therapy (Prayer Movement and Black Cumin Oil) by carrying out the dhuha prayer movement 4 rakaat and black cumin oil capsules 500mg 1x1 taken 2 hours after meals every day 1x for 1 week.

This research is in line with Sudarso (2019), physical activity therapy of prayer movements is able to stimulate a decrease in sympathetic nerve activity and an increase in parasympathetic nerve activity which affects the decrease in the hormones epinephrine (adrenaline), norepinephrine and catecholamines and vasodilation in blood vessels which results in oxygen transport throughout the body, especially the brain, smoothly so that it can reduce blood pressure and pulse to normal. In the movement of ruku` and salutations to the right and left can also relax the muscles around the neck and head, and increase blood flow in the head. So that this prayer movement can reduce the blood pressure of hypertensive patients.

The provision of prayer movement therapy in research Hidayati (2018) in Hidayati's (2018) study, dhuha prayers can be performed in the amount of 4 rakaat which are performed every day for 3 days. Prostration is the most basic position in prayer. When getting up from the first prostration (sitting between two prostrations), blood flows back throughout the body. Then when prostrating for the second time, the blood flows to the heart again. Prostration is good for any individual with heart complications or cardiovascular disease, it helps the heart work properly and flexes the blood vessels around the heart resulting in a decrease in blood pressure.

In research Ananda & Narmawan (2020). The results showed that there was a significant effect of nigella sativa oil on changes in systolic blood pressure in hypertensive patients, black cumin oil therapy contains Thymoquinone. Thymoquinone contained in Black Cumin seeds (Nigella sativa) has vasodilator and anti-inflammatory properties that can help dilate blood vessels and reduce inflammation of the blood vessel walls. This can

contribute to an overall decrease in blood pressure. So that black cumin oil is able to lower blood pressure in people with hypertension.

Based on the description above, the researcher assumes that the combination of RELAJITAM edges (Prayer Movement and Black Cumin Oil) has an effect on reducing systolic and diastolic blood pressure in hypertensive patients, this is due to movements in prayer can stimulate a decrease in sympathetic nerve activity and an increase in parasympathetic nerve activity in blood vessels which results in oxygen transport throughout the body, especially the brain, smoothly so as to lower blood pressure as well as black cumin oil contains Thymoquinone which can dilate blood vessels so that it can contribute to lower blood pressure. It is hoped that people with hypertension can do RELAJITAM therapy (Prayer Movement and Black Cumin Oil) regularly which has been taught and besides that sufferers must also pay attention to mind patterns so as not to be too stressed and regulate diet (low salt / sodium diets), increase exercise, reduce alcohol consumption, cigarettes, coffee, maintain ideal body weight and also take antihypertensive drugs regularly in consultation with medical personnel.

CONCLUSION

Most hypertensive patients in Dinoyo Village, Deket District, Lamongan Regency experienced a decrease in blood pressure after RELAJITAM Therapy (Prayer Movement and Black Cumin Oil). There is an effect of giving RELAJITAM therapy (Prayer Movement and Black Cumin Oil) on blood pressure in hypertensive patients in Dinoyo Village, Deket District, Lamongan Regency. It is hoped that people with hypertension can read and learn about the causes of hypertension and how to treat hypertension due to many factors that can cause high blood pressure and can also use this therapy in addition to lowering blood pressure.

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Research Article

Individual Determinants of Maternity Nurse Performance in Nursing Care Documentation

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ABSTRACT

Introduction: Maternity nursing care documentation is a record regarding the plans and actions of nurses given to patients, both mothers and newborns. Completeness of nursing care documentation is still found to be incomplete in maternity services due to internal influences from individual nurses and external influences from the workplace. **Objectives:** This study aims to analyzed individual determinants of maternity nurses' performance in nursing care documentation. **Method:** This research used a correlational descriptive design with a cross-sectional approach which aims to link attitudes, competencies, and motivation with nurses' performance in documentation of nursing care. The population in this study were all nurses in the hospital, totaling 950 people, and the sample size for this study was 50 respondents with simple random sampling. Data was collected using an instrument in the form of a questionnaire consisting of 5 questionnaires, namely a demographic data questionnaire, a leadership questionnaire, and a nurse performance questionnaire. The analysis uses a logistic regression test with a significance value of $p \leq 0.05$. **Results:** The regression test shows that there is a relationship between attitude (0.023), competence (0.029), motivation (0.025), and nurse performance in documenting maternity nursing care. **Conclusion:** Maternity nurse attitudes, competence, and motivation have an impact on the completeness of nursing care documentation. A positive attitude, competence, and good motivation are possessed by maternity nurses with good nursing care documentation performance.

Keywords

Attitude, Competency, Maternity Nurse, Motivation, Performance

INTRODUCTION

Nursing care documentation is a record of the nurse's plans and actions given to the patient (Ambarwati *et al.*, 2024). Nurse performance is closely related to individual characteristics which greatly influence the quality of health services in hospitals

(Zamroni, Nursalam and Wahyudi, 2021). The performance of maternity nurses in documenting nursing care focuses on mothers and children starting from childbearing age until after delivery (Mdoe, Mselle and Kibusi, 2024). The completeness of nursing care documentation is still found to be incomplete in maternity services due to internal impacts from individual nurses and external influences from the workplace which continue to cause some nurses to perform below standard in nursing care documentation. (Wisuda and Putri, 2019). Research Kurniawati, (2023) at a mother and child hospital assessed that the percentage of informed consent was 14%, discharge history summary was 14%, patient history sheet was 17%, and there were also deficiencies in writing authentication which was still lacking with the percentage of writing the nurse's name being 2% and nurse's signature 15%. Based on existing phenomena related to completeness in nursing documentation, incompleteness often occurs in the documentation of maternity nursing care in health services in hospitals.

Ethiopian research in 2019 stated that 56.5% of nursing documentation was incomplete (Tasew, Mariye and Teklay, 2019). In line with research at the Gondar Ethiopian Teaching Hospital, more than a third of respondents 74 (36%) expressed the reasons for not carrying out nursing documentation; short time 19%, lots of patients 22%, no time and lots of patients 62%, no format 2.2%, and no place 4.3% (Kebede, Endris and Zegeye, 2017). Research on the completeness of nursing care documentation in private hospitals in East Java shows that the implementation of nursing care is 64% adequate assessment, 69% adequate nursing diagnosis, 59% adequate nursing plan, 66% adequate nursing implementation, 60% adequate nursing care evaluation, and 62% of nursing care documentation is sufficient (Trisno, Nursalam and Triharini, 2020).

Nursing documentation is a source of clinical information regarding patient actions and progress in manual or electronic form (Tasew, Mariye and Teklay, 2019). Assessment, diagnosis, planning, implementation, and evaluation are all components of nursing performance documentation (Nursalam, 2020b). The quality of care provided to patients may be negatively affected by inadequate nursing documentation (Zamroni, Nursalam and Wahyudi, 2021). Complex nursing procedures require time and planning to balance patient care time and completing documentation. Staff education and understanding of technology are very influential in nurses' acceptance of documenting nursing care (Shala *et al.*, 2021). Maternity nurses have an important role in nursing care services which must focus on women of childbearing age, the birthing process, and gynecological diseases. Maternity nurses not only provide procedures but also provide health education and counseling. This causes maternity nurses to have individual characteristics such as attitude, competence, and high motivation in providing nursing care to patients (Fujiana, 2020).

Nurse performance is influenced by the internal factors of the individual nurse and external factors of the job (Zamroni, Nursalam and Wahyudi, 2021). A nurse's sense of self will be shaped by his or her own unique experiences and perspectives in nursing, knowledge, staff interactions, and leadership (Kusnanto *et al.*, 2020). Confident nurses are more likely to do their best for their patients (Sumarni, 2021). Thus, producing

effective and efficient productivity in nurse performance (Olaolorunpo, 2019). According to Kopelman, human qualities, organizational features, and job characteristics all play a role in the definition of labor productivity (Nursalam, 2020b). Personal characteristics, such as ability, knowledge, skills, motivation, and nursing standards. A person's age, gender, education level, ethnicity, socioeconomic class, and years of work experience all play a role in how they behave at work and how productive their company is. Organizational characteristics include rewards, goals, MBO, selection, training, framework, vision, goals, and leadership. The contemporary workplace includes elements such as performance goals, feedback, correction, job design, and scheduling. One of the organizational variables that influences both individual and group performance is leadership, as stated by Kopelman (1986). Other types of organizational determinants, such as knowledge, skills, and talents, have similar effects (Nursalam, 2020b). Research (Beni, Nursalam and Hasinuddin, 2020), explains that individual factors in the form of attitude, motivation, and competence influence performance, while the work environment has a major influence through job design. If the performance of maternity nursing care documentation is not optimal, it will have an impact on the safety of maternal and child patients as well as on the quality of hospital accreditation (Smith, O'Malley and Cithambaram, 2022).

The quality of health care depends largely on accurate documentation of the care provided. Nurse performance including assessment, diagnosis, planning, implementation, evaluation, and documentation is influenced by individual characteristics of nurses in the form of attitude, competence, and motivation. No research examines the performance of nurses in documentation in maternity nursing care. Therefore, this study aims to analyze the determinants of individual performance of maternity nurses in nursing care documentation.

METHOD

This research is a correlational descriptive study with a cross-sectional approach that aims to link attitudes, competencies, and motivation with nurses' performance in the documentation of nursing care. The research was conducted during September-November 2023 at a hospital in East Java. Measuring the relationship between attitudes, competence, and motivation with nurse performance was only carried out once and without any follow-up. The population in this study were all nurses in the hospital, totaling 950 people. The sample size for this study was 50 respondents with the following inclusion criteria: 1) executive nurse in the maternity ward, 2) working for more than one year, and 3) provider of maternity nursing care. The sampling technique used was simple random sampling. Simple random sampling by writing the names of all the nurses in the population on paper then putting them in a box and taking them at random.

The independent variables of this research are attitude, competence, and motivation, while the dependent variable of this research is nurse performance. Data was collected using an instrument in the form of a questionnaire consisting of 5 questionnaires, namely a demographic data questionnaire, a leadership questionnaire, and a nurse performance questionnaire. The attitude of nurses using questionnaires

(Beni, Nursalam and Hasinuddin, 2020) is based on the theory of Spreitzer, 1995. Competence using the Spreitzer, 1995 questionnaire which was developed ((Beni, Nursalam and Hasinuddin, 2020), motivation using the Sievold GL, 1994 questionnaire developed (Beni, Nursalam and Hasinuddin, 2020). Nurse performance is measured using an observation sheet: a nursing documentation questionnaire, which 30 questions containing nursing care carried out by implementing nurses in hospitals (Nursalam, 2020).

Procedure The research procedure begins with asking for permission at the research location, and then carrying out a research ethics test. During data collection, the researcher will provide an explanation of the objectives of the research to be conducted to respondents. Data collection was carried out by asking respondents to fill in questionnaire answers according to the conditions they felt. In collecting data, researchers implemented health protocols and were assisted by the head of the room to assist, so that if there were questions that could not be accessed directly. The data analysis used is descriptive and inferential. Descriptive analysis is used to group data according to categories and frequencies. Inferential analysis uses a logistic regression test with a significance value of $p \leq 0.05$. This research has been declared ethically appropriate by the Health Research Ethics Commission of East Java Regional Hospital with certificate number 0798/KEPK/X/2023.

RESULTS

Table 1. Demographic Characteristics of Nurses

Category	f	%
Age		
21-30 years	10	20
31-40 years	25	50
41-50 years	10	20
51-60 years	5	10
Gender		
Female	50	100
Marital Status		
Married	40	60
Not Married	10	20
Education Level		
D3	15	30
S1	35	70
Length of Work		
1-7 years	15	30
8-14 years	20	40
15-21 years	10	20
22-28 years	3	6
29-35 years	2	4
Employment Status		

Category	f	%
Civil Servant	19	38
Non Civil Servant	31	62
Career Path		
PK I	16	32
PK II	23	46
PK III	8	16
PK IV	3	6
PK IV	3	6

Table 1 contains information regarding the demographics of the 50 maternity nurse respondents. Almost half of the respondents in this study were aged 31 - 40 years, 25 (450%), and all respondents were female, 50 (100%). Almost all of the nurse respondents were married, 40 (60%) and most had a bachelor's degree, 35 (70%). Almost half of the nurses have worked for 8-14 years, 20 people (40%). Almost all respondents have civil servant status 31 (62%) and have a PK II career path 23 (46%).

Table 2. Logistic Regression Hypothesis Testing of Individual Characteristics, with Nurse Performance in Documenting Nursing Care

Variable	Regression Coefficient (B)	S.E	Regresision Wald	dF	Sig.	Exp (B)	Remarks
Attitude	1.253	1,039	4.464	1	0,023	3.516	Signifikan
Competency	1.275	0,591	4.657	1	0,029	3.581	Signifikan
Motivation	1.213	0,558	4.785	1	0,025	3.387	Signifikan

Table 2 contains information on hypothesis analysis with regression testing of individual characteristics efforts, in the form of attitudes, competence and motivation with nurse performance in documenting maternity nursing care. Based on the results of the regression test, it shows that there is a relationship between attitude (0.023), competence (0.029), motivation (0.025) and nurse performance in documenting maternity nursing care. The regression coefficient value (B) shows positive results in attitudes, competencies, motivation are in line, meaning that if the characteristics improve, the performance of nurses will improve.

DISCUSSION

Individual characteristics including attitude, competence, and motivation have a significant relationship with the performance of community nurses in the documentation of nursing care. Nurses' attitudes have a significant impact which is in line with nurses' performance in documenting nursing care in maternity. A positive nurse attitude will have an impact on the high performance of nurses in documenting nursing care. On the other hand, if the nurse's attitude is negative it will have an impact on the nurse's performance in documenting low nursing care.

Kopelman's theory (1986) explains that organizational characteristics in the form of nurses' attitudes can be interpreted as knowledge, abilities, and special talents for their discipline that are important for carrying out work (Nursalam, 2020a). Attitude is a collection of cognitive, affective, and conative components that interact with each other and understand, feel, and behave toward an object (Iqbal, Fachrin and Saleh, 2020). Attitude is also defined as a positive or negative feeling as well as a psychological state that is often prepared, studied, and regulated through experience which has a specific influence on a person's response to people, situations, and objects. The nurse's attitude is the attitude of the nursing profession which is related to the benefits of the task, carrying out the task, feeling happy about the job, fasting about the job, hard work, and the desire to achieve success in the job towards health services (Adelta, Zainaro and Triyoso, 2023).

Attitudes form a person's reaction or response which is still close to a stimulus or object. Attitude components, the attitude structure consists of 3 mutually supporting components, namely cognitive, affective, and conative (Beni, Nursalam and Hasinuddin, 2020). On the opinion indicator, nurses on average agreed that nurses liked and were happy if they could invite medical parties to work together to improve patient care. Meanwhile, the nurses' belief parameters strongly agree that nurses like and enjoy being able to work together with fellow nurses in trying to improve nursing care.

This research is in line with (Ompusungu, Lousiana and Yesayas, 2022), explaining that nurses' attitudes influence nurses' performance. A good nurse's attitude will have a positive effect on improving nurse performance. This is because the nurse's positive attitude treats patients by accepting, responding, appreciating, and being responsible in reacting to objects. The nurse's response or acceptance and responsibility for the performance of documenting nursing care is good or positive, meaning that this attitude is that the nurse receives a stimulus to document nursing care which has become her responsibility for everything she has obtained with all the risks (Kurniasari and Ilham, 2022).

Researchers assume that maternity nurses' positive attitudes can be improved by always thinking and having a positive outlook when given responsibility, being proactive in completing the responsibilities given to them to be carried out as well as possible, and well self-awareness to have and achieving targets in documenting nursing care. Attitude is very important in nursing. Attitudes help us understand how people perceive problems and processes in care and determine what is considered important, good, relevant, and appropriate. Poor nursing attitudes, resulting in poor patient care, can seriously undermine a health system's ability to provide quality care and improve outcomes. for patients.

Many nurses with good competence have high nursing performance. Nurse competency has a significant relationship with nurse performance in documenting nursing care in maternity. The relationship between the influence of nurse competency and nurse performance in documenting nursing care is parallel. Nurses with good competence will have good performance in documenting nursing care. On the other hand,

if competency is lacking, nursing care documentation performance will be low. This is proven by indicators of nurse competency in the form of cognitive, affective, and psychomotor. On a cognitive level, nurses on average agreed regarding the ability to do their work as nurses in improving documentation of nursing care. On average, nurses agreed that nurses reported completeness of nursing care documentation to improve service quality. The psychomotor parameters of the average nurse have mastered the skills necessary for the job.

Kopelman's theory (1986) explains that organizational characteristics in the form of development training and leadership influence the characteristics of nurses through motivation and increasing competence. Development and training is an organized method of learning for the development of individual, group, and organizational efficiency that leads to the acquisition of new abilities and skills for individual personal growth (Nursalam, 2020a). Competency is the ability to integrate knowledge and skills under a particular situation or setting and is a trait that includes the core abilities required for nursing care. Competency is the ability to carry out work or tasks based on skills and knowledge and supported by work attitudes determined by the job. Competency shows certain knowledge, skills, and attitudes of a profession in the characteristics of certain skills, which are the characteristics of a professional. Competency is the intellectual, physical, and interpersonal abilities that underlie nurses in carrying out nursing care (Siregar, Siregar, and Isnaniah, 2020).

This research is in line with (Halawa, Nadapdap and Silaen, 2020), stating that there is a significant relationship between competency and nurse performance. Nurses who have good competence have the potential to provide good performance. Meanwhile, less competent nurses have a partially significant influence on nurse performance. This is because nursing competency is holistic, both performance and potential competency, and is an integrated concept built from complex activities. Nurses in hospitals have confidence in relatively high cognitive, affective, and psychomotor abilities to achieve understanding and commitment to achieving a vision and commitment to truth. The nurse competency model that is expected to improve personal vision and commitment to truth is a combination of cognitive, affective, and psychomotor abilities and personality characteristics.

Researchers assume that maternity nurse competency in documenting nursing care is very important to improve performance quality. Nursing competency which includes cognitive, affective, and psychomotor nurses needs to be improved through socialization and simulation to increase understanding of the vision, commitment to achieving the vision, and commitment to truth in carrying out nursing care documentation.

Many nurses with sufficient motivation have high nursing performance. Nurse motivation influences nurse performance in documenting nursing care in maternity. Nurse motivation in the good category will improve nurse performance in documenting nursing care. Meanwhile, nurse motivation in the poor category will reduce nurse performance in documenting nursing care. This is proven by indicators of nurse motivation in the form of intrinsic and extrinsic. The average intrinsic indicator is 12.83

which is interpreted as sufficient (12-15). The average extrinsic indicator is 10.87 which is interpreted as sufficient (9-11). On average, nurses agree that nursing work helps individuals achieve personal goals. Meanwhile, extrinsically, the average nurse strongly agrees that it is very important to carry out teamwork in completing good nursing care documentation.

Kopelman's theory (1986) explains that organizational characteristics in the form of development training and leadership influence the characteristics of nurses through motivation and increasing competence. Motivation is related to the direction of behavior, the strength of the response after the individual follows a certain action, and the continuity of behavior. Motivation can arise due to needs such as feelings of self-worth, opportunity, prestige, feelings of security, and a sense of achievement (Hanifah, 2022). Motivation is something that encourages someone to act to achieve a goal. Motivation will encourage someone to take action or behavior to achieve goals. Motivation can explain the process of intensity, direction, and persistence of an individual to achieve their goals.

This research is in line with (Carliastuti and Stella, 2021), there is a relationship between the motivation of implementing nurses and the documentation of nursing care. This is because the high motivation of nurses to complete nursing care documentation will make the quality of nursing care documentation complete. This research is not (Suhartini, Washilah and Hadi, 2023), stating that there is no relationship between work motivation and the implementation of documentation. The nursing care documentation system helps nurses shorten documentation time and makes it easier for nurses to record the results of nursing care. These conditions are the influencing motivational factors, such as time, facilities, management, and training, which do have an impact on the documentation of nursing care

Researchers assume that motivation can increase the maternity nurse's vision, where when the maternity nurse has clear personal goals, there is an internal commitment to achieving that vision. Perceived alignment through personal goals and organizational goals, there is a great sense of commitment to completing the steps or tasks necessary to move towards the vision to be achieved. Nurses' work motivation is usually demonstrated by continuous, goal-oriented activities.

CONCLUSION

The attitude, competence, and motivation of maternity nurses have an impact on the completeness of maternity nursing care documentation. A positive attitude, competence, and good motivation are possessed by maternity nurses with good nursing care documentation performance. This needs to be considered regarding attitude, competence, and motivation so that performance is more optimal by providing training and assistance regarding filling out nursing care documentation. Apart from that, future researchers need to analyze nurses' performance using other characteristics such as organization and work environment.

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Research Article

The Relationship Between Emotional Intelligence and Self-Regulated Learning in Nursing Students In Semester III at Lamongan Muhammadiyah University

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ABSTRACT

Background: Third-semester nursing students must be prepared with the burden of assignments and nursing practice in the laboratory, so students must have self-regulated learning behavior in order to manage their emotions and manage their time in developing effective independent learning strategies. **Objectives:** The purpose of this study was to analyze the relationship between emotional intelligence and self-regulated learning in 3rd semester nursing students at Universitas Muhammadiyah Lamongan. **Methods:** This research design uses Cross Sectional method, population of 186 students, using Stratified Random Sampling technique obtained as many as 126 students. **Results:** Almost all students' emotional intelligence was in the moderate category as many as 96 (76.2%) and almost all third semester nursing students had moderate Self-Regulated Learning, namely 99 (78.6%). Based on the results of the data above, a statistical test was obtained with a significance value of p = 0.000 (p <0.05) with the result (r) = 0.671, which means that there is a positive relationship between emotional intelligence and self-regulated learning in nursing students. **Conclusion:** Educational institutions can encourage students to be active in organizations or participate in academic activities outside the campus, so that they can familiarize students in managing their emotional intelligence and self-regulated learning in students.

Keywords

Emotional intelligence, Self-Regulated Learning

INTRODUCTION

Self-regulated learning for students in lectures is more complex, because students have heavier and more complex tasks that require personal responsibility. This requires the ability to self-regulate to complete various tasks from different lecturers, to be able to successfully complete the task of course requires greater responsibility and personal

initiative. Self-regulated learning behavior is very influential on the process of individuals who are serious with the aim of controlling themselves, controlling cognition (understanding), motivation (encouragement), and behavior.

This process will be faced with goals in the context of the learning environment (Novia, 2021). The level of self-regulated learning between countries varies, high self-regulated learning is the United States, Europe and Canada, in contrast to Brazil, which shows moderate self-regulated learning (Boruchovitch, 2023). Researcher from Noni, (2022) at UIN Raden Intan Lampung, the results showed that 44 or 10% of students who had high self-regulation, 171 or 35% of students who had moderate self-regulation and the remaining 265 or 55% of students had low self-regulation in learning.

Self-regulated learning behavior is very influential in the process of individuals with the aim of controlling oneself, controlling cognition (understanding), motivation (drive), and behavior. This process will be faced with goals in the context of their learning environment (Novia, 2021). Students often focus on extracurricular and organizational activities, so it is more often difficult to manage themselves. organizations, so it is more often difficult to manage enough time to plan study well. planning to study well. And disinterest in the material and unclear career goals that are not clear so that it reduces motivation to study, often feels too tired or distracted to really focus on their learning and more likely to procrastinate. prefer to procrastinate doing assignments. Students should learn effective learning and further train their ability to solve systematic problems, one of which is learning from theories. systematic problems, one of which is learning from the theories explained by the lecturer to become a good nurse for the future. become a good nurse for the future. Students have high self-regulated learning for their own future. Students who have self-regulated learning will be able to Improve their academic performance abilities. Positive emotions can facilitate the use of self-regulated learning strategies while negative emotions will result in reduced attention. learning strategies while negative emotions will result in reduced attention during the learning process (Lubis, 2016). The ability of emotional intelligence a student in improving his/her self-regulated learning is related to the student's ability to regulate metacognition and is related to the ability of students to regulate metacognition and use cognitive strategies as well as strategies to manage learning (Lubis, 2016).

Use cognitive strategies as well as strategies to manage the environment and resources (Sa'adah & Hartah, 2016). According to Goleman, (2015) emotional intelligence one of them is to control our emotional life with intelligence. Students with positive emotional intelligence will consider whether whether or not to make decisions, including educational activities or not. The ability to regulate emotions can affect self-regulated learning and learning focus. and learning focus. According to Nabiila & Mustofa (2020) People with good emotional intelligence are able to overcome challenges and maintain enthusiasm. emotional intelligence, are able to overcome challenges and maintain the spirit of life. According to Sa'adah & Hartati, (2022) Awareness of the abilities and knowledge of emotional intelligence possessed by students will help them to overcome challenges and maintain their enthusiasm for life. knowledge of emotional intelligence possessed by students will influence on success in learning.

METHOD

The research design used in this study is an analytic correlation with a cross-sectional approach, namely research that emphasizes the correlation between Independent and dependent variables with data collection being carried out Simultaneously at the same time (Adiputra, 2021).

This study aims to determine the relationship between emotional intelligence and Self-regulated learning in nursing students at the University of Muhammadiyah Lamongan. This research was conducted February-March 2024 at University Muhammadiyah Lamongan. In this study the population used are all 3rd semester nursing students at Muhammadiyah University Lamongan in the 2023-2024 academic year as many as 186 students. This sample is all third semester students with a total of 126 students, Inclusion criteria are specific characteristics that must be possessed by elements in the population or sample to be studied (Priadana, M. S & Sunarsi, 2021).

The inclusion criteria in this study are: (1) 3rd semester nursing students at Universitas Muhammadiyah Lamongan, (2) Willing to be a respondent and sign an informed concent. The exclusion criteria in this study are: (1) 3rd semester nursing students of University Muhammadiyah Lamongan who refused to sign, informed concent. (2) Students on leave This study uses the finite population formula because the population size in this study is already known. in this study is already known; (3) Students who have participated in the preliminary study.

Sampling used in this study was stratified random sampling, which is the sampling of a population that is divided into strata (or groups). subgroups) and a random sample is drawn from each subgroup. Subgroups are a natural set of items. Subgroups may be based on company size, gender or occupation (to name a few). Stratified sampling Stratified sampling is often used where there is a lot of variation within a population. The aim is to ensure that each stratum is adequately represented (Adiputra, 2021). Independent variables in this study are Emotional Intelligence. The dependent variable in This research is self-regulated learning. In the indicators of emotional intelligence there are 5 indicators, one of which is self-awareness self-awareness, self-regulation motivation, empathy, social skills social skills using the EQ questionnaire with an assessment score of 4: Very suitable 3: Appropriate 2: Not appropriate 1: Very not Appropriate. Category: 1: Low =(60,373<) 2 : Medium =(61-74) 3 : High =(>74,347). In the indicators of self-regulated learning, there are 3 indicators in this study. This research is one of them, self regulated of cognition, self regulated motivation and emotional, Self regulated of behavior. By using the SRL questionnaire with a calculation score of 4: Very appropriate 3 : Appropriate 2 : Not suitable 1 : Very unsuitable Suitable Category: 1: Low = (62,906<) 2 : Medium = (63 - 77) 3 : High =(>78,094). Data collection with the selection of respondents is determined randomly by using a lottery method as many as 126 numbers adjusting to the number of respondents arranged in class order. Researchers conducted an approach to respondents making WhatsApp groups who were selected as respondents based on the number of samples that have been carried out to obtain the respondent's consent to become a research subject. The researcher explained the purpose and objectives of the research if willing to become a respondent then invited to sign the informed consent sheet after that the researcher sends a link questionnaire to the WhatsApp group and the respondent is invited to fill it out. Respondents answered

the questionnaire via Google Form objectively and honestly. Statistical Test The researcher aims to analyze the relationship between emotional intelligence with self-regulated learning. Both variables are ordinal scales, therefore the statistical test used there is Spearman's Test.

RESULTS

Table 1. Characteristics of nursing students in semester III

Characteristics	n	%
Gender		
Male	23	18,3%
Female	103	81,7%
Age		
19	12	9,5%
20	97	77,0%
21	17	13,6%
Emotional intelligence		
Low	15	11,9%
Medium	96	76,2%
High	15	11,9%
Self Regulated Learning		
Low	15	11,9%
Medium	99	78,6%
High	12	9,5%

Based on table 1 above, it can be explained that of the 126 respondents, it was found that almost all nursing students were female, namely 103 (81.7%), while 23 (18.3%) were male. Nursing students are 20 years old as many as 97 (77.0%) and students aged 22 years are only 1 (0.8%) student. Almost all students' emotional intelligence is in the medium category as many as 96 (76.2%), while a small portion of 15 (11.9%) students fall into the high category and low category and almost all students' self-regulated learning is in the moderate category as many as 99 (78.6%) and a small proportion of students are in the low category 15 (11.9%) and a small proportion of students are in the high category 12 (9.5%).

Table 2. Cross Tabulation of the Relationship between Emotional Intelligence and Self Regulated Learning in Third Semester Nursing Students at Universitas Muhammadiyah Lamongan.

Emotional Intellegence	Self Regulated Learning							
	High		Medium		Low		Total	
	N	%	N	%	N	%	N	%
High	12	5,6	4	3,2	1	0,8	12	9,5
Medium	8	6,3	90	71,4	1	0,8	99	78,6
Low	0	0,0	2	1,6	13	10,3	15	11,9
Total	15	11,9	96	76,2	15	11,9	126	100
Uji *Spearman Rho*	*rs* = 0,671				P = 0,000			

The cross tabulation that has been done can be seen in table 4.5 which shows that most of the third semester nursing students have moderate emotional intelligence and also have a moderate level of Self Regulated Learning, namely 90 students or 71.4%. Based on the results of calculations and analysis using the spearman rho test in SPSS 22.0 for windows between emotional intelligence and Self Regulated Learning in third semester nursing students at Universitas Muhammadiyah Lamongan. Obtained 2 tailed sig value (p) = 0.000 where p <0.05 then H1 is accepted, meaning there is a relationship between emotional intelligence and Self Regulated Learning in third semester nursing students. Spearman correlation coefficient value (rs) = 0.671. The direction of the correlation shows a positive value which means that the higher the emotional intelligence, the higher the Self Regulated Learning it has.

DISCUSSION

In table 5 there is a relationship between emotional intelligence and self-regulated learning in 3rd semester nursing students at Universitas Muhammadiyah Lamongan. Based on this, it can be interpreted that the higher the emotional intelligence, the higher the self-regulated learning that students have, and vice versa. This statement is in accordance with the research of Afriani & Susetyo (2020) that there is a positive relationship between emotional intelligence and self-regulated learning. The level of emotional intelligence will have an impact on the level of students' self-regulated learning, this is because a student is able to manage his emotional situation so that the student will also be able to regulate and adjust his learning process (Yulianti, 2023; Sholina, 2019). Students who have positive emotions will encourage using self-learning strategies, while negative emotions cause reduced attention during the learning process (Alyaa & Romy, 2020). Emotional intelligence plays an important role in helping students manage stress and negative emotions that can affect concentration and motivation to learn. Students who have high emotional intelligence can better choose learning strategies that are appropriate to the situation at hand, thus increasing their learning effectiveness. In addition, the ability to understand emotions also helps students interact better with peers and teachers, creating a more positive learning environment.

The importance of emotional intelligence in supporting self-regulated learning suggests that education needs to focus not only on cognitive aspects but also on developing social-emotional skills. Training programs that enhance emotional intelligence can help students become more self-regulated in their learning process. For example, guidance approaches that integrate emotional intelligence development can improve students' ability to plan and evaluate their own learning. Self-regulated learning involves the ability of students to manage and control their own learning process, so that they are able to manage time, plan learning strategies, and monitor their progress so that they will achieve maximum learning results (Rizki et al., 2022). Self-regulated learning can have a positive impact on students such as increasing learning achievement and increasing motivation and changing behavior for good (Supitri et al., 2023; Rahmiyati, 2017). The development of self-regulated learning skills and emotional intelligence can help a student overcome challenges, and more easily adjust academic policies so as to reduce academic stress levels (Simamora et al., 2024).

CONCLUSION

Students with good EQ can be more effective in managing their emotions, which allows them to choose appropriate learning strategies according to the situation at hand. This contributes to their academic success. Given this significant relationship, it is important for educational institutions to integrate emotional intelligence development in the curriculum. Training programs that focus on improving EQ can assist students in improving their SRL, thereby supporting better academic performance.

Most of the 3rd semester nursing students at Universitas Muhammadiyah Lamongan have emotional intelligence in the moderate category. Most of the 3rd semester nursing students at Muhammadiyah University have moderate self-regulated learning . There is a significant relationship between emotional intelligence and self-regulated learning in 3rd semester nursing students at Universitas Muhammadiyah Lamongan.

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Research Article

Family Support Improves Adolescent Resilience in Dealing with Landslide Disasters in Jember

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ABSTRACT

Background: Landslide disaster is one of the natural phenomena that often occurs in Jember district. Adolescents are a group that is easily affected by landslide disasters. **Objectives:** This study was to determine the relationship between family support and adolescent resilience in dealing with landslide disasters. **Method:** This study used a quantitative research design with a cross-sectional approach. The population in this study were all adolescents living in Gendir Sukorambi Village, Jember, with a sample of 104 respondents selected using purposive sampling techniques. Data collection was carried out through a questionnaire that measured family support and adolescent resilience. **Results:** The statistical test of family support with adolescent resilience using the Spearman rank (rho) with $\alpha = 0.05$ were obtained ($r = 0.667$, p value 0.000) which means that family support has a strong relationship with adolescent resilience. This indicates that the higher the family support in supporting adolescents, the better the adolescent resilience in dealing with disasters. **Conclusion:** the importance of family relationships in increasing adolescent resilience in dealing with landslide disasters. Families are expected to provide support, information, and assistance needed by adolescents so that they are better prepared to face emergency situations. This study is expected to be the basis for policy making and intervention programs aimed at increasing adolescent resilience through the active role of the family. Thus, it is expected to reduce the negative impact of disasters on adolescent groups in Gendir Sukorambi Village and other areas that have similar risks.

Keywords

Family, Resilience, adolescents

INTRODUCTION

Indonesia is one of the countries in the world that often experiences natural disasters. This is because Indonesia is geographically located between two continents so that it is vulnerable to Landslide disaster that cause natural disasters such as floods, earthquakes, Landslides, volcanic eruptions, tornadoes, droughts and landslides in

Indonesia. In addition to natural disasters caused by geological factors, there are many more disasters caused by human activities. (Rohmah, 2020).

Administratively, East Java Province consists of 38 provinces/cities with a population of 41,416,407 million people (BPS, 2023). Jember Regency, as part of East Java Province, has a natural disaster risk index with a high risk class with a score of (135.56) and a landslide disaster risk (31.00). This positions Jember Regency in the high risk category with a national ranking (103) (BNPB, 2022). In the study by Jannah & Aini (2020), data was obtained that 81.2% of the adolesents were not prepared for disasters. A preliminary study of landslide disaster data conducted by researchers at the BPBD (Regional Disaster Management Agency) of Jember Regency found data on landslide in Sukorambi Village on January 3, 2023. A landslide on Sukorambi Village which caused trees to fall and a number of buildings were severely damaged. After a few months later, another tornado occurred on October 9, 2023, which damaged 135 houses, affecting 51 families.Preliminary studies conducted by researchers revealed that there are still many people who underestimate the Landslide disaster which is the highest potential disaster in the place where they live, there is minimal community participation in taking part in educational activities carried out by BPBD and there are still many people who misperceive the Landslide disaster.

Disaster Emergency Resilience and Handling Capacity in Indonesia reaches 35% (Badan Nasional Penanggulangan Bencana, 2019). The Resilience of the people of East Java Province is known to be in the low category with a percentage of 25. Badan Penanggulangan Bencana Daerah,2019). The Resilience of the Jember community has reached 25%, plus Sukorambi District is ranked first in areas with high Landslide potential (BPBD Jember, 2021). Coastal community Resilience can be influenced by knowledge and behavior, socio-economics, socio-psychology, as well as structural and normative influences (Kurnianto, 2019). Based on the description that has been provided, disaster education is considered capable of increasing community Resilience in facing disasters. further research is needed regarding the relationship between disaster education and community Resilience in facing the Landslide disaster.

METHOD

The research design was carried out with a correlational study using a cross-sectional approach which aims to determine the relationship between disaster education and the Resilience of young adults on the coast to face the Landslide disaster. In this type, the independent variable and dependent variable are measured at one time and there is no follow- up. The research was conducted in the coastal area of Sukorambi Village, Jember Regency with a population of 141 people. From the population, a research sample was determined to represent the population in providing research answers using a simple random sampling technique of 104 respondents. Analysis of research data was analyzed using univariate analysis carried out on each variable from the research results and bivariate analysis to determine whether there was a relationship between disaster education and the Resilience of coastal communities to face Landslide disasters.

RESULTS

General data contains the characteristics of respondents, including age, gender, ethnicity, religion, highest level of education and occupation. Based on table 1, it can be seen that the respondents in Pesisir Sukorambi were mostly aged (20 – 40 years) as many as 61 respondents (58.7%) with female gender as many as 53 respondents (51%) of which all 104 respondents adhered to Islam. respondents (100%). The Sukorambi Coastal Area is dominated by Javanese people with 63 respondents (60.6%). People with a high school education dominate the area as many as 71 people (63.3%) with the main sector of work being fishermen at 43 people (42,3%).

Tabel 1. Respondent characteristics (n=104)

Characteristic	Frequency	Percentage(%)
Age		
15-20 Year	61	58,7
21-25 Year	43	41,3
Gander		
Male	51	49
Female	53	51
Religion		
Islam	104	100
Ethnicity		
Java	63	60,6
Madura	41	39,4
Education		
Elementary School	11	10,6
Junior High School	22	21,2
Senior High School	71	68,3
Ocupation		
Self Employed	49	47
FIsherman	55	53

Tabel 2. Distribution of respondents based on coastal community Resilience in facing the Landslide disaster (n=104)

Level Resilience	Frequency	Percentage (%)
Very Resilence	29	27,9
Resilience	33	31,7
Almost Resilience	21	20,2
Not Resilience	18	17,3
Not Resilience Yet	3	2,9
Total	104	100

Based on table 2, it shows that the lowest frequency of respondents' Resilience was in the not ready category, 3 respondents with a percentage of (2.9%) and the highest frequency in the ready category for facing the Landslide disaster with a total of 33 respondents with

a percentage of 31.7%. The results of the research are described regarding the relationship between disaster education and the Resilience of coastal communities to face Landslide disasters in sukorambi, Jember Regency. Data collection was carried out for 14 days starting from 104 respondents. The data consists of the characteristics of the respondent community, the presence of disaster education, and Resilience. Bivariate analysis was carried out using the test Spearman rho. Based on Table 4, the results of the Spearman rho test on 104 respondents show whether there is a relationship between disaster education and community preparedness. The p-value in the table above is 0.000, which is less than 0.05, thus H1 is accepted, indicating that there is a relationship between disaster education and the preparedness of coastal communities in facing landslide disasters in Sukorambi Village, Jember Regency.

DISCUSSION

Conceptually, disaster education aims to change a person's behavior, including increasing aspects of knowledge, understanding, changes in attitudes and actions, as well as awareness in disaster prevention. (Setyowati, 2019). Agree with that, (Mujiburrahman et al., 2020) revealed that disaster education is one of the pre- disaster activities to increase knowledge, awareness and attitudes of the community in order to reduce losses that arise during a disaster.

Increasing a person's knowledge is expected to be able to change his behavior. This is in accordance with Lawrence W. Green's theory which states that there are 3 factors that can influence it and follow up on it by changing, maintaining or improving behavior in a better direction, namely predisposing factors, enabling factors and reinforcing factors. In this case, disaster education as part of the predisposing factors must be of good quality so that it can increase public knowledge about efforts to deal with Landslide disasters. Disaster education is one of the important activities in an effort to reduce the number of losses in the Landslide disaster which is a potential Landslide disaster in Sukorambi Village. In general, the disaster education carried out by BPBD Jember Regency has not been optimal. This was shown by the majority of respondents stating they were present (64.4%) and respondents stating they were not present (35.6%). These conditions indicate that the disaster education carried out by BPBD Jember Regency has not yet received its maximum benefits by coastal communities in Sukorambi Village.

According to researchers, based on data found in the field, educational or counseling activities need to be provided with special methods so that people want to understand and apply what has been given by the instructors, namely by providing poster leaflets that can be pasted on the doors of each house so that when the extension is complete forgotten then they can still remember the material by looking at the poster. There are still many people who do not attend the Landslide disaster education activities carried out by BPBD Jember Regency due to several reasons, namely that there are people who are busy with their work so they cannot take part in disaster education activities, the public's perception of the disaster education being carried out seems monotonous and less interesting and the perception is that that the Landslide is an unproven issue. Of course, this must be an evaluation for education implementers, namely BPBD Jember Regency.

Coastal Community Resilience in landslide Disasters di Sukorambi village Kabupaten Jember Based on the research conducted, the results show that coastal community Resilience is divided into five categories, namely 29 respondents with a percentage of 27.9% in the very ready category, as many as 33 respondents with a percentage of 31.7% in the ready category, as many as 21 respondents with a percentage of 20.2% in the almost ready category, as many as 18 respondents with a percentage of 17.3% in the less ready category, and as many as 3 respondents with a percentage of 2.9 % in the not ready category. The results listed by coastal communities in Sukorambi Village, Jember Regency are classified as communities with Resilience in the ready category.

Disaster Resilience is an activity that aims to ensure that the necessary resources can respond and take effective action during a disaster in order to minimize disaster risk through effective, timely and efficient action. (Badan Nasional Penanggulangan Bencana, 2017). There is a theory that explains several factors that can influence community Resilience, namely knowledge and behavior, socio-economics, socio-psychology, and structural and normative influences (Kurnianto, 2019).

The Resilience of coastal communities is very important in facing the Landslide disaster which is the biggest potential disaster in the area. Therefore, disaster education has an important role in changing and strengthening community Resilience behavioral factors, including predisposing factors consisting of education, knowledge, attitudes and perceptions. Supporting factors (enabling factors) consisting of disaster training and education, as well as the availability and affordability of Kulon facilities and infrastructure, namely the existence of an Early Warning System (EWS) located on Pancer Beach, evacuation routes installed along the southern highway, banners and billboards installed at several points along the coast and there are evacuation places located in the sand dunes, and reinforcing factors consisting of management commitment, the role of community leaders, the role of health workers, and the role of disaster management officers. The role of community leaders, the role of health workers and the role of disaster management officers are well known in efforts to reduce the risk of the Landslide disaster. This is known from the activities carried out by health workers related to disaster mitigation in the form of outreach about first aid to members of the Sukorambi Village Village organization, and disaster education carried out by the village government for fishermen groups as an effort to maximize community Resilience in facing the Landslide disaster.

Based on the research results in table 2, it was found that the results of observations using questionnaires conducted on 104 respondents showed that 67 respondents (64.4%) attended disaster education activities, and 37 respondents (35) did not attend disaster education activities. 6%). Statistical tests using Chi-Square show that there is an asymptotic significant value (2 sided) of 0.00. So the asymptotic significant value (2 sided) is 0.00 < 0.05, it can be concluded that H1 is accepted, there is a significant relationship between disaster education and the Resilience of coastal communities in facing the Landslide disaster in Sukorambi Village, Jember Regency. This can also be interpreted that

the more optimal disaster education is, the better the level of Resilience of coastal communities in facing Landslide disasters.

Disaster education n Family Support this research, it is very important to continue to carry out and improve its quality, because disaster education has a big impact on the Resilience behavior of coastal communities in facing the Landslide disaster which is the biggest potential disaster in the area. Not only is disaster education a predisposing factor for Resilience behavior that needs to be improved in quality, however. the synergy of community leaders, health workers, disaster resilient village organizations, as well as the availability of facilities and infrastructure that can support increasing community Resilience and the ease of the community in reaching and accessing the availability of facilities and infrastructure.

CONCLUSION

There is a relationship between disaster education and the Resilience of coastal communities in facing the Landslide disaster in Sukorambi Village, Jember Regency, where the Family Support, The role of family support is crucial in enhancing adolescent resilience when facing natural disasters, like landslides, which are a frequent occurrence in areas such as Jember, Indonesia. Adolescents often experience significant psychological and emotional strain during disasters due to the sudden disruption of their routines, potential loss, and the threat to their safety. The support and stability provided by family can serve as a protective factor that helps them cope, adapt, and recover more effectively. Government support in various aspects, adolescent resilience in Jember in dealing with landslide disasters can be significantly improved. This not only helps adolescents in disaster preparedness but also in recovery and adaptation afterward

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Research Article

Analysis of Nurses' Knowledge and the Application of Professional Nursing Practice Model (MPKP) Team with The Quality of Nursing Care

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ABSTRACT

Background: Implementing a professional nursing practice model in a hospital is very important because it has several significant benefits. The Professional Nursing Practice Model System (MPKP) is a framework to support professional nurses in carrying out nursing care or actions. The implementation of MPKP has been proven to be able to improve the quality of nursing care. **Objectives:** The research objective was to analyse nurses' knowledge and application of the team's professional nursing practice model (MPKP) to the quality of nursing care at Marsudi Waluyo Hospital. **Method:** Correlation analytical research design with a cross-sectional approach. The sample in the study was 59 nurses at Marsudi Waluyo Hospital. The independent variable is the team's knowledge and application of MPKP, while the dependent variable is the quality of nursing care. The instruments used were a knowledge questionnaire, the application of MPKP for head of room, team leader and executive nurses, as well as a questionnaire for the quality of nursing care. Multivariate analysis with logistic regression test with p-value <0.05. **Results:** The relationship between knowledge and the quality of nursing care (p-value 0.008<0.05); OR 0.223 and there is a relationship between the implementation of Team MPKP and the quality of nursing care (p-value 0.002<0.05); OR 2,470. **Conclusion:** Nurses who have good knowledge can improve the quality of nursing care 1-fold. Meanwhile, implementing a good team MPKP will increase 2.5 times the quality of nursing care

Keywords

Nurse knowledge; MPKP team; Quality of nursing care

INTRODUCTION

Nurses are the spearhead in providing direct care to patients Potter et al. (2021). The era of globalization and the rapid development of science, it is very important for health workers, especially nurses, to continue to develop and improve their skills in order to provide quality nursing care. According to Zalukhu (2020) as a nurse, it is very important for nurses to be able to make decisions in solving nursing care problems. Through research by Parreira, et al. (2021) it is stated that nursing is currently not only

considered an art but also a science that is continuously reorganized based on scientific principles and represented by its own body of knowledge.

Hospitals that are known to have high standards of care and professional nurses tend to attract patients and other health workers. A positive image and good reputation not only increase patient attendance but also build public trust in the hospital and the nursing team that provides quality care (Cho, S., & Lee, E., 2017). Research by Tseng, H.M., et al. (2020) concluded that hospital reputation has a significant influence on patient perceptions of service quality. Hospitals that are known to have high standards of care and professional nurses tend to get positive assessments from patients regarding service quality. The implementation of a professional nursing practice model in a hospital is very important because it has several significant benefits. The MPKP (Professional Nursing Practice Model) system is a framework to support professional nurses in carrying out nursing care or actions (Nursalam, 2016). The professional nursing practice model helps improve the quality of patient care. By adopting a standardized practice model, nurses can provide consistent, evidence-based care to patients. This helps reduce nursing errors and improve clinical outcomes and patient satisfaction.

METHOD

Analytical cross-sectional research design, which is a type of research that emphasizes the measurement/observation time of independent and dependent variable data only once at one time. This study uses the Purposive Sampling technique. The sampling technique is in accordance with the researcher's criteria. Inclusion criteria; 1) inpatient nurses at Marsudi Waluyo Hospital, 2) Nurses who are on duty (shift). The exclusion criteria in this study were nurses who were not cooperative. The population in this study were all nurses working at Marsudi Waluyo Hospital, totaling 95 people. The sample in this study was some of the nurses in the inpatient room of Marsudi Waluyo Hospital, totaling 59 respondents. The instruments used in this study were the MPKP Team knowledge questionnaire, the implementation of the MPKP Team, and the quality of nursing care.

RESULTS

Table 1. Respondents' Characteristics at Marsudi Waluyo Hospital (n=59)

Variable	Frequency	Percentage
Gender		
Male	12	20,3%
Female	47	79,7%
Age		
<30 years	29	49,2%
>30 yars	30	50,8%
Education		
Diploma III	45	76,3%
Firs Degree	14	23,7%
Length of Work		
<1 years	5	8,5%

Variable	Frequency	Percentage
1-5 years	22	37,3%
>5 years	32	54,2%
Position		
Head of room	5	8,5%
Team leader	23	39%
Associate Nurse	31	52,5%
MPKP Training		
Yes	48	81,4%
No	11	18,6%

Source: Primary Data, 2023

Based on table 1, it shows that the majority of respondents are female, as many as 47 respondents (79.7%), age >30 years (50.8%), Diploma III education (76.3%), length of service >5 years (54.2%), position as an implementing nurse (52.5%), and have attended MPKP training (81.4%).

Table 2. Distribution of Knowledge, Implementation of MPKP, Quality of Nursing Care at Marsudi Waluyo Hospital (n=59)

Variable	Frequency	Percentage
Knowledge		
Good	27	45,8%
Enough	28	47,5%
Poor	4	6,8%
Implementation MPKP		
Good	27	45,8%
Enough	26	44,1%
Poor	6	10,2%
Quality of Nursing Care		
Good	40	67,8%
Poor	19	32,2%

Source: Primary Data, 2023

Based on table 2, it shows that the majority of respondents' knowledge is good, as many as 27 respondents (45.8%) and good implementation of MPKP as many as 27 respondents (45.8%), and the quality of nursing care is in the good category as many as 40 respondents (67.8%).

Table 3. The Relationship between Knowledge, MPKP implementation and Quality of Nursing Care at Marsudi Waluyo Hospital

Variable	Quality of Nursing Care				Total	
	Good		Less			
	f	%	f	%	f	%
Knowledge						
Good	22	37,3	5	8,5	27	45,8
Enaugh	18	30,5	10	16,9	28	47,5
Poor	0	0	4	6,8	4	6,8
MPKP Implementation						
Good	25	42,7	2	3,4	27	45,8

Variable	Quality of Nursing Care				Total	
	Good		Less			
	f	%	f	%	f	%
Enough	13	22,0	13	22,0	26	44,0
Poor	2	3,4	4	6,8	6	10,2
Total	40	67,8	19	32,2	59	100

Based on table 3, it is known that 27 respondents (45.8%) have good knowledge, 22 of whom have good knowledge in improving the quality of nursing care at Marsudi Waluyo Hospital. It is known that 27 respondents (45.8%) implemented the MPKP Team well, 25 of whom were good at improving the quality of nursing care at Marsudi Waluyo Hospital.

Table 4. Analysis of the Relationship between Knowledge and Implementation of MPKP with the Quality of Nursing Care at Marsudi Waluyo Hospital

Independent Variable		Koefisien Korelasi	p-value
Nurse knowledge (X1) Implementation of MPKP (X2)	Quality of Nursing Care (Y)	0,744	0,008

Based on table 4, it shows that the correlation coefficient value is 0.744, meaning that the quality of nursing care is influenced by the nurse's knowledge factor and the implementation of the MPKP Team by 74.4%, and the rest is influenced by other factors.

Table 5. Analysis of the Relationship between Knowledge and Implementation of MPKP with the Quality of Nursing Care at Marsudi Waluyo Hospital

Variabel	B	Exp (B)	Constanta	p-value
Nurse knowledge	1,499	0,223	0,526	0,008
Implementation of MPKP	0,904	2,470		0,002

Based on table 6 is the main table of data analysis using logistic regression. The p-value of the nurse's knowledge variable is 0.008 <0.05, then H1 is accepted, and it can be concluded that there is a significant relationship between nurses' knowledge and the quality of nursing care with a coefficient relationship value of 0.223. The p-value of the MPKP Team implementation variable is 0.002 <0.05, then H1 is accepted, and it can be concluded that there is a significant relationship between the implementation of MPKP Team and the quality of nursing care with a coefficient relationship value of 2.470. Logistic regression equation model;

Nursing Care Quality = 0.526 + 0.223 Knowledge + 2.470MPKP Implementation

Interpretation can be done by looking at the value of exp(B) or the exponent value of the coefficient of the regression equation formed. The exp(B1) value can be seen that good nurse knowledge will affect the quality of nursing care 0.223 times more than poor nurse knowledge. The exp(B2) value can be seen that the implementation of good Team MPKP has the opportunity to improve the quality of nursing care 2.470 times more than the implementation of poor Team MPKP.

DISCUSSION

Nurses' Knowledge of MPKP Team.

Based on the results of the study, it shows that most of the respondents' knowledge is quite good. This is in accordance with all studies that a nurse's knowledge of MPKP is good (Agustin et al., 2022). Knowledge is a term used to describe when someone knows about something. Something that becomes his knowledge always consists of elements of knowing and being known as well as awareness of what he wants to know (Rahmiati et al., 2019). Respondents in the study had good knowledge, because they had participated in MPKP training held by the Hospital internally to improve nurse competence. Good nurse knowledge is also influenced by several factors such as age, gender, and education.

Based on the results of the study, it is known that most of the respondents are > 30 years old. Other studies state the same thing that the productive age in receiving good knowledge is at the age of 20 - 63 years (Pawa et al., 2021). This age has had various previous experiences related to what should be done including in the implementation of MPKP and improving the quality of nursing care (Cunningham, et al., 2017). The age of the respondents is included in the productive age category where they still think about themselves regarding their obligations in providing health services. As the age of the respondents increases, the level of maturity or maturity of a person will increase, so that nurses are aware of the importance of implementing MPKP and improving the quality of nursing care is their duty and responsibility. A person's gender will influence him/her in acting and determining a choice that is considered the most correct. Based on the results of the study, most of the respondents were female. This result does not agree with the research conducted by Dhamoon et al., (2018) in Canada, that good knowledge is mostly possessed by men, this is because male respondents have more activities outside and always use the best thinking in receiving any information, so it is easier to get information. Knowledge about MPKP of male and female respondents is almost the same. The implementation of MPKP is said to be good if each nurse has good knowledge about the implementation of MPKP, good knowledge, if the nurse is able to carry out their duties according to their roles and responsibilities in accordance with the MPKP concept.

Education can determine a person's knowledge in having good self-awareness, the higher a person's education, the easier it is to receive information. Based on the results of the study, most respondents were college graduates who had a diploma III education level. Education is one way for someone to get good knowledge. According to (Handayani et al., 2020) and Notoatmodjo (2012) said that education is very important and will affect a person's cognitive in the process of increasing knowledge, absorbing information, adding experience. Respondents can think critically and can compare the information they receive based on higher education and good experience about the implementation of MPKP and improving the quality of nursing care, so that they know how to provide good nursing care.

There is a small number of respondents who have insufficient knowledge as many as 4 respondents (6.8%). Lack of knowledge is because respondents have never participated in the Professional Nursing Practice Model (MPKP) training held by internal or external parties. The increase in nurses' knowledge is obtained from seminars and

workshops or training according to the needs of the room to develop their competence as professional nurses (Dhamoon et al., 2018). Respondents who have not attended the MPKP implementation training because at the time of the training, the respondents were on leave or not on duty, so the respondents did not get information about the implementation of MPKP like other respondents.

Implementation of Team MPKP

Based on the results of the study, most respondents in the implementation of the team MPKP are in the good category. The results of Prawira Sentana's study (2017) showed that the management approach in the professional nursing practice model and nurse job satisfaction on nurse performance had a significant effect. Another study conducted by Rahayu et al., (2017) found that the ability of karu and katim in patient nursing care had a significant relationship with increasing patient independence. Other studies also found that there was a relationship between the Professional Nursing Care Model (MAKP) and nurse satisfaction in the inpatient ward of Sari Mutiara Lubuk Pakam General Hospital (Hasibuan et al.,2021). Nursing care standards can be achieved well, if the implementation of nursing care is perceived as a commitment owned by each nurse in showing their right to provide humane, safe care, and in accordance with the standards and ethics of the nursing profession that is continuous consisting of the nursing process, including; assessment, diagnosis, planning, implementation of plans, and evaluation of nursing actions that have been given.

The results of the study found that 48 respondents had participated in MPKP implementation training. Previous research found an increase in the implementation of MPKP through continuous training and evaluation to improve the knowledge and skills of nurses in providing professional nursing care (Yulita et al., 2019). Another study conducted by Chen et al., (2016) also showed that the attitude of nurses' services was found to have an impact on the satisfaction rating of inpatients. Nurses are one of the human resources or health workers in the Hospital with the largest number of other health workers. Nurses have direct contact with patients and provide care hours of up to 24 hours. Therefore, a nurse requires special competence in providing professional nursing care and can be used as a standard for the hospital system.

The results of the study showed that the length of service of most respondents was > 5 years. Length of service is one of the factors that can affect a person's performance, the longer a person works, the more experienced they will be in their work so that they will provide better performance (Manuhutu et al., 2020). The length of time a person works can add experience and understanding of the job, which makes their work better and a high commitment will be formed, and with this commitment it will make a person more responsible for their work (Welembuntu & Gobel, 2020). Nurses who work have a high commitment to their work, because most of them are college graduates, namely diploma III and are nurses who have just completed their studies and have passed the competency test, so that is what motivates them to carry out the MPKP team properly. In addition to the good category of implementing the MPKP team, there are also

respondents, namely implementing nurses (PP) who when implementing the MPKP team are in the less category as many as 6 respondents (10.2%). MPKP has several nursing care methods that can be used in nursing services in hospitals, the determination of these methods must of course be adjusted to the type and characteristics of the hospital. Accuracy in determining the nursing care method will affect the quality of nursing services, so it needs to be considered and studied properly in deciding the nursing method to be used (Wildani et al., 2020). Marsudi Waluyo Hospital as a research location has implemented two nursing methods in inpatient services, namely using the functional nursing method, and then in 2020 to September 2023 the inpatient nursing method used the TEAM method. The implementation of the MPKP team in the less category is also due to the absence of supervision activities by the hospital management, as a form of evaluation of obstacles or shortcomings in the implementation of the MPKP team.

Nursing Care Quality

Based on the results of the study, it is known that most of the quality of nursing care is in the good category. The results of previous studies found that most respondents stated that service performance was good (Rustifani et al., 2017). Users of health services demand quality services not only regarding physical recovery from illness, but also regarding satisfaction with the attitudes, knowledge and skills of officers in providing services and the availability of adequate facilities and infrastructure that can provide comfort (Juliana, 2017). Researchers argue that the quality of care is one of the measuring tools for assessing the quality of health services, therefore hospitals must improve the quality of health services by looking at the performance of service providers that have been provided to patients.

The quality of nursing care is good because the highest questionnaire score results nurses can carry out nursing actions well with a respondent score of 192.5. The implementation of nursing actions is a series of activities carried out by nurses to help clients from health status problems faced to good/optimal health status (Handayani et al., 2020). This is in line with previous research with the highest score on the point that all actions that have been carried out are recorded concisely and clearly (Juniarti et al., 2020). Nurses write down the client's response after nursing actions are given, because nurses are responsible for the perfect recording of nursing actions to avoid the impact on the problem of accountability that is questioned in everything that is done and recorded by nurses in the action sheet and can increase the efficiency and effectiveness of nursing staff.

Based on the results of the study, the highest score was obtained in the assessment aspect that the data was reviewed from the time the patient entered until he was discharged, getting a score of 213. The results of the study are not in line with previous studies which stated that the highest score for nurses in conducting assessments was data grouped (bio-psycho-social-spiritual) (Juniarti et al., 2020). This assessment is the initial step in the nursing process, where from the assessment data nurses can identify problems and can plan actions to be taken on patients who will be given nursing care.

The quality of nursing care at the research site for respondents of room heads, team leaders and implementing nurses who had poor quality nursing care was 19 respondents (32.2%). Hospitals as service providers for patients need to have quality services that are in accordance with patient expectations (Herman, Sudirman, & Nizmayanun, 2018). The increasing quality of service, the service function in the hospital needs to be improved to be more effective and efficient and provide satisfaction to patients (Yulina & Ginting, 2019). The quality of health services is an important factor in the utilization of health services. Assessment of good service quality is not limited to physical healing of the disease, but also to the attitude, knowledge and skills of officers in providing services, communication, information, courtesy, punctuality, responsiveness and the availability of adequate facilities and physical environment.

Relationship between Nurses' Knowledge and Team MPKP Implementation with the Quality of Nursing Care

Based on the results of the study using the multivariate logistic regression statistical test. The p-value of the nurses' knowledge variable is 0.008 <0.05, so H1 is accepted, and it can be concluded that there is a significant relationship between nurses' knowledge and the quality of nursing care with a coefficient relationship value of 0.223. Good nurse knowledge will affect the implementation of the team MPKP in services. The implementation of MPKP is one of the efforts in various hospitals adjusted to the situation and conditions of the hospital. In providing nursing care to patients, a method and a certain system are needed including adequate Human Resources (HR) facilities and equipment, for example, nursing HR qualifications (Pawa et al., 2021). Professional nurses are nurses who have a bachelor's degree in nursing with an appropriate number of at least 5 people in one room (Muriyati & Safruddin, 2017). MPKP is currently a demand for society and hospitals. This will be a challenge for nurses as providers of nursing services to have the knowledge, attitudes and behavior expected by patients. One of the strategies of the hospital where the research was conducted in implementing MPKP was to provide nurses with the opportunity to improve their competence through further studies from diploma III to strata 1 and nurses. Based on the results of the study using the multivariate statistical test of logistic regression. The p-value of the MPKP Team implementation variable was 0.002 <0.05, so H1 was accepted, and it can be concluded that there is a significant relationship between the implementation of MPKP Team and the quality of nursing care with a coefficient relationship value of 2.470. Another study conducted by Rahayu et al., (2017) found that the ability of Karu and Katim in patient nursing care had a significant relationship. Other studies also found that there was a relationship between MAKP TIM in the inpatient ward of Sari Mutiara Lubuk Pakam General Hospital (Hasibuan et al., 2021). MAKP has a positive impact on patient, family and nurse satisfaction, besides that MAKP also has an impact on the job satisfaction of other professions (Karaca & Durna, 2019). Health services in Indonesia are directed to be able to provide health services that have standards so that they can improve the health of the Indonesian people. The government is making every effort to improve the quality of

health services, both in terms of human resources and in terms of the availability of medical equipment and supporting materials, including the quality of services provided.

Interpretation can be done by looking at the value of exp(B) or the exponent value of the coefficient of the regression equation formed. The exp(B1) value can be seen that good nurse knowledge will affect the quality of nursing care 0.223 times more than poor nurse knowledge. The exp(B2) value can be seen that the implementation of good MPKP Team has the opportunity to improve the quality of nursing care 2.470 times more than the implementation of poor MPKP Team. The results of previous studies stated that the higher the value of nurse knowledge, the higher the quality of nursing services and vice versa, the lower the nurse knowledge, the lower the quality of nursing services (Butar & Simamora, 2016). Other studies have obtained results in line that there is a relationship between nurse knowledge and nursing services (Librianty, 2019). According to the researcher's assumption, from the results of the study, it can be seen that very good nursing services are influenced by nurse knowledge. Nurses who have good or high knowledge from the results of increasing competence both through formal and non-formal education such as training and attending seminars or workshops, so that they can provide optimal services in accordance with the professional nursing care methods determined by the hospital. Good nursing knowledge also affects the quality of nursing care at the research site. Nursing care is a process or series of activities in nursing practice that are given directly to patient clients in various health service settings. The implementation of nursing care is based on nursing principles as a profession based on nursing science and tips (Rupisa et al., 2018). The results of previous studies that nurses' knowledge in filling nursing care at Mitra Sejati General Hospital obtained good knowledge (Barus, 2018). Nurses in providing nursing care must demonstrate a professional attitude and good knowledge to all patients they care for. Attitude is the most important concept in social psychology that discusses the elements of good attitude as a nurse.

CONCLUSION

The implementation of Team MPKP at Marsudi Waluyo Hospital is mostly good. The quality of nursing care at Marsudi Waluyo Hospital is mostly good. The results of data analysis obtained a p-value of 0.008 <0.05, meaning that there is a significant relationship between nurses' knowledge and the quality of nursing care. A p-value of 0.002 <0.05 means that there is a significant relationship between the implementation of Team MPKP and the quality of nursing care. The strongest relationship in this study is the implementation of team MPKP with the quality of nursing care, as seen from the Exp(B) value of 2.470.

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Research Article

The Effect of Range of Motion Exercise and *Wudhu* Therapy on Pain Levels and Sleep Quality of Osteoarthritis Patients

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ABSTRACT

Background: Osteoarthritis (OA) is a degenerative disease. The main problem often experienced by osteoarthritis patients is joint pain. Pain will increase when doing activities, limiting a person's activities. **Objectives:** This study aims to determine the effect of Range of Motion (ROM) and *wudhu* (ablution) therapy on pain levels and sleep quality in patients with Osteoarthritis. **Methods:** This study used a pre-experimental one-group pre-posttest design with a total sampling of 30 respondents. Research instruments included SOP on ROM exercises, pain levels were measured by the Numeric Rating Scale, and the Pittsburgh Sleep Quality Index measured sleep quality. **Results:** The results showed that before the intervention 16 people experienced mild pain, 11 people experienced moderate pain, and 3 people experienced severe pain. After the intervention, 21 people did not experience pain, 6 experienced mild pain, 2 experienced moderate pain, and 1 experienced severe pain. Hypothesis testing on pain levels using the Wilcoxon test ($p = 0.000$ α 0.05) indicated the effect of ROM training and *wudhu* therapy on pain levels. Likewise, the paired t-test results ($p=0.000$ α 0.05) showed the effect of ROM training and *wudhu* therapy on sleep quality. **Conclusion:** The combination of ROM and *wudhu* therapy can strengthen muscles or joints in patients with limited mobility due to disease, disorder, or trauma. Wudhu therapy can clear the mind, soothe the heart, reduce stress, worry, anger, and improve sleep quality.

Keywords: osteoarthritis, *wudhu*, sleep quality, range of motion

INTRODUCTION

Osteoarthritis (OA) is the most widely recognized degenerative disease among geriatrics and is a major cause of significant disability in daily life (Yunus et al., 2020). Osteoarthritis is the most common cause of limitation of motion and function. The knee joint is most commonly affected. Osteoarthritis is caused by wear and tear of the joint bones due to frequent use (frequent weight bearing), destruction of articular cartilage along with new bone, and a decrease in the content of synovial fluid in the cartilage,

namely proteoglycans. Due to the loss of protective proteoglycans, the cartilage collagen tissue is destroyed and degenerated. However, because the exact cause is unknown, there is no optimal treatment to overcome the problem of knee osteoarthritis (Indri Susilawati, 2015).

Decreased physical activity will affect patients in carrying out daily life activities and will affect their sleep quality. About 70% of people with OA experience some sleep disturbance. The problems range from difficulty falling asleep to waking up earlier than desired or insomnia. Pain is an important part of the equation, but researchers have found that pain and insomnia influence each other. A further consequence of osteoarthritis is a decrease in functional activity, especially difficulty in getting up to sitting, walking, going up and down stairs, and others (Muhyi et al., 2023).

According to WHO, in 2019, around 73% of osteoarthritis patients were over 55 years old, and 60 of them were women. With an incidence of 365 million people, the knee is the most commonly affected joint, followed by the hip and hand. 344 million people suffer from osteoarthritis, a condition of moderate to severe severity that requires rehabilitation. Based on preliminary data collected from the Takerharjo Village Health Center in December, it was found that the number of osteoarthritis sufferers was 40 people. The results of interviews with 10 residents, 7 residents, or 70%, suffered from Osteoarthritis; of the 7 residents 5 experienced severe pain, 1 experienced moderate pain; some of the effects of Osteoarthritis include 50% of residents were in pain when walking and experiencing joint stiffness when waking up, and 20% of residents were in pain when standing upright and experiencing joint stiffness when waking up.

Factors leading to Osteoarthritis include age, gender, obesity, physical activity, genetics, and joint trauma. Age is among the highest causative factors for people with Osteoarthritis, where the joints degenerate and cause pain. If the pain is not resolved, it causes other health problems, such as prolonged pain and disturbances in sleep patterns (Arguello & Kali S. Thomas, 2017). In addition, nighttime pain in OA may increase as the disease progresses. Sleep has been well documented as an essential element of our daily lives, and its importance to mental and physical health, and disruptions in sleep habits, leading to poor sleep quality or insufficient sleep hours, can adversely affect disability, depression, pain, and overall health. It is widely accepted that pain has a negative effect on sleep quality, but little is known about how to manage sleep disturbances when experiencing pain (Martinez et al., 2019).

Osteoarthritis can be treated to reduce pain intensity and improve function and sleep quality through a combination of non-pharmacological and pharmacological interventions. As first-line therapy, guidelines recommend nonsteroidal anti-inflammatory drugs (NSAIDs), a heterogeneous group of chemical agents that inhibit the production of prostaglandins (PG) and thromboxane A through cyclooxygenase (COX) blockade, but their long-term use is limited by toxicity, especially cardiovascular (CV), gastrointestinal (GI) and renal toxicity (Magni et al., 2021). Meanwhile, non-pharmacological treatments include elderly education, physical therapy, occupational therapy, cold or heat application, range of motion physical exercise, rest, care for joints, weight loss if obese, and acupuncture (Endri Ekayamti, 2021).

Pharmacological treatment of sleep disorders using benzodiazepines, nonbenzodiazepine omega receptor agonists (zolpidem), tricyclic antidepressants, selective gamma-aminobutyric acid (GABA) agents, and antihistamines has been widely introduced in an era where sleep and anxiety disorders are common (Molnar et al., 2021). However, it is evident that taking sleeping pills can increase the sense of addiction and want to be taken continuously. Sleep disorder can be treated with pharmacological treatments such as administering drugs. On the other hand, non-pharmacology treatments such as music therapy, lavender herbal aromatherapy, elderly gymnastics, yoga exercises, Range of Motion exercises, reflexology, and wudhu therapy can also be carried out. The most appropriate therapy or the most efficient and easy to do for those experiencing sleep disorder problems is by doing *wudhu* or ablution therapy and Range of Motion exercises (Saputro & Sudyasih, 2015).

Range of Motion exercises and *wudhu* therapy are a combination of Range of Motion exercises to treat pain in osteoarthritis sufferers and *wudhu* therapy with an approach to the beliefs held by clients to overcome sleep disorders in osteoarthritis sufferers who often experience sleep disturbances. Neurological experts have proven that *wudhu* water that cools the nerve endings of the fingers and toes is useful for stabilizing the concentration of the mind and relaxing (Saputro & Sudyasih, 2015).

METHODS

This research employed a pre-experimental one-group pre-post-test. This study was conducted in April. It was carried in one day for twice, giving morning and afternoon interventions for 1 week in Takerharjo Village. The sample was 30 people with osteoarthritis who were obtained by using a total sampling technique.

The instrument used for ROM exercises and *wudhu* therapy was Standard Operating Procedures (SOP). For measuring pain levels, the Numeric Rating Scale (NRS) was employed, while the Pittsburgh Sleep Quality Scale questionnaire was used. The Pittsburgh Sleep Quality Index (PSQI) questionnaire consisted of 9 questions. Using an ordinal scale with the overall score of the Pittsburgh Sleep Quality Index (PSQI) is 0 to a value of 21 obtained from 7 components. The data were analyzed using Statistical Program for Social Science (SPSS) Version 27. Hypothesis testing on pain levels used Wilcoxon signed-rank test while for sleep quality used paired sample t-test

RESULTS

Table 1. Data Characteristics of Respondents with Osteoarthritis

Characteristics	f	%
Gender		
Male	2	6.7
Female	28	93.3
Age (years)		
45-54	2	6.7
55-65	25	83.3

Characteristics	f	%
66-74	3	10.0
Education		
Elementary school	10	33.3
Junior high school	5	16.7
Senior high school	15	50.0
Jobs		
Unemployed	9	30.0
Farmer	11	36.7
Housewife	7	23.3
Self-employed	1	3.3
Others	2	6.7

The results showed that almost all Osteoarthritis sufferers were female, 28 people (93.3%), and a small proportion were male, 2 people (6.7%). Almost all of them show that osteoarthritis sufferers aged 51-60 years old, 24 people (80.0%), and a small proportion of osteoarthritis sufferers aged 61-70 years, totaling 6 people (20.0%). Osteoarthritis sufferers had a high school/ vocational high school education, 15 people (50.0%); a junior high school education, 5 people (16.7%), and an elementary school education, 10 people (33.3%). They worked as farmers, 11 people (36.7%); did not work, 9 people (30.0%); housewives, 7 people (23.3%), and self-employed, 1 person (3.3%), and other occupations, 2 people (6.7%).

Table 2. Pre-Test and Post-Test Respondent Data of ROM Exercises and *Wudhu* Therapy Based on Pain Levels

Pain Levels	Pre-test			Post-test		
	N	%	Mean	N	%	Mean
No pain	0	0		21	70.0	
Mild	16	53.3		6	20.0	
Moderate	11	36.7	3.80	2	6.7	0.73
Severe	3	10.0		1	3.3	
Total	30	100.0		30	100.0%	

Table 2 illustrates the pain levels of osteoarthritis patients before and after receiving ROM (Range of Motion) exercises and *wudhu* therapy. Prior to the intervention (pre-test), a majority of 16 patients (53.3%) experienced mild pain, 11 patients (36.7%) experienced moderate pain, and 3 patients (10.0%) experienced severe pain. Following the intervention (post-test), nearly all patients, 21 individuals (70.0%), reported no pain. A small proportion, 6 patients (20.0%), still experienced mild pain, 2 patients (6.7%) experienced moderate pain, and only 1 patient (3.3%) continued to experience severe pain. Table 3. Pre-Test and Post-Test Respondent Data of ROM Exercise and *Wudhu* Therapy Based on Sleep Quality

Sleep Quality	Pre-Test			Post-Test		
	N	%	Mean	N	%	Mean
No disorder	0	0		23	76.7	
Mild	0	0		5	16.7	
Moderate	11	36.7	14.97	2	6.7	1.60
Severe	19	63.3		0	0	
Total	30	100.0		30	100.0	

Table 3 demonstrates the impact of ROM exercises and *wudhu* therapy on the sleep quality of osteoarthritis patients before and after the intervention. Initially (pre-test), a majority of the patients, 19 respondents (63.3%), experienced severe sleep disturbances, while a significant minority, 11 respondents (36.7%), experienced mild sleep disturbances. Following the intervention (post-test), almost all patients, 23 respondents (76.7%), reported improved sleep quality. A small proportion, 5 respondents (16.7%), continued to experience mild sleep disturbances, and an even smaller proportion, 2 respondents (6.7%), experienced moderate sleep disturbances.

Table 4. Frequency Tabulation of the Effect of Range of Motion Exercises and *Wudhu* Therapy on the Pain Level of Osteoarthritis Patients

Pain Level	Mean ± SD	Min-max	P
Pre-test	3.80±1,031	0-6	0.00
Post-test	0.73±1,484	3-6	

Table 4 presents the average pain intensity of osteoarthritis patients before and after receiving ROM exercises and *wudhu* therapy. The average pain intensity before the intervention (pre-test) was 3.80, while the average post-intervention (post-test) value was 0.73, resulting in a difference of 3.07 between the pre-test and post-test scores. The Shapiro-Wilk normality test indicated that the data distribution was not normal, with p- values for both the pre-test and post-test pain levels being 0.000 ($p < 0.05$). Consequently, the Wilcoxon signed-rank test was employed for statistical analysis. The Wilcoxon signed- rank test yielded a significant result ($p = 0.000 < 0.05$), indicating that ROM exercises and wudhu therapy had a significant effect on the pain levels of osteoarthritis sufferers in Takerharjo Village, Solokuro District, Lamongan Regency.

Table 5. Frequency Tabulation of The Effect of ROM Exercise and *Wudhu* Therapy on Sleep Quality of Osteoarthritis Patients

Sleep Quality	Mean ± SD	Min-max	P
Pre-test	14.97±2.580	10-20	0.00
Post-test	1.60±3.136	0-10	

Table 5 shows the average sleep quality scores of osteoarthritis patients before and after receiving ROM exercises and wudhu therapy. The average sleep quality score before the intervention (pre-test) was 14.97, while the average post-intervention (post-test) score was 1.60, resulting in a difference of 13.37 between the pre-test and post-test scores. According

to the Shapiro-Wilk normality test, the pre-test sleep quality p-value was 0.166 ($p > 0.05$), indicating a normal distribution, whereas the post-test p-value was 0.000 ($p < 0.05$), indicating a non-normal distribution. Despite this, the paired t-test was used for analysis. The paired t-test results for the sleep quality variable yielded a significance value of $p = 0.00$ ($p < 0.05$), indicating a significant effect of ROM exercises and *wudhu* therapy on the sleep quality of osteoarthritis patients in Takerharjo Village, Solokuro District, Lamongan Regency.

DISCUSSION

The results showed that most of the patients at the time before being given ROM exercises and *wudhu* had mild pain levels of 16 people, while those experiencing moderate pain were 11 people and 3 people had severe pain; the entire population was 30 people. Then after being given ROM exercises and wudhu, almost all pain levels decreased. There was no pain in as many as 21 people, mild pain in as many as 6 people, moderate pain in as many as 2 people, and those experiencing severe pain in 1 person. This study was in accordance with research conducted by Jayanti (2021) at the Budhi Dharma Bekasi Elderly Social Rehabilitation Center, which found significant differences between before and after the treatment of ROM and *wudhu* exercises on the pain level of osteoarthritis sufferers. This was in accordance with the theory of Nugraha (2023), which stated that when researching 45 osteoarthritis patients who experienced knee joint pain. Pain increased when doing activities, which made a person's activities limited. In Tarigan's research (2019), decreased physical activity affected patients in carrying out daily life activities. This research was in line with Nugraha (2023).

Osteoarthritis often occurs in perimenopausal women who have low estrogen levels, are overweight, and are still actively working. According to Nugraha (2023), during menopause, older women experience a decrease in the hormone estrogen and other physiological functions in the body. In addition, with age, lysosomal activity increases, and osteoarthritis is more common in women. Other factors that contribute to the development of osteoarthritis are activities or occupations that involve excessive physical exertion or repetitive stress on the joints, such as kneeling or excessive lifting. Based on gender factors, the results of the study explain that women have a higher incidence of osteoarthritis, namely 44 people. According to Muhyi's research (2023), the reason why women suffer more from osteoarthritis is the hormonal theory, which states that the incidence of osteoarthritis increases in women, especially after menopause. When estrogen levels decrease during menopause, the protective effect of estrogen on chondrocytes is reduced. Husnah's research (2019) says estrogen also has a bone protective effect through a paracrine mechanism involving osteoclast activity by inhibiting osteoclast function, thus making women more likely to suffer from osteoarthritis as they age.

According to the researcher, before being given ROM exercises and *wudhu*, the patient had a high level of pain due to factors of age, gender, weight, and occupation, which caused respondents to complain of frequent pain in the knee joint. After giving ROM exercises and *wudhu*, there was a decrease in pain levels; this was because ROM exercises and wudhu had many benefits for maintaining flexibility and joint motion ability, reducing pain, and

restoring the client's ability to move muscles to improve blood circulation. The results of this study indicated that before being given ROM exercises and *wudhu*, osteoarthritis sufferers experienced pain caused by factors of age, gender, weight, and heterogeneous conditions. In contrast, after giving ROM exercises and *wudhu*, there was a decrease in pain levels. This was due to the provision of ROM exercises and *wudhu*, which were carried out twice a day for 1 week in the morning and evening.

The results showed that most of them had disturbances in sleep quality before being given ROM and wudhu exercises. A total of 11 people experienced moderate sleep disturbances, and 19 people experienced severe sleep disturbances. Meanwhile, after being given ROM and wudhu exercises for 1 week, it showed that most respondents experienced a decrease in sleep disturbances. A total of 23 people had no sleep disturbances, while those who experienced mild sleep disturbances were 5 people, and those who experienced moderate sleep disturbances were 2 people. This research was in accordance with research conducted by Forwaty (2019) on improving sleep quality. There was a significant difference between before and after ROM treatment on the sleep quality of osteoarthritis sufferers. According to Anisia (2020), with increasing age, physiological function also decreased due to the aging process, so many non-communicable diseases appear in the elderly, such as joint disease. Osteoarthritis is the most common degenerative joint disease suffered by the elderly. Research stated that decreased physical activity led to decreased muscle elasticity. A study by Alpharesi (2020) also showed that muscle groups with lower metabolic activity might experience decreased flexibility. According to Maharani (2023), this situation could create energy efficiency and increase muscle flexibility during contraction.

Hasdiana's research (2018) at Yogyakarta Private Hospital found that in people aged 60 years and over, the incidence of osteoarthritis was found to be up to 57% compared to people under the age of 60 years. The age factor has a significant influence on the occurrence of knee osteoarthritis. Hasdiana's research (2018) stated that the older a person's age, the higher the risk of knee osteoarthritis. This research was also in the same direction as conducted by Eka Dewi (2022), where wudhu on sleep quality obtained significant results before and after wudhu. Wudhu is essentially not only a means of self-cleaning but more than that. Wudhu provide extraordinary therapy for peace of mind. Splashing wudhu water on several limbs brought a sense of peace and tranquility.

The researcher opines that improving sleep quality is influenced by the decrease in the level of pain experienced by osteoarthritis sufferers and the provision of ROM exercises and wudhu because ROM movements can improve blood circulation, thereby reducing pain and improving the patient's sleep quality combined with wudhu to calm the mind so that pain can be reduced. The results of this study indicated that the environment and pain intensity influenced the improvement in sleep quality before being given ROM and wudhu. Whereas after being given ROM and wudhu, the quality of sleep improved because it was influenced by the level of pain and the provision of ROM and wudhu.

Based on the results of this study, there was a significant difference in pain levels before and after giving ROM and *wudhu* exercises to osteoarthritis sufferers in Takerharjo Village, Solokuro District, Lamongan Regency. The results of this study were also reinforced by the results of research conducted by Matongka (2021), which found an effect of ROM on

reducing the pain level of osteoarthritis sufferers before and after being given ROM. ROM was one of the physical exercises that could be used to improve joint mobility ability.

According to Shahlysa (2019), joint motion training (range of motion) was the easiest and cheapest exercise because it could be done independently at home without interrupting daily work. According to Lee's research (2021), osteoarthritis, the most common form of arthritis, affected more than 15% of the global population and was the leading cause of disability. In that study, it was shown that all three components of SES were associated with knee OA symptoms and prevalence, but it was also shown that people with low education were more likely to have knee OA and pain. It was unclear how low educational status affected knee OA radiographs. It might affect a person's lifestyle due to a lack of knowledge about OA or the lifestyle itself due to low educational status. These individuals were reportedly less likely to utilize medical and surgical treatments and remained disabled due to pain. Based on Hansson's (2016) research, patient education was feasible and valuable in terms of improved quality of life, function, well-being, and improved treatment. In research regarding patient education for OA, several different forms of patient education could be applied; some were only self-management programs, some were only exercise programs, and some programs combined self-management and exercise.

In addition, research conducted by Mahendra (2020) in the work area of Sibela Health Center, Surakarta City had significant results before and after being given *wudhu* therapy. The benefits of *wudhu* related to a person's physical and psychological health conditions include maintaining personal hygiene. Health is closely related to cleanliness. The media used for wudhu is water. Water is cleansing, soothing, and stiff (therapist). According to Mahendra (2020), water, in relation to health, have many benefits as a medium of treatment. Wudhu made our psyches, which were originally turbulent and unstable, calm again so that they can think calmly and clearly. The results of this study indicated that the provision of ROM and *wudhu* performed for one week in the morning and evening had a significant effect in reducing the pain level of osteoarthritis sufferers. Thus, sufferers could do ROM exercises and perform *wudhu* at their respective homes regularly.

Based on the results of this study, there was a significant difference in sleep quality before and after giving ROM exercises and w*udhu* to osteoarthritis sufferers. ROM exercise have an impact on relieving pain and increasing flexibility according to the patient's limits of motion because the exercise increase the formation of proteoglycans by cartilage cells, increase muscle strength so that they can support loads, and increase synovial joint fluid metabolism, which provide nutrients to cartilage (Rhmadina, 2020). According to Anisia (2020), pain can be reduced and even resolved, which could reduce sleep disturbances in clients who experienced pain if the pain is resolved. Based on Utari's research (2021), one of the most common occupational risk factors for knee OA is a heavy physical workload; in addition to heavy activities that can risk osteoarthritis, poor ergonomic hazards could also be at risk for musculoskeletal disorders of the knee in farmers. Activities such as planting, requiring repetitive bending and bending for a long time by twisting and bending the knee, walking, and carrying a heavy pile of rice seedlings in one hand, awkward posture, and bending the knee can stress the ligament muscles, increasing the risk of knee injury.
According to researchers in this study, it was proven that there was an effect of giving ROM

exercises and *wudhu* on the quality of sleep of osteoarthritis sufferers. This was because the combination of ROM exercises and *wudhu* had holistic benefits for physical, mental, and spiritual health and increased peace of mind, which reduced the intensity of pain. Therefore, *wudhu* could also calm disturbing thoughts and increase comfort, improving sleep quality. The results of this study indicated that the provision of ROM and *wudhu* exercises had a significant effect on improving the quality of sleep of osteoarthritis sufferers, so according to the researcher's suggestion, patients could perform ROM and *wudhu* independently.

CONCLUSION

Based on the research and discussion and the objectives of the study, it can be concluded that before being given ROM exercises and wudhu, patients with osteoarthritis mostly experience high levels of pain, while after being given, experience a decrease in pain levels. They also experienced a decrease in sleep disturbances. Thus, ROM exercises and *wudhu* have an effect on the levels of pain and the quality of sleep of osteoarthritis patients.

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Research Article

Digital Learning, Behaviour Change, and Pregnancy Planning Sustainable: a Systematic Literature Review

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ABSTRACT

Background: The following section provides an overview of the background to the subject matter. The utilisation of digital learning in health promotion interventions is a highly beneficial approach in the context of contemporary health concerns. The implementation of interventions based on appropriate frameworks has been demonstrated to facilitate behavioural change. **Objectives:** The objective of this study is to review the digital learning interventions and frameworks that have been used in the context of health behaviour change. **Method:** This study is a comprehensive search of the literature was conducted using the following databases: PubMed, EBSCO, Sage, ScienceDirect, Wiley, and Google Scholar. The articles were subjected to a minimum of two rounds of review using the behaviour change framework for women of childbearing age, with the following criteria: (1) published between 2019 and 2024, (2) written in English, and (3) applicable to community groups. A total of 12 articles were subjected to review. The article review process was conducted in accordance with the PRISMA SLR guidelines. **Results:** The findings revealed that all included studies substantiated the assertion that digital learning has a significant impact on human behaviour. **Conclusion:** However, the majority of the studies lacked a clear theoretical foundation or an explicit approach to the behaviour change framework. Consequently, the recommendation for future research in this domain is to advance beyond the exploratory phase and adopt a more rigorous scientific approach, grounded in behaviour change theories and methods.

Keywords

Digital learning, behaviour change, pregnancy planning

INTRODUCTION

It is recommended that pregnancy planning be promoted among women of reproductive age by providing opportunities to take advantage of medical, behavioural and social health interventions, with the aim of improving the health status of women in preparation for safe conception (Bukenya et al., 2019). This is a necessary undertaking, as there are still a considerable number of women of childbearing age who are less assertive in planning their pregnancies and who even engage in poor pregnancy planning. The results of the study indicate that women of childbearing age are most likely to experience a high-risk pregnancy of the "four too" type (Istiqomah, 2020). The prevalence of high-risk pregnancies in Indonesia is supported by data. Specifically, the proportion of unwanted births is 7%, a figure that has remained consistent since 2002. Additionally, women of childbearing age who already have more than three children constitute 1.95%. A significant proportion of women still aspire to become mothers, with 2.1% remaining undecided on the matter. Among women of childbearing age (35-49 years), the proportion desiring to become pregnant and give birth stands at 5.1% (Badan Pusat Statistik & kementerian kesehatan, 2017). The data indicate that, among the group of women of childbearing age in Indonesia who were surveyed, there are still groups who desire to have children, despite being at risk of adverse outcomes if they become pregnant. In the absence of a solution, the potential consequences include an increase in the population, as well as an increase in maternal and infant mortality rates, poor parenting, and stunting of children (Istiqomah, 2020; Fink *et al*., 2014; Masrul, 2018).

The data indicate that, among the group of women of childbearing age in Indonesia who were surveyed, there are still groups who desire to have children, despite being at risk of adverse outcomes if they become pregnant. In the absence of a solution, the potential consequences include an increase in the population, as well as an increase in maternal and infant mortality rates, poor parenting, and stunting of children (Ambarwati & Rahmawati, 2020). In the context of the digital age, the utilisation of health promotion media to enhance individuals' capacity to process information is an imperative necessity (Ratnasari & Haryanto, 2019). It is therefore feasible for an individual to obtain information via digital media.

The phenomenon of digital learning has become an increasingly significant global trend within the context of education and training. In conjunction with the advancement of information and communication technology, traditional learning methodologies are undergoing a transition towards digital platforms that are more interactive and flexible. This transformation affects not only educational institutions but also healthcare institutions and a variety of communities. The advent of digital learning has brought with it a plethora of advantages, including the ability to access a vast array of learning resources, the flexibility to learn at one's own pace and in a location of one's choosing, and the capacity to tailor learning materials to suit individual requirements (Aimiya et al., 2024; Attia et al., 2017; Ghanbari et al., 2021; Liu et al., 2016).

The utilisation of digital learning for adults affords the opportunity for flexibility and accessibility that is not constrained by temporal or geographical limitations. This is particularly pertinent for adults who frequently have commitments to work and family

that restrict their availability for traditional forms of learning. The utilisation of online learning platforms, online courses, webinars and other digital resources enables the individual to learn according to their own schedule. Furthermore, digital learning facilitates personalisation of the learning experience, whereby materials can be adapted to align with individual requirements and learning rates (Lu et al., 2022; van der Stap et al., 2024). In communities, digital learning plays a pivotal role in enhancing the abilities and expertise of its constituents. The scope of digital learning programmes in communities is considerable, encompassing a diverse array of subjects, from fundamental digital literacy to highly specialised technical competencies. These initiatives are frequently initiated by non-governmental organisations, libraries, or even citizen initiatives that are committed to enhancing the quality of human resources in their respective communities. Furthermore, digital learning in communities facilitates greater inclusivity, enabling individuals who may lack access to formal education or reside in remote locations to participate (Glassman et al., 2021; Li, n.d.).

The research on adult online learning in the community is still in its infancy, as the majority of online learning is conducted in formal education institutions. It is therefore necessary to conduct a systematic review with the objective of identifying digital learning initiatives that facilitate behaviour change and the sustainability of pregnancy planning. The objective of this article is to ascertain the efficacy of online learning in facilitating behavioural change among adult populations.

METHOD

In order to respond to this research question, a number of pertinent research articles were collated. A comprehensive literature search was conducted across four databases: The following databases were consulted: EBSCO, Science Direct, Wiley, and PubMed. A systematic review was conducted in accordance with the PRISMA guidelines for systematic literature reviews. The available evidence-based studies were subjected to analysis and sorting in accordance with the established inclusion and exclusion criteria. This study encompasses three domains: (1) online learning, (2) adult learning, and (3) pregnancy planning. The sample comprised adults aged between 20 and 64 years. The number of articles about online learning in the community remains scarce, and there is a paucity of research discussing pregnancy planning. The following criteria were employed in this systematic literature review: (a) The selected research employs an RCT design, (b) focuses on online learning, (c) is written in English, (d) is available in full-text format, (e) was published between 2019 and 2024, and (f) falls within the social science and technology in society research areas.

The search was conducted over a period of four months, from January to March 2024. The search terms employed were "digital learning" or "online learning" in conjunction with "adult" or "community," "pregnancy planning," and "behavior change." The process of selecting studies for the systematic review was determined in accordance with the previously outlined inclusion and exclusion criteria. The reference management software employed for the collation of articles was Mendeley. The researcher undertook an independent review of all studies, with the assistance of three research assistants. The

total sample size was 61,616. A total of 403 articles were identified as duplicates. Following the scanning of titles and abstracts, 455 studies were deemed eligible for inclusion. Of these, 428 articles were excluded on the grounds that they did not meet the requisite criteria and were subjected to a critical appraisal using a form developed by the Joanna Briggs Institute Global. Ultimately, 12 articles on the research topic were selected for inclusion in the systematic review.

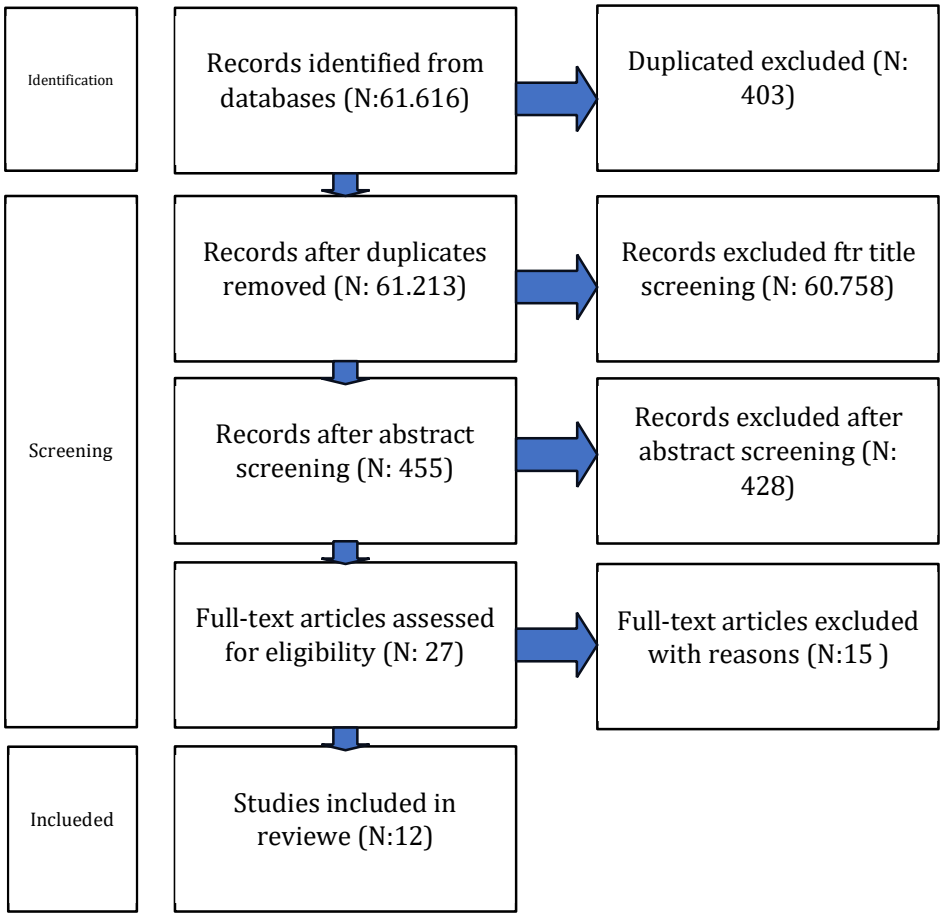

Figure 1. Flow Diagram of the study selection

RESULTS

The objective of conducting a systematic review is to respond to the research question, namely to ascertain the efficacy of online learning for adult age groups in facilitating behavioural change.

Tabel 1. Research Analysis Results

Component	**Reference**
Place of Research	
University	2,3,4,5,6,7,8,9,10,12
Health Services	1,11
Behavior Change	
Knowledge	3,5,8,12
Perception	12
Attitude	3,8,10

Motivation	7
Intention	3
Psychomotor	2,9,11
Learning Media	
Video	1,2,3,4,8
Online Module	9,11,2
Game	6
Online Chat	2,7,10
Results	
Effective	2,5,6,7,8,9,11,12
Ineffective	1,3,4,10

A review of the literature revealed that the most frequently utilised research sites were those situated at universities, with studies conducted on adult populations.

Online Learning

The learning media employed in several preceding studies predominantly utilised videos, with a minority also incorporating online models. However, only a single article employed gaming as a learning medium. The majority of the articles reviewed yielded effective results in changing people's behaviour.

Behaviour Change

The majority of online learning has been demonstrated to change people's knowledge, attitudes and skills. However, online learning can also change a person's perception, motivation, and intention. In addition, emotional changes can also be affected by online learning, including anxiety and stress.

Pregnancy Planning

The majority of information on pregnancy planning in adult women is sourced from social media, with Facebook being the most prevalent platform (Skouteris & Savaglio, 2021). Furthermore, they evince a desire to learn online (Bull et al., 2007). In relation to pregnancy planning, mature women have certain expectations. These include learning from other women who have had similar experiences and improving their pre-conception health through discussions with health workers (Hammarberg et al., 2022).

DISCUSSION

Online Learning

The utilisation of online learning can prove an efficacious method for the alteration of adult behaviour. Online learning affords adults the opportunity to pursue their studies according to their own schedule and from any location. This offers a more convenient and comfortable learning experience. Furthermore, online learning affords access to a plethora of resources, including videos, articles, discussion forums, and simulations (Rad et al., 2022). The provision of a diverse range of learning formats enables adults to select the most appropriate method for their learning style, thereby facilitating more effective comprehension and utilisation of the material. Adults are more likely to engage in learning activities if they perceive a sense of autonomy over the learning process.

The practice of online learning fosters self-directed learning, which can enhance a sense of responsibility and independence. This can result in more enduring behavioural modifications, as individuals perceive themselves as the agents of change. Online learning frequently employs real-world scenarios and problems that are pertinent to the everyday lives of learners. Adults are more likely to modify their behaviour if the material they are learning is pertinent to and directly applicable to their professional or personal lives (Chang et al., 2023; Marques-Sule et al., 2023; Rad et al., 2022).

The capacity for adults to revisit material as many times as they require is a key benefit of online learning. The capacity to revisit learning material enhances comprehension and facilitates practical application, which in turn can modify behaviour (Chang et al., 2023; Lozano-Lozano et al., 2020; Moon & Hyun, 2019; Servos et al., 2023). Online learning platforms frequently incorporate discussion forums or learning communities, which provide a platform for participants to share experiences and offer mutual support. The provision of social support can facilitate the process of behavioural change, as there is a sense of attachment and accountability within the learning group.

These factors collectively contribute to the efficacy of online learning in facilitating behavioural change in adults, as the learning context provides a supportive environment for fostering positive and sustainable change.

Behaviour Change

The learning process may give rise to a range of behavioural changes, which may be indicative of adaptation, skill development or adjustment to the environment. An individual acquires new information, including facts, concepts, and procedures. It enhances the capacity to analyse circumstances, identify issues and implement efficacious resolutions. The act of learning can alter an individual's perspective or comprehension of various concepts, leading to the development of a more constructive or realistic self-image and perception of others. Additionally, the learning process can result in changes to one's skills. These may include motor, social, or technological abilities (Bergmans et al., 2023; Chung et al., 2022; Zarshenas et al., 2022). Additionally, the learning process may result in alterations to one's attitude, habits, and emotional state (Ghanbari et al., 2021; Liaw et al., 2023), social behavior. The behavioural changes resulting from learning can be diverse and may manifest as either short-term or long-term effects, depending on the individual and the specific learning context.

Pregnancy Planning

The advent of online learning has precipitated considerable shifts in numerous facets of life, including those pertaining to pregnancy planning. Online learning provides couples with access to a plethora of information on reproductive health, pregnancy, and family planning from a multitude of sources, including webinars, articles, and online courses. Online programmes can facilitate the acquisition of knowledge regarding menstrual cycles, ovulation, and contraceptive methods, which can assist couples in more effectively planning for pregnancy. The option of learning from home negates the need

for couples to physically attend classes or seminars, thereby facilitating the integration of learning into their daily schedules. The accessibility of learning materials at any given moment allows couples to learn the information they require at a time that is most convenient for them (Skouteris & Savaglio, 2021).

The utilisation of online learning materials has the potential to enhance awareness of the significance of healthy pregnancy planning. Online forums and discussion groups can facilitate the provision of social support, the sharing of experiences and the posing of questions related to pregnancy planning. Online courses, led by professionals, offer couples the opportunity to access accurate and evidence-based information (Bull et al., 2007; Skouteris & Savaglio, 2021).

The abundance of information available on the internet poses a risk for couples seeking accurate and reliable guidance on pregnancy planning, as there is a possibility of encountering misinformation or misleading content. In the absence of adequate guidance, couples may encounter confusion regarding pivotal aspects of pregnancy planning. The use of online learning may result in a reduction of face-to-face interactions, which are known to be important for the provision of emotional and social support, particularly for couples who are planning a pregnancy. In the absence of a robust community, some couples may experience feelings of isolation and a reduction in motivation with regard to the process of planning a pregnancy. Some elements of pregnancy planning, such as the utilisation of specific contraceptive methodologies or the management of stress, may necessitate practical experience that is challenging to attain through online learning. It is challenging to reproduce the experience of learning directly from a health professional in a clinical setting through online means. The act of learning from one's own residence can prove to be an even more arduous task when faced with the multitude of distractions that are inherent to the surrounding environment. This can ultimately lead to a diminished capacity to fully comprehend and effectively apply the knowledge and information that is gained. In the absence of the structured format characteristic of a physical classroom, some individuals may experience difficulties in maintaining focus and engagement with the learning material (Hammarberg et al., 2022).

CONCLUSION

The utilisation of online learning for adult populations has been demonstrated to be an efficacious method for facilitating behavioural change. It is of significant importance for women of childbearing age to engage in pregnancy planning in order to maintain optimal health throughout the duration of their pregnancy and in the postpartum period. The maintenance of the behaviour of women of childbearing age can be facilitated by the provision of information that is accessible from any location. Consequently, online learning represents a potential avenue for engaging with couples of childbearing age within the designated age range. It is anticipated that health workers will develop the capacity to provide education via online means.

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Appendix 1. LR analysis table

No.	Article Title	Author(s)	Journal/Conference	Year	RQ/Objective	Method	Instrument	Participant	Study Location	Technology	Variables	Topic	Result
1	Comparative study of virtual and face-to-face training methods on the quality of healthcare services provided by Kermanshah pre-hospital emergency staff (EMS)	Reza Farahmand Rad, et al.	BMC Medical Education	2022	Compare virtual vs. face-to-face training on quality of services provided by EMS staff	Randomized educational intervention trial	Questionnaire (skills: intubation, LMA, CPR, AED)	EMS staff	Kermanshah, Iran	Virtual learning	Training method, healthcare service quality	Virtual vs. face-to-face training	No significant difference overall; both methods improved post-training scores ($p \leq 0.005$). Face-to-face better in CPR and intubation for experienced staff.
2	The effect of micro-learning on learning and self-efficacy of nursing students: an interventional study	Ladan Zarshenas, et al.	BMC Medical Education	2022	Evaluate micro-learning content's impact on nursing students' learning outcomes and self-efficacy	Quasi-experiment	Demographics, Scherer Self-Efficacy Questionnaire	46 nursing students	Shiraz, Iran	E-content (videos, PowerPoint)	Micro-learning, self-efficacy, learning outcomes	E-learning	Intervention improved clinical learning levels significantly compared to control.
3	Effects of different CPR education interventions among university students: A randomized controlled trial	Yu-Tung Chang, et al.	PLOS One	2022	Compare traditional, hybrid, and VR methods for CPR training	Randomized Controlled Trial	Attitude, intention, CPR knowledge, RESUSCI ANNE QCPR manikin	Undergraduate and master's students	Northern Taiwan	Virtual Reality	CPR skills (accuracy, compression, AED use)	CPR education	No significant differences among groups, though all methods improved skills.
4	Psychoeducational Interventions Using Mobile Apps on Anxiety and Self-Esteem in Women With Breast Cancer	Elaheh Ghaanbari, et al.	JMIR Mhealth and Uhealth	2021	Assess mobile app interventions on anxiety and self-esteem in breast cancer patients	Randomized Controlled Trial	RSES (self-esteem), STAI (anxiety)	Women aged 20–60 with non-metastatic breast cancer	Shiraz, Iran	Mobile apps	Anxiety, self-esteem	Mobile health interventions	Anxiety significantly reduced in intervention group; self-esteem improved but no significant difference between groups.
5	Effectiveness comparison between blended learning in physical vs. virtual classrooms for MBBS students	-	BMC Medical Education	2022	Compare physical and virtual blended learning classrooms	Cohort study	11-item questionnaire (satisfaction, learning effects, difficulty)	MBBS students	Zhejiang University, China	Virtual classrooms	Learning satisfaction, difficulty, knowledge retention	Blended learning	Higher scores and engagement in physical classrooms; virtual better for flexibility.
6	Desktop Virtual Reality Versus Face-to-Face Simulation for Clinical Deterioration Training	Sok Ying Liaw, et al.	International Council of Nurses Conference	2021	Compare desktop VR vs. face-to-face simulation on stress and performance in clinical deterioration training	Randomized controlled study	STAI (stress), Confidence scale	Medical and nursing students	Singapore	Virtual Reality	Stress levels, performance outcomes	Simulation training	Increased stress levels in both groups, no significant differences in confidence or performance outcomes.
7	Blended Learning System to Improve Motivation, Mood State, and Satisfaction in Undergraduate Students	Mario Lozano-Lozano, et al.	JMIR	2020	Examine blended learning's short-term effects on knowledge, motivation, mood, and satisfaction	Randomized Controlled Trial	IMMS (motivation), POMS (mood states)	Undergraduate health science students	Granada, Spain	Mobile app	Motivation, mood, satisfaction	Blended learning	Improved motivation, mood, and satisfaction compared to traditional methods.
8	Nursing students' knowledge, attitude, and self-efficacy in blended CPR learning	Hyunjung Moon, et al.	BMC Medical Education	2019	Analyze blended CPR learning's impact on knowledge,	Randomized Controlled Trial	Self-report questionnaires	120 nursing students	Seoul, Korea	Blended learning	Knowledge, attitude, self-efficacy	CPR education	Intervention group showed significantly higher knowledge and emotional attitude scores.

					attitude, and self-efficacy								
9	Efficacy of a blended learning program in enhancing communication skills and self-efficacy in clinical handovers	Jessie Yuk Seng Chung, et al.	BMC Medical Education	2022	Assess blended learning's impact on communication skill competence and self-efficacy in clinical handovers	Randomized Controlled Trial	SBAR Communication Tool, VAS	Final-year nursing students	Hong Kong	Blended learning	Communication skills, self-efficacy	Clinical handovers	Experimental group showed significantly higher skills and self-efficacy scores.
10	Applying blended learning to problem-based learning: A pre-pandemic study	Ulrike Servos, et al.	Naunyn-Schmiedeberg's Archives of Pharmacology	2023	Noninferiority study comparing traditional and blended problem-based learning	Randomized controlled mixed-method study	Course evaluation, student satisfaction	University students	Cologne, Germany	Blended learning	Problem-based learning outcomes	Blended learning	No differences in exam results; more students used online materials in blended learning.
11	From tradition to innovation: A comparison of traditional vs. blended learning for technical skills	Alistair Billington, et al.	Scandinavian Journal of Trauma	2023	Assess blended learning for technical skill teaching compared to traditional methods	Randomized multicenter trial	Standardized checklist (ETC criteria)	ETC instructors and trainees	England & Belgium	Blended learning	Skill acquisition, teaching efficiency	Technical skills	Blended learning matched traditional methods' effectiveness while being time-efficient.
12	Effectiveness of a blended learning intervention in cardiac physiotherapy	Elena Marques-Sule, et al.	Frontiers in Public Health	2023	Compare blended vs. full learning for cardiac physiotherapy students	Randomized Controlled Trial	Multiple-choice test, satisfaction questionnaire	Undergraduate physiotherapy students	Valencia, Spain	Blended learning	Knowledge, competencies, satisfaction	Cardiac physiotherapy	Blended learning improved knowledge, competencies, satisfaction, and acceptance positively.

Research Article

Management Of Physiotherapy Combining Infrared And Transcutaneous Electrical Nerve Stimulation Modality With Myofascial Release Technique In Plantar Faciitis

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ABSTRACT

There are a lot of health problems in the feet, one of which is heel pain or what is called plantar fasciitis. It is a condition of inflammation in the plantar fascia which usually affects the medial part of the calcaneus. Patients usually complain of medial heel pain when supporting weight, felt most heavily when stepping in the morning after waking up. Pain in plantar fasciitis usually develops gradually, but it can also occur suddenly and immediately severe pain. This study aims to determine the effect of giving a combination of infrared modality and TENS with myofascial release technique in plantar faciitis sinistra patients. This case study aims to determine the management of physiotherapy in increasing muscle strength, reducing pain, increasing ROM (Range Of Motion) and functional activity of patients. In plantar faciitis patients, the modalities used are IR, TENS and myofascial release technique.. The administration of infrared and TENS interventions with myofascial release technique in plantar faciitis has an effect in reducing pain intensity, increasing muscle strength, increasing ROM and functional activity of patients. After six interventions to patients, results were obtained in the form of increased muscle strength, decreased pain, increased ROM and increased functional activity in plantar faciitis patients.

Keywords

Infrared, TENS, Plantar Faciitis, Physiotherapy

INTRODUCTION

Our daily activities involve several limbs, one of which is the legs. The leg is a lower limb that covers all foot movements, starting from the groin to the toes. There are so many health problems or complaints related to the feet, one of which is pain in the soles of the feet and heels. Most foot and heel pain is caused by plantar fasciitis Plantar fasciitis is an inflammation of the plantar fascia that usually affects the medial part of the calcaneus (Lim et al., 2016). Plantar fasciitis usually develops gradually, but it can also occur suddenly and immediately severe pain (Muawanah and Selviani, 2018) .

Patients usually complain of medial heel pain when supporting weight, felt most heavily when stepping in the morning after waking up (Widjaja, 2018). The pain mechanism in cases of plantar fasciitis begins with a lesion on the soft tissue on the side of the plantar aponeurosis attachment site located below the tubularity of the calcaneus or in the plantar fascia of the medial part of the calcaneus as a result of excessive compression and drainage (Sekti and Prasetyo, 2021).

The incidence globally in cases of plantar fasciitis is higher in runners around 17.4% then 10% occurs in the general population and around 83% are active working adults (Agyekum, 2015). In Indonesia, 15% of adults experience plantar fasciitis and as many as 83% of those who suffer from plantar fasciitis are those who are actively working at the age of 25-64 years (Pratama, 2021).

Based on previous research conducted by Nyoman et al. (2018) , Journal Vol.6 No.3 2018 with the title "Differences in the effectiveness of infrared and plantar fascia strech interventions with infrared and calf raises interventions on the reduction of plantaric pain in female employees in Ramayana Bali mall with high heels" infared modalitiesaims to improve blood circulation due to irritation from plantaric pain. Plantar fascia stretch exercises are exercises for strengthening the ankle and are easy to do because they can be done independently, plantar fascia strecth aims to strengthen and stabilize muscle strength. Calf raises are exercises that can maximize muscle strength and prevent recurrent injuries. According to Kuswardani et al. (2018) the PENA Journal Vol.35 No.2 September 2021 Edition with the title "The Effect of Infrared, Ultrasound and Exercise Therapy on Plantar Faciitis" that this study shows that the use of infrared, ultrasound and exercise therapy modalities in the form of stretching, towel stretch, stretch and scroll as well as strengthening exercises in cases of plantar fascitis It has been proven to reduce the degree of pain, increase the strength of the ankle muscles for plantar flexion and dorsal flexion movements and significantly improve the functional activity ability of the participants' legs. The main complaint of plantar faciitis cases is pain, in the treatment of physiotherapy in plantar faciitis pain cases using infrared modalities aims to improve blood circulation so that it can reduce pain due to plantar faciitis (Klemm et al., 2022). The myofascial release technique in plantar fasciitis causes a change in the viscosity of the basic substance to a more liquid state thereby eliminating excessive pressure on the fascia so that pain can be reduced (Chitara, 2017).

Based on the description above and from previous research, the author aims to conduct this study to determine the effectiveness of using a combination of Infrared and TENS modalities with myofascial release technique on pain reduction, increased muscle strength, increased ROM and increased functional activity of plantar faciitis patients.

METHOD

The method used in this study is a case report study with the following clinical status: Mrs. T is 51 years old with a job as a chicken trader with a diagnosis of plantar faciitis sinistra, the patient complained of pain in the heel of the sole of the left foot since 3 weeks ago. Pain will appear when standing and walking for too long, the pain is also felt by patients when they first wake up with their feet on the floor in the morning. The patient underwent an examination at the rehabilitation doctor of Ngimbang Lamongan Hospital after which he was referred to the physiotherapy polyclinic. The examination of this case was carried out on January 9, 2024, and found pain, decreased muscle strength, limited movement, and decreased functional activity. The examination of functional activity uses the FADI (foot ankle disability index) questionnaire which is one of the measurements with a scale designed for all cases of musculoskeletal disorders of the lower limbs. Information from patients obtained from the FADI measuring device is related to the pain felt by the patient, limitations in joint movement, and impaired functional activity. The FADI score for each item is 0-4, on the pain intensity item on a scale of 0 (unbearable pain) to 4 (no pain) and on the daily activity item on a scale of 0 (unable to do) to 4 (not difficult) or able to perform (Muawanah and Herli, 2021).

The intervention program provided by physiotherapy is in the form of infrared, TENS and myofascial release technique. Infrared is a physiotherapy modality that uses red light that produces heat. The heating resulting from the administration of infrared causes an increase in the temperature of the local area followed by the occurrence of vasodilation of blood vessels, blood flow in the pain area becomes smooth, metabolic processes increase and pain decreases (Dhita, 2014). Transcutaneus Electrical Nerve Stimulation or commonly called TENS is a technique that involves sending a lightly pulsed electrical current across the surface of the skin to stimulate a low-threshold nerve to reduce pain (Johnson, 2017). Meanwhile, the Myofascial release technique is a stretching technique in the form of massage or massage to stretch the fascia. This therapy plays a role in stretching or lengthening the structure of fascia and muscles with the aim of

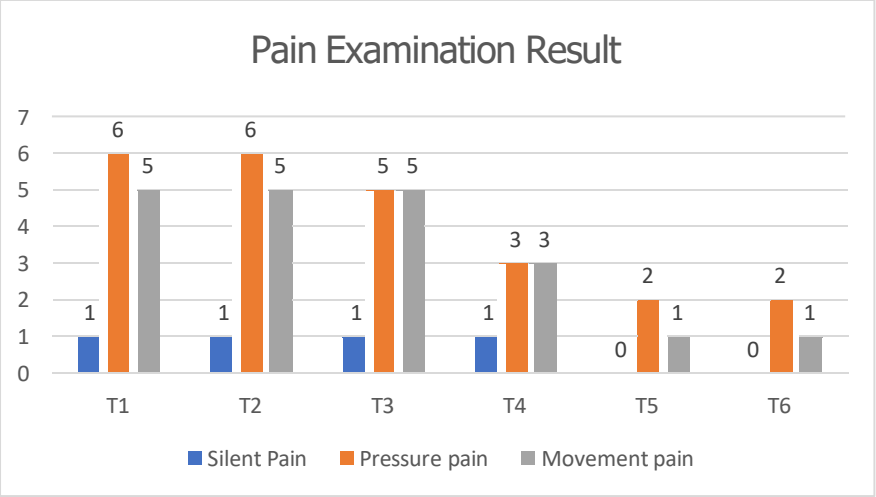
reducing pain, improving the quality of fascia tissue, tissue mobility and normal joint function (Sulistyaningsih and Putri, 2020).

RESULTS

1. **Pain Reduction**

   After examination and evaluation of pain intensity using the VAS (Visual Analouge Scale), the following results were obtained:

Table 1. Pain examination results

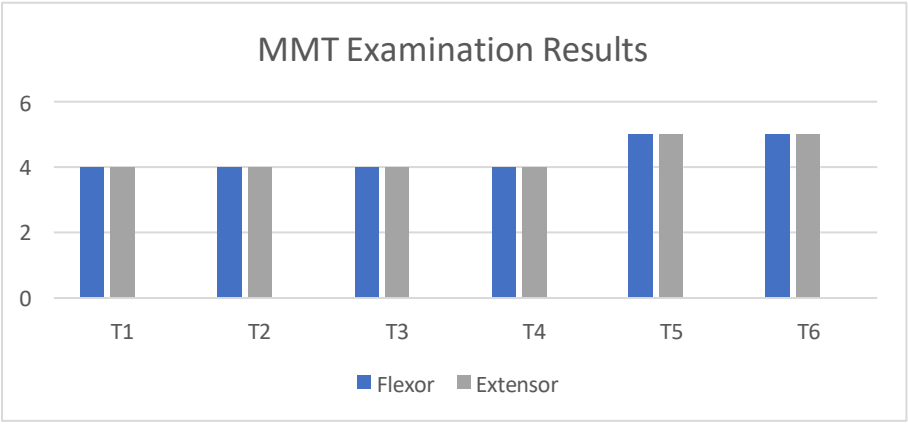


After six interventions, the results were reduced in still pain, tenderness and movement pain.

2. **Increased muscle strength**

   After examining and evaluating muscle strength using MMT (Manual Muscle Testing), the following results were obtained:

Table.2 MMT Examination Results



In the examination of muscle strength using manual muscle testing (MMT) parameters, the results of an increase in muscle strength in the flexor and extensor muscle groups of the ankle sinistra T1 : 4 to T6 : 5 were obtained

3. **Range of Motion (ROM) check using a goniometer**
   After the examination and evaluation of the ROM, the following results were obtained:

Table 3. ROM Check Results

Field of Motion	T1	T2	T3
Ankle sinistra	S= 18◦ - 0◦ - 31◦	S= 18◦ - 0◦ - 31◦	S= 19◦ - 0◦ - 32◦
	R= 28◦ – 0˚ – 18˚	R= 28◦ – 0˚ – 18˚	R= 29◦ – 0˚ – 19˚
	T4	**T5**	**T6**
	S= 19◦ - 0◦ - 33◦	R= 20◦ – 0˚ – 33˚	S= 20◦ - 0◦ - 34◦
	R= 29◦ – 0˚ – 19˚	R= 29◦ – 0˚ – 19˚	R= 29◦ – 0˚ – 20˚

In this case, the increase in ROM is supported by an increase in muscle strength based on the table above, the result is a decrease in pain after the pain decreases, then there is an increase in muscle strength. In plantar faciitis patients, the initial result with an MMT score of 4 to MMT 5 is in the normal category. Then there was an increase in ROM in the ankle sinistra area. In the examination of functional activities using the FADI (foot ankle disability index) questionnaire with a score of 0% - 100% (0% score in the severe disability category and 100% score in the normal category) in T1 the result was 71.15% in the moderate limitation category and in T6 the result was 91.34% in the mild limitation category.

DISCUSSION

In the case of plantar faciitis sinistra, complaints of pain, decreased muscle strength and ROM limitations were found that caused disturbances during activities. The goal of physiotherapy in this case is to reduce pain, increase muscle strength and increase ROM in the ankle sinistra as well as improve the functional ability of the ankle so that the patient can perform activities without limitations.

1. **Pain Reduction**

   The results of therapy with a combination of IR, TENS and myofascial release techniques in the case of plantar faciitis sinistra after 6 times of therapy showed a decrease in pain. This is in accordance with the theory from Nuach et al., (2020) how TENS works, namely by stimulating type α β nerve fibers that can reduce pain. The mechanism of action is thought to be through the closure of the pain transmission gate of small nerve fibers by stimulating large nerve fibers, then the large nerve fibers will close the pain message pathway to the brain and increase blood flow to the painful area. TENS also stimulates the body's natural production

of anti-pain drugs, namely endorphins. Infrared in the case of plantar faciitis sinistra to reduce pain according to the theory of Tasya et al., (2021) Infrared therapy is a type of therapy that uses infrared electromagnetic waves with a wave characteristic of 770nm-106 nm, with the aim of heating musculoskeletal structures which is located superficially so that it causes several physiological effects in the form of activating superficial heat receptors in the skin which will change the transmission or conduction of sensory nerves in transmitting pain so that pain will be felt less.

The combination of other modalities for pain management in cases of plantar faciitis sinistra with myofascial release technique aims to produce gentle stretching so that it can eliminate adhesions in the plantaris appeneorosus, and reduce irritation. In this discussion and based on the theory of previous researchers, it can be concluded that the combination of IR, TENS and myofascial release techniques is proven to reduce pain in cases of plantar faciitis.

2. Increased Muscle Strength

The results of therapy with a combination of TENS modality and myofascial release technique in the case of plantar faciitis sinistra after 6 times of therapy, it was found that there was an increase in muscle strength that was evaluated using MMT. This is supported by the research theory of Johnson et al. (2022) TENS is an electrical stimulation that has been used and has been proven for stimulation that produces muscle contractions. The combination of TENS and myofascial release technique can result in increased flexibility in the ankle region and is accompanied by increased muscle strength.

3. Improved ROM and Ankle Functional Activity

In this case, the Myofascial release technique modality can be used in cases of plantar faciitis sinistra with the aim of increasing the range of motion of the joint. This is in accordance with the theory of Gallut et al., (2020) To overcome inflammation in the fascia as well as to restore tissue flexibility, the myofascial release technique is given, the benefits include to reduce muscle tension and stiffness, reduce pain, reduce inflammation, reduce muscle spasms, and improve joint mobility**.** Increased ROM and functional activity of the ankle with myofascial release technique is also evidenced by the theory Cheatham, (2015) myofascial release technique has been used to treat adhesions to soft tissues, to relieve tissue

pain and sensitivity, and to reduce odema and inflammation, while improving muscle recovery. After the occurrence of muscle recovery in plantar faciitis patients , there is an increase in ROM and an increase in functional activity begins. Increased functional activity occurs due to reduced pain. The decrease in pain also results in an increase in muscle strength and an increase in range of motion. This happens because patients with plantar faciitis complaints do not experience difficulties or obstacles due to pain when carrying out daily functional activities.

CONCLUSION

The conclusions obtained after the therapy. The patient on behalf of Mrs. T is 51 years old with a diagnosis of plantar faciitis sinistra with a combination of IR, TENS and myofascial release technique modalities intervention for 6 times of therapy obtained results in pain reduction, increase in ankle muscle strength of the sinistra, increase in range of motion and increase in the patient's functional activity.

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This book explores the close relationship between technological innovation and advances in health. This book examines various global challenges facing the health sector, such as the increasing need for more efficient services, complex diseases, and limited resources. On the other hand, this book also highlights the extraordinary opportunities offered by modern technologies, including artificial intelligence, big data, the Internet of Medical Things (IoMT), and genomic technologies, in transforming the way health services are designed, managed and accessed by society.

Featuring multidisciplinary insights from health experts, technology scientists, and policymakers, this book presents innovative case studies and practical solutions to address health access disparities, improve quality of life, and promote the inclusivity of services. Readers are invited to understand how technology can be a strategic tool in realizing a sustainable health system amidst the challenges of the times. This book is an important source of inspiration and reference for health practitioners, researchers, technology innovators, and policy makers committed to global health development.

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