Associations of Husband Support with the Incidence of Post Partum Blues In the Working Area of Development Health Center and Tarogong Health Center Garut district

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Abstract. *Introduction: Mothers are susceptible to experiencing postpartum blues syndrome during the postpartum period, or the period after giving birth. Rapid mood swings, feelings of sadness, worry, anxiety, and tiredness are signs of this syndrome, and mothers may feel more emotional and anxious, which can impact their mental health. Method: This type of research is quantitative analytical with a cross sectional approach. The population was postpartum mothers and the sample was 38 people with the inclusion criteria being postpartum mothers in the immediate postpartum to early postpartum categories who had previously had routine pregnancy checks in the Garut Regency Development Health Center working area. Data processing was carried out computerized with bivariate data analysis using the Chi Square statistical test. Results: The results of the study stated that 25 respondents had good husband support and 13 respondents had less husband support. Of the 38 respondents, 24 experienced postpartum blues . The results of this study stated that there was a link between husband's support and the incidence of postpartum blues , with a p value of 0.007. Conclusion: there is a connection between husband's support and the incidence of post partum blues, so that people can provide information to each other in preventing post partum blues . Health workers can also continue to be proactive in providing education to someone who plays the role of husband regarding the importance of maintaining the health of post partum mothers both physically and mentally for reproductive health and the health of mother and child .*

Keywords: Husband's Support, Post Partum Blues, Community Health Center

1. INTRODUCTION

Between the ages of 18 and 45, which coincides with the reproductive years, mental health disorders usually emerge and are diagnosed. Pregnancy and the postpartum period may worsen underlying mental health disorders, or psychological and physical changes that occur during pregnancy and the postpartum period may cause mental health disorders. After delivery, mental health disorders are clinically defined, treatable, and people can receive support, instruction, and intervention. During the first few weeks after giving birth, between fifty and eighty-five percent of people experience *post partum blues* . *Post partum blues* has no known cause. According to the American College of Obstetricians and Gynecologists (ACOG), 2018; World Health Organization, 2021).

New mothers are going through the postpartum period. The postpartum period is an important stage after giving birth and lasts about six weeks. To overcome fatigue and tiredness, new mothers need to get enough rest. Mothers should check body temperature, vaginal

discharge, breasts, urinary tract and cardiovascular system. Both caesarean section and normal birth can recover well, and what is no less important, mothers also need support and attention to their mental condition. Situations such as baby blues or postpartum depression are common and should be monitored. Postpartum blues are feelings experienced by mothers after giving birth which are characterized by anxiety, panic attacks, fatigue, guilt and worry about their baby (Yunitasari, E. and Suryani, S, 2020). The National Population and Family Planning Agency (BKKBN) reports that 57 percent of mothers in Indonesia experience symptoms of baby blues or postnatal depression. Referring to this chapter , Indonesia is listed as the country with the highest number of baby blues in Asia.

The prevalence of postpartum blues in Indonesia will reach 50-70% of all postpartum mothers by 2023. Some of the known impacts of postpartum are that if left untreated, *postpartum blues* can develop into long-term depression and get worse. Mothers who experience this may have desires to harm their children or themselves, the mother becomes exhausted, has difficulty taking care of herself and has mood disorders that lead to depression, so it is very important to get the right support and treatment to prevent more serious developments. After giving birth, several hormones that increase during pregnancy, such as progesterone, estrogen, and beta-human chorionic gonadotropin (HCG), decrease quite drastically. In fact, the decreasing effect of the hormone progesterone causes postpartum blues in some women. Strong physical and emotional changes after giving birth can also contribute to postpartum blues. According to research by Sarasvati (2018), age is related to postpartum blues. Research shows that postpartum blues is most common in people aged 20 to 35 years. Planned pregnancy is also associated with the emergence of postpartum blues. Most of those planning a pregnancy do not experience postpartum blues. Socioeconomic status is associated with postpartum blues. Studies show that mothers with poor economic status experience postpartum blues more often. The reason is, heavy financial burdens such as childbirth and childcare costs can disrupt the psychology of postpartum mothers. (Madiyanti, 2014). There are many other factors that are also related, which researchers must actively pay attention to in order to improve the quality of life of mothers and children.

A preliminary study conducted in the Development Community Health Center and Tarogong Community Health Center working area in Garut Regency showed that a mother said she felt very tired physically and mentally tired during the first week after giving birth. Another mother said that because her husband did not care enough to help take care of the child, this mother complained that she was often pensive. alone and occasionally crying sadly. Three mothers said they felt they were still unable to become mothers because they had no experience

and had to work. Four mothers said they often had to remind their husbands to respect them by helping care for the baby, and occasionally felt sad, very tired and disappointed, so they felt they were not enthusiastic about taking care of the baby.

2. METHOD

This type of research is quantitative analytical with a *cross sectional approach* . The research was carried out from April to June 2024 in the Garut Regency Development Health Center Work Area. The population was postpartum mothers and the sample was 38 people with the inclusion criteria being postpartum mothers in the *immediate postpartum* to *early postpartum categories* who had previously had routine pregnancy checks in the Garut Regency Development Health Center working area. Sampling technique by means *purposive sampling* . Data processing was carried out computerized with bivariate data analysis using the *Chi Square statistical test* .

3. RESULTS AND DISCUSSION

3.1 Univariate Analysis

Table 3.1 Frequency Distribution of Husband's Support in the Garut Regency Development Health Center Work Area

No	Husband's Support	Amount (F)	%
1.	Good	25	65.8%
2.	Not enough	13	34.2%
	Amount	38	100%

Table 3.2 Frequency Distribution of *Post Partum Blues* in the Working Area of the Garut Regency Development Health Center

No	*Post Partum Blues*	Amount (F)	%
1.	Yes	24	63.1 %
2.	No	14	36.9%
	Amount	38	100%

3.2 Bivariate Analysis

Table 3.3: The relationship between husband's support and the incidence of *post partum blues* in the work area of the Garut Regency Development Health Center

No	Husband's Support	*Post Partum Blues*		F	P Value
		Yes	No		0.00 7
		F	F		
1.	Good	12	13	2 5	
2.	Not enough	12	2	1 3	
	Total	24	1 4	38	

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Husband's Support * Post partum blues	38	100.0%	0	0.0%	38	100.0%

Husband's Support * Post partum blues Crosstabulation
Count

		Post partum blues		
		Yes	No	Total
Husband's Support	Good	12	13	25
	Not enough	12	1	13
Total		24	14	38

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7,216 [a]	1	,007		
Continuity Correction [b]	5,437	1	,020		
Likelihood Ratio	8,348	1	,004		
Fisher's Exact Test				,012	,007
Linear-by-Linear Association	7,026	1	,008		
N of Valid Cases	38				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.79.
b. Computed only for a 2x2 table

Based on the survey results, 25 respondents received good husband support and 13 respondents received less husband support. Of the 38 respondents, 24 people experienced postpartum blues, namely postpartum mothers experiencing mood changes that occur at any time after the mother gives birth, but often occur on the 3rd and 4th day postpartum and peak between the two. Days 5 and 14 postpartum, characterized by brief crying, feelings of loneliness or abandonment, anxiety, confusion, restlessness, fatigue, forgetfulness and sleep disturbances. (Bobak, Rachmawati, 2023).

The research results show that there is a relationship between partner support and the incidence of *postpartum blues* . These results are supported by Winarni's (2018) research, the results of which show that there is a relationship between husband's support and the psychological state of mothers giving birth, and there is no relationship between attachment behavior and the mother's psychological state. Research findings from Arneliwati, DM (2015) show that factors such as lack of partner support, caesarean section, and unplanned pregnancy can contribute to *postpartum blues* , which can develop into postpartum depression if not treated properly. Mothers who experience postpartum blues may find it difficult to adjust to

the changes and responsibilities of being a new mother. This can lead to constant stress and fatigue, which can affect the mother's mental and physical health. This can help a woman reduce the burden and give her time to rest and take care of herself. Husbands can talk to their wives and listen to their feelings and concerns. This can help your partner feel appreciated and heard. from .   Based on survey results, husband's support is still lacking. The public needs to know that partner support has several forms, such as cognitive support, information support, material support, emotional support and instrumental support. The following is the explanation. Husbands can respect and acknowledge their wives so that they can increase their self-esteem and presence in the family. This can help reduce postpartum stress and depression. Husbands can provide accurate and useful information about childbirth, baby care, and self-care. This can help a woman feel empowered and gain enough knowledge to face postpartum challenges. Partners can provide material support, such as food, clothing and baby equipment. This can help women feel more comfortable and not have to worry about their basic needs. Husbands can provide emotional support by listening to their partner's feelings and concerns and providing words of comfort and support. This can help a woman feel valued and supported to face the changes and challenges of giving birth. Husbands can provide instrumental support, such as helping with housework, changing diapers, and bathing the baby. This can help a woman feel calmer and better able to take care of her children and home.

According to Pratiwi, L et al (2024), nurses must identify factors that contribute to postpartum blues. Nurses must identify responses, coping and adaptation, as well as maternal and family activities. Marwiyah et al (2022) researched that mothers who have a history of depression or have a personality prone to depression are more likely to experience postpartum blues. Research findings then show that mothers who have difficulty adapting to their new role as mothers and existing responsibilities may experience postpartum blues more often. Based on this research, apart from family support, other variables such as depression and mothers experiencing adjustment difficulties are also associated with the prevalence of postpartum blues. This becomes input for other researchers to continue this research. Because information about a history of depression is difficult to obtain, it was not part of this study in this case. (Setyaningrum, DT, Metra, LA and Sukmawati, V. E, 2023).

4. **CONCLUSION**

The conclusion of this research is

1) Good husband support was 25, and husband support was poor, 13.

2) incidents of *Post Partum Blues* , 14 of those who did not experience *postpartum blues* .

3) There is a connection between husband's support and the incidence *of post partum blues* in the work area of the Garut Regency Development Health Center

From this conclusion, the advice for health workers is to continue providing ongoing counseling to help mothers understand the incidence of *post-partum blues* and become a concern for the community so that husbands can be the ones who play a role in preventing the occurrence of *post-partum blues* .

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Nutrition Counseling Effect Using Comic on Knowledge and Attitudes of Girls About 1000 First Days of Life in Preventing Stunting in Percut Sei Tuan 1 Senior High School

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Abstract: Stunting is a growth disorder in children caused by poor nutritional intake, repeated infections and inadequate psychosocial stimulation. These nutritional problems will occur if the nutrients are not fulfilled in the period of First Thousand Days of Life. **Objective**: to determine the effect of nutrition counseling using comic media on the knowledge and attitudes of girl adolescent about 1000 first days of life in preventing stunting at SMAN 1 Percut Sei Tuan. **Methods**: This type of research was Pre-Experimental with the One Group Pre-Post Test research design which only used the experimental group without a control/comparison group. The population in this study were all class XI teenage girls who were at SMAN 1 Percut Sei Tuan in 2023, namely 121 people. Data collection was carried out by interviews using questionnaires and analysis using the T-dependent test. **Results**: This study showed the effect of nutritional counseling using comic media on knowledge (p=0.000) and attitudes (p=0.000) in preventing stunting at SMAN 1 Percut Sei Tuan. **Conclusion**: There is an increase in knowledge and attitudes of young women after being given nutritional counseling using comic media.

Keyword: nutritional counseling; stunting; 1000 HPK; knowledge; attitude; teenage girl

1. INTRODUCTION

Indonesia faces problem nutrition related doubles _ to quality source Power man. Problem nutrition the covers lateness early development _ life, such as birth weight low, short, skinny and fat, this will influence growth and development child (1). Indonesia is a developing country _ which has nutritional status problems Enough tall. Efforts to improve nutritional status must started as early as possible, to be exact started from life _ fetu. In Indonesia, this effort is called the First 1000 Days Movement Life abbreviated as 1000 HPK (2). Focus handling nutrition at 1000 HPK is to prevent happen lack nutrition which is problem main health in toddlers because it can hinder the growth and development process. In general lack nutrition in children divided into stunting (underweight for age) , wasting (underweight for height), and nutrition poor (underweight for age) (3).

Stunting is condition toddler own insufficient height or body length If compared to age. This condition is measured by a height or body length that is more than minus two standards medium standard deviation growth child from WHO (4). According to the World Health Organization (WHO) 2018 prevalence Stunted toddlers in Indonesia occupy position third in the Southeast Asia region it was (36.4%). Based on The 2018 Riskesdas shows that Indonesia is experiencing stunting problem with prevalence reached 12,780 people (42.6%), while WHO

provided the limit for stunting is <20% (5).

This stunting problem will impact bad for generation successors and the dangers of stunting for the future. Stunting is caused from various factors, among which is the lack intake energy, history duration disease infection , weight, birth low , level education mother and level family income (6). Teenager daughter of one generation successor nation plays a role active in giving birth generation furthermore. So lots things everyone needs to know and prepare for candidate Mother when you want to enter that period. Knowledge is a must what is known is when you are physiologically ready to enter the pregnancy stage, how take care of yourself and your health fetus , until the birth process (7).

To increase knowledge and attitudes teenager about importance understand 1000 HPK, then one of the programs outlined is to increase it education nutrition society (8). According to Puspitasari (2018) counseling Health is an educational activity health which is carried out by giving messages, instilling confidence, so society not only aware, knowing and understanding, but also willing and used to do something existing recommendations _ relationship with health . To help success counseling so needed tool help (media). Use of media in outreach or counseling is very important because it can make it easier to receive material (9).

Comic is one of the image media that is of interest to everyone, especially children and teenagers. From Abdul Ghani's research (2018), 500 students in 50 schools in Jakarta reported that 86% of students enjoy reading comic. Comic media with characters through characters and storyline, which makes teenagers will get examples and examples a good and worthy example exemplified, so indirectly _ comics can instill values , attitudes , and character (10). The purpose of .This research is to find out influence counseling nutrition with comic media to knowledge and attitudes teenager daughter about 1000 HPK in preventing stunting at SMAN 1 Percut Sei Tuan.

2. METHODOLOGY

Study This is type study Pre-Experimental with design One Group Pre-Post Test research only use group experiment just without group control / comparator. Observation The first (pre-test) is possible test change changes that occur after did it intervention (11). Data collection was carried out at SMAN 1 Percut Sei Tuan, District Percut Sei Tuan, Deli Serdang Regency, North Sumatra Province. The research time is January - February 2023, data collection begins Sunday first in January . Population in research This is all over teenager daughter class XI-1 to with class IX-5 at SMAN 1 Percut Sei Tuan, with a total of 121 female

students (adolescents daughter). Deep sample study This determined with criteria inclusion as following ; studied at SMAN 1 Percut Sei Tuan District Percut Sei Tuan, Deli Serdang Regency , North Sumatra Province ; was sitting on a bench class IX; No have disease infection or disease chronic ; willing and participating active in all over Suite study .

Collected data includes identity data respondent (name, age, parents ' income, education lastly parents , address _ place stay and amount member living family _ together), knowledge data , attitude data as well as picture data general location study. Knowledge and attitude data teenager daughter obtained with method fill in questionnaire given by the researcher , and carried out twice (pre-test and post-test) for know a dakah changes in knowledge and attitudes teenager daughter between before and after he gave counseling nutrition with using comic media . A pre-test was given seven day before giving first intervention . _

Giving intervention form counseling nutrition with using comic media done as much three times. Every giving intervention the held in a way right inside _ class with a total of 121 teenagers daughter and duration ± 60 minutes . Range distance time every giving intervention that is during seven day from after giving previous interventions , and implemented with the same number of people and duration . Seven day after finished giving intervention counseling nutrition with using comic media next with carry out a post-test to respondents study with do interview use the same questionnaire as during the pre-test. Data analysis was carried out in a way univariate and bivariate , next Data normality test was carried out using Kolmogrov Smirnov . On research This all data is normally distributed , so next with using the T-dependent test. Study This has get Ethical Approval _ from Committee Ethics , No: 01.1441/KEPK/POLTEKKES KEMENKES MEDAN/2023.

3. RESULTS

Characteristics Respondent

Table 1. Characteristics Respondent

Variable	Category	Number (n)	Percentage (%)
	15 years	7	5.8
Age	16 years	102	84.3
	17 years	12	9.9
	Total	121	100

	elementary school	11	9.1
Mother's Last Education	JUNIOR HIGH SCHOOL	33	27.3
	SMA/SMK	77	63.6
	Total	121	100
	elementary school	19	15.7
Father's Last Education	JUNIOR HIGH SCHOOL	28	23.1
	SMA/SMK	66	54.5
	S1	8	6.6
	Total	121	100
	≤ IDR 2,000,000	82	67.8
Parental Income	> IDR 2,000,000	39	32.2
	Total	121	100
Initial Level of Knowledge	Good	33	27.3
	Not good	88	72.7
	Total	121	100
Final Level of Knowledge	Good	121	100
	Not good	0	0
	Total	121	100
Initial Attitude Level	Good	63	52.1
	Not good	58	47.9
	Total	121	100
Final Attitude Level	Good	120	99.2
	Not good	1	0.8
	Total	121	100

From the results Table 1 shows that characteristics respondents majority 16 years old (84.3%), mother's last education was SMA/SMK (63.6%), father's last education was SMA/SMK (54.5%), parents' income ≤ IDR 2,000,000 (67.8%), level knowledge initial unfavorable (72.7%), level knowledge final good (100%), rate attitude good start (52.1%), and level attitude final good (99.2%).

Average Knowledge as well as Attitude Before and After Giving 1000 HPK Counseling Using Comic Media to Prevent Stunting at SMAN 1 Percut Sei Tuan

Table 2. Average Knowledge as well as Attitude Before and After Giving 1000 HPK Counseling Using Comic Media to Prevent Stunting at SMAN 1 Percut Sei Tuan

Variable	Category	Mean	n	p-value
Knowledge	Beginning	1.73	121	0,000
	End	1.00	121	
Attitude	Beginning	1.48	121	0,000
	End	1,083	121	

From the results Table 2 shows that the average knowledge teenager daughter before intervention was 1.63 whereas after intervention is 1.00. After continuing with statistical tests

obtained p-value 0.000 < 0.05 which can be interpreted as the existence difference knowledge teenager princess before and after counseling nutrition using comic media _ regarding 1000 HPK in preventing stunting at SMAN 1 Percut Sei Tuan. Then average the attitudes teenager daughter before intervention was 1.48 whereas after intervention was 1,083. After continuing with statistical tests obtained p-value 0.000 < 0.05 which means that there is difference attitude teenager princess before and after counseling nutrition regarding 1000 HPK in preventing stunting at SMAN 1 Percut Sei Tuan.

Enhancement Knowledge and Attitudes After Giving Nutrition Counseling about 1000 HPK Using Comic Media in Preventing Stunting at SMAN 1 Percut Sei Tuan

Table 3. Enhancement Knowledge and Attitudes After Giving 1000 HPK Counseling Using Comic Media to Prevent Stunting at SMAN 1 Percut Sei Tuan

Variable	Mean	Standard Deviation	p-value
Knowledge	5.91	2,443	0,000
Attitude	4.18	2,696	0,000

From the results Table 3 shows that there is an increase knowledge with a p-value of 0.000 < 0.05 which means that there is influence enhancement knowledge teenager daughter after being given counseling nutrition regarding 1000 HPK in preventing stunting at SMAN 1 Percut Sei Tuan. And improvement attitude with a p-value of 0.000 < 0.05 which means that there is influence attitude teenager daughter after being given counseling nutrition regarding 1000 HPK in preventing stunting at SMAN 1 Percut Sei Tuan.

4. DISCUSSION

Characteristics (Based on Age , Education, Occupation and Family Income)

In this research the number sample used _ as much 121 people. The respondents in this study were teenagers daughter who is in the research area namely at SMA Negeri 1 Percut Sei Tuan District Percut Sei Tuan. Test result statistics showing exists significant influence between knowledge and attitudes teenager daughters in 1000 HPK prevent stunting. Teenager daughter is target to improve The quality of human resources for future generations with a period of 1000 HPK is so important that some call it a period gold, and period sensitive . Meaning opportunities and goals for youth daughter or called mother _ pre-pregnancy (adolescence female) and pregnant until the child is 0-2 years old, with sufficient time short i.e. only 1000 days since day First pregnancy. target to be achieved by the end of 2025 in the 1000 Day Movement First life among them lower the proportion of

stunting is 40% (12). According to theory explained that level education join in determine easy or not somebody absorb and understand knowledge . The level of parental education is also related to awareness of taking advantage facility health . Educated mother tend to be better utilized health service facilities , and more can interact effectively with providing health services and easier _ comply with the advice given to him (4).

Teenage education princess to become one Mother affect one _ The basic factor with good education is feeding the candidate Mother it will be easier accept information from outside about the way fulfil need nutrition during pregnancy and overcome with 1000 HPK to prevent stunting. Level of education teenager daughter to become a candidate lacking mother _ will difficult understand problem health experienced during pregnancy . _ According to the results research in Mexico that if level education Mother low , then increasing social status economy must be accompanied by change effective behavior and communication to prevent stunting with 1000 HPK for candidates child to protect Mother from weight imbalance . Similar to the results research in Mexico, results study Menteiro in Brazil found that candidate mother who has level higher education can reduce _ prevalence of stunting in children (13).

In this research it was found that the characteristics samples obtained _ that is Lots sample 16 years old ie as many as 48 people (87.3%), samples with education There were 5 mothers with elementary school graduates (9.1%), 27 samples with fathers' high school education (49.1%), samples with parents' income <= 2,000,000 , namely as many as 35 people (63.6%). According to research (Adriani 2019) that if family income increases , provision side dish peak will increase the quality . On the other hand , low income cause Purchasing power is also low , so you can't afford it buy food in the required quantities . The low level economics to candidates Mother result ability candidate mother to acquire information and carrying out checks is reduced . However , on the other hand , mother pregnant who doesn't work have more _ time free so it can be used to follow various counseling although have limitations in terms of finance . Work influential to level knowledge , because someone who works outside the home tends to own good access to information compared to an everyday person being at home (14).

Knowledge level Young Women About 1000 HPK to Prevent Stunting

The results of this research show that knowledge early before doing it intervention shows that a sample of 14 (25.5%) has good knowledge and 41 (74%) have bad knowledge. And after doing it intervention shows that it happened enhancement all over a sample of 55

people (100%) had good knowledge .

Most of the knowledge man obtained from eyes and ears . Knowledge or cognitive is a very important domain for its formation action from somebody Because own experience Where behavior based on knowledge _ will be longer than behavior that is not realized by knowledge (15). The more tall level knowledge someone about something then will greatly influence your mindset and attitude somebody so that will grow behavior positive . Teenager daughter now is target to improve quality life 1000 days First life . One thousand day First life is period one thousand day since it started happening conception until child 2 years old. One thousand day consists of 270 days during pregnancy and 730 days life First since baby born . This period is called the period gold (golden period) or also called critical time . If this period is not utilized properly then will happen nature of damage permanent (16).

In line with the research of Andi Dini Fadhila, Aminuddin Syam and Muh. Alwi M (2021) who uses method giving book comic , shows change knowledge teenager daughter about 1000 HPK in preventing stunting. It can be concluded that the method book comics can improve knowledge about 1000 HPK in preventing stunting for teenager daughter (12).

There is an increase knowledge that will influence attitude teenager daughter in effort preventing stunting with 1000 HPK (12). Attitude Level Young Women About 1000 HPK to Prevent Stunting Attitude is reaction or response someone who still is closed to something object . Real attitude _ showing exists suitability reaction to certain stimulations in life daily is characteristic reaction _ emotional (17). The results of this research occurred enhancement 100 % good attitude _ good attitude because exists enhancement knowledge because giving counseling about 1000 HPK in preventing stunting for teenagers daughter who will impact to the emergence of the intention to change attitude gets better.

This is in accordance with opinion Sukmawati et al (2019) exist difference attitude before and after education with a p- value of 0.000. 1000 HPK counseling in preventing stunting in adolescents daughter carried out continuously regarding the importance of preventing and handling stunting with 1000 HPK so that stunting can be prevented as early as possible and if stunting has occurred immediately handled (17). In line with the opinion of (Chandra et al., 2019) stated teenager daughter who knows and understands 1000 HPK as well method preventing stunting will have positive attitude _ so it can be avoided from impact and risk of stunting on children since early . This is necessary as support in growing self-confidence and attitudes and behavior every day , is supporting facts _ action from someone and also will influence behavior health (18).

Influence Giving Comic Media Counseling To Knowledge Young Women About 1000 HPK to Prevent Stunting

The results of this research show There is influence counseling to enhancement knowledge teenager daughter because giving counseling 3 times in 30 days with the same material . That matter aims to change knowledge teenager daughters and also teenagers daughter can remember information around 1000 HPK in preventing stunting. The use of media in providing counseling is very important because it can make it easier to receive the material. In this research, counseling was carried out using comic media. The comic used contains information through stories in the form of understanding 1000 HPK and stunting understanding teenagers, stages of development during adolescence, symptoms of stunting , causes of stunting , preventing stunting , foods to prevent stunting , balanced nutrition, nutritional needs during the 1000 HPK period, 1000 HPK activities, and how to prevent stunting with 1000 HPK. Apart from that, this is also useful for adding information to knowledge, young women can also remember well what to do before starting pregnancy with 1000 HPK to prevent stunting .

In line with (Fadhila et al. , 2021) shows that providing counseling regarding 1000 HPK in preventing stunting is one of the efforts that can increase knowledge to be positive so that ultimately young women can make various efforts to prevent stunting (16). One of the efforts to prevent stunting with 1000 HPK includes increasing knowledge through providing counseling about nutritional needs, improving the knowledge and behavior of young women when they already know how to apply 1000 HPK in preventing stunting during pregnancy and families in choosing, processing and serving food and improving the quality of health and nutrition services (17) .

Influence Giving Comic Media Counseling To Attitude Young Women About 1000 HPK to Prevent Stunting

Research result showing There is influence counseling to enhancement attitude teenager daughters in 1000 HPK to prevent stunting due to giving counseling 3 times in 30 days with the same material so it can influence knowledge and leads to attitudes teenager daughter against 1000 HPK to prevent stunting. The use of media in counseling is very important because it can make it easier to receive material, but in using media, we must know these characteristics before selecting and using it in counseling in order to achieve the desired goals.

Increasing the information provided to young women will have an impact on improving attitudes towards preventing stunting with 1000 HPK. After understanding the meaning of 1000 HPK, the meaning of stunting , understanding teenagers , stages of development during adolescence, symptoms of stunting , causes of stunting , preventing stunting , foods to prevent stunting , balanced nutrition, nutritional needs during the 1000 HPK period, 1000 HPK activities, and how to prevent stunting by 1000 HPK. The bad impacts that stunting can cause , how to prevent stunting , young women will choose better behavior, thereby increasing young women's attitudes towards 1000 HPK in preventing stunting .

In accordance with the theory put forward by Notoatmojo (2019) that changes in a person's behavior are influenced by the knowledge and attitudes they have. Efforts to prevent and handle stunting with 1000 HPK for young women can be carried out optimally if young women and their families behave positively towards these efforts (19). According to (Notoadmojo, 2019), providing health counseling or health education can increase knowledge so that a person or group of people can change their attitude towards health. An increase in knowledge will influence the attitudes of young women in efforts to prevent stunting with 1000 HPK (16) .

Laili & Adriani (2019) also explained that providing health counseling can increase young women's knowledge about stunting by 1000 HPK. Including providing inadequate nutritional intake can influence the risk stunting . This can be related to the lack of knowledge of young women in providing nutritional intake. Therefore, increasing adolescent girls' knowledge about stunting through providing health counseling greatly influences the attitudes of adolescent girls in efforts to prevent stunting with 1000 HPK (16).

5.   CONCLUSIONS AND RECOMMENDATIONS

There is differences and influences on knowledge and attitudes teenager princess before and after given counseling nutrition regarding 1000 HPK in preventing stunting using comic media at SMA Negeri 1 Percut Sei Tuan. Counseling activities nutrition regarding 1000 HPK this is better developed with more interesting methods and media such as e-books, booklets and animated videos to be more helpful teenager daughter in understanding information that will given and can choose the method approach others that can change attitude teenager daughter to improve preventing stunting.

6.   ACKNOWLEGEMENTS

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Analysis of Health Tourism Potential in The Minanga Community Health Center Working Area, Manado City

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Abstract. Health tourism is a tourist travel activity to a tourist destination with the aim of receiving treatment or improving health and fitness. This research is a descriptive qualitative analysis by looking at case studies about the potential of health tourism. The research informants are doctors, dentists, nurses and pharmacists, and 5 pharmacists. The data was analyzed using the content analysis method on interview documents. The results of the research show that the importance of understanding and knowledge of health workers is to be able to improve the quality of service when facing tourist visits. When they have a health problem or want to improve their health condition while traveling, the attitude of health workers needs to be improved in terms of their competence which must be developed, services must comply with standards. operational procedures and being friendly and polite to tourists during health services. The conclusion of this research is that the understanding of each health worker is good regarding health tourism.

Keywords: health tourism, knowledge, attitudes, motivation

1. INTRODUCTION

Health tourism is an industry or business related to tourist travel activities to tourist destinations with the aim of receiving treatment or improving health and fitness.(Horowitz, Rosenweig, & Jones in Wirawan, 2016).Tourism is an economic driver or source of foreign exchange for a country's development because the tourism sector can make a significant contribution to job creation and the formation of tourism-related businesses such as accommodation providers. The tourism sector will develop the local economy, as well as encourage local governments to provide better infrastructure and other supporting facilities so as to improve the quality of life for tourists and also local communities as hosts (Suwena and Widyatmaja, 2017). This is in line with the Sustainable Development Goals (SDGs), which include creating a healthy and prosperous life for society, decent work and economic growth, as well as building resilient infrastructure, increasing inclusive, sustainable industry and encouraging innovation (Ministry of VAT, 2020).

The Ministry of Tourism and Creative Economy collaborated with the Ministry of Health to create a movement called the Indonesian Wellness and Healthcare Tourism Movement (IWHT) in 2012 which aims to develop Indonesian health tourism that has natural

and holistic characteristics, by utilizing local cultural wisdom supported by scientific data. and health service facilities or hospitals that are nationally and internationally accredited. Health tourism is the main program of the Ministry of Tourism because it is considered capable of increasing the attractiveness and quality of tourists visiting Indonesia, which can be measured through the length of stay and the amount spent when visiting tourist attractions (Nuryanti, 2017). The Ministry of Tourism and Creative Economy and the Ministry of Health identified Wakatobi Regency in Southeast Sulawesi as a priority destination in 2017 to support health tourism(Nuryanti, 2017) and Likupang District which is located in Manado City, North Sulawesi as a super priority destination in 2019, this shows that the Manado City area has tourism potential to support government programs in the tourism sector including health tourism (Ministry of Tourism and Creative Economy, 2020).

Although tourism can have a positive impact on the economy, this trend will also be accompanied by increased health risks. This is because epidemiologically, tourists are a population group with high mobility, quickly moving from one tourist destination to another so that they have the potential to be exposed to diseases and undesirable events outside their place of origin, as a result there are cases that are not reported or treated. The importation of diseases to the place of origin or vice versa will occur, causing an increase in the risk of changing non-endemic areas into endemic areas for a disease (Wirawan, 2016). Previous research has proven that the majority of foreign tourists who come to developing countries will experience tourism-related health problems (Horowitz, Rosenweig, & Jones in Wirawan, 2016).

Therefore, the role of health workers in community health centers or hospitals, especially in tourism priority areas, is very important in terms of supporting government programs and handling cases of diseases related to health tourism. Apart from the medical profession (doctors and nurses), public health workers in health centers in tourism priority areas have great potential to be included. Public health workers are able to understand the key elements of preventing certain diseases and events, understand aspects of tourism health promotion, and carry out health impact assessments, identify potential hazards, risk assessments and prepare health risk control efforts (hazard identification, risk assessment, and determining control/HIRADC) in tourist areas, as well as having knowledge of vaccines and prophylaxis to prevent disease incidents related to tourist areas (Wirawan, 2016).

The Malalayang area of Manado City is one of the coastal and culinary tourism destinations which has spectacular views and atmosphere that are no less than coastal areas such as in the Kuta area of Bali, where spatial planning and environmental conservation are

carried out using the state's revenue and expenditure budget with development throughout. 2 Km Trans Sulawesi highway. Referring to point D, Article 13, it is explained that cluster 4 has the characteristics of tourist attractions, namely the coast and mangrove characteristics, namely the Malalayang beach tourist area and the Meras and Tongkaina coastlines. Boulevard Dua culinary is spread across Sindulang Village, Maasing Village, Karang Ria Village and Tumumpa Village. (Anonymous, 2020).

Based onRegional Regulation No. 2 of 2020 concerning Regional Tourism Master Plans, the characteristics of the tourist attraction are urban-coastal, namely the Malalayang beach tourist area with the development of revitalization of culinary places along the coast, making the Malalayang area an accelerated development priority for the Central Government program.

Based on the background that has been explained, this research was conducted to analyze the potential for health tourism in the work area of the Minanga Community Health Center, Manado City regarding the knowledge, attitudes and motivation of health workers.

2. RESEARCH METHODS

This research is a descriptive qualitative analysis by looking at case studies about the potential of health tourism. This research was carried out at the Minanga Community Health Center, Manado City, North Sulawesi Province in November 2022-January 2023. This research method used in-depth interviews and observations which were then documented for analysis with 5 research informants who played important roles and also involved with the potential for health tourism, namely the Head of Minanga Administration, Manado City and health workers in the work area of the Minanga Health Center, Manado City.

3. RESULTS AND DISCUSSIONS

Results

Informant characteristics can be seen in table 1. In-depth interview results can be seen in table 2-16.

Table 1. Characteristics of Informants

	Age	Gender	Position	Profession	Education
Informant 1	47 Years	Woman	Head of administration	Pharmacy	Bachelor of Pharmacy
Informant 2	35 years old	Woman	UKP Responsible Person	General practitioners	S1 Doctor
Informant 3	32 years	Woman	Dental Clinic Doctor	Dentist	S1 Doctor S2 SMI
Informant 4	33 Years	Man	Responsible for Pharmacy	Pharmacist	S1 Pharmacy
Informant 5	33 Years	Woman	Health Promotion Program Holder	Nurse	S1 Nursing

Table 2. Results of Interviews with Informants on the First Question Knowledge Variable in Facing Health Tourism

1. What do you know about health tourism?

No.	Informant	Interview result
1.	First	*There are people who travel and have health checks*
2.	Second	*People who travel and check their health*
3.	Third	*There are people traveling from within or outside the country and checking their health*
4.	Fourth	*Health tourism*
5.	Fifth	*Can refresh your mind when you are bored while traveling*

Table 3. Results of Interviews with Informants on the Second Question Knowledge Variable in Facing Health Tourism

2. What do you know about wellness tourism?

No.	Informant	Interview result
1.	First	*People who are healthy and will go somewhere to check their health to be even healthier when traveling*
2.	Second	*Concept where healthy people go somewhere to improve their health*
3.	Third	*Healthy people go somewhere and want to improve the quality of their health*
4.	Fourth	*Healthy people go somewhere to improve the quality of their health*
5.	Fifth	*Healthy people go somewhere to relax themselves in order to improve the quality of their health*

Table 4. Results of Interviews with Informants on the Third Question Knowledge Variable in Facing Health Tourism

3. What do you know about wellbeing tourism?

No.	Informant	Interview result
1.	First	*Maintain health both mentally and physically*
2.	Second	*Create an atmosphere for the development of good health*
3.	Third	*Health activities to maintain both mental and physical health*
4.	Fourth	*Develop both mental and physical health*
5.	Fifth	*Restores mental and physical health when boredom appears, more precisely by relaxing the body from boredom*

Table 5. Results of Interviews with Informants on the Fourth Question Knowledge Variable in Facing Health Tourism

4. What do you know about medical tourism?

No.	Informant	Interview result
1.	First	*A tourist activity to another place to get a medical therapist to get healing*
2.	Second	*Traveling activities to obtain medical services*
3.	Third	*Medical services from tourism to get it*
4.	Fourth	*Treating tourists' illnesses, for example if they have cancer, go to Singapore for treatment*
5.	Fifth	*Obtain medical services related to the treatment of certain diseases*

Table 6. Results of Interviews with Informants on the Fifth Question Knowledge Variable in Facing Health Tourism

5. Can health tourism be developed at Community Health Centers and how?

No.	Informant	Interview result
1.	First	*Yes of course*
2.	Second	*Very possible*
3.	Third	*Of course, I can*
4.	Fourth	*Very capable and very supportive*
5.	Fifth	*Several stakeholders are involved so that there is coordination to improve services and the public can see it as a benchmark*

Table 7. Results of Interviews with Informants on the First Question Attitude Variable in Facing Health Tourism

6. What do you think if your health center becomes a destination for health tourism?

No.	Informant	Interview result
1.	First	*Good, to encourage more optimal service*
2.	Second	*It would be very good if the community health center could develop it*
3.	Third	*Of course it is good for the development of the health sector*
4.	Fourth	*Strongly agree*
5.	Fifth	*Very good and suitable for developing*

Table 8. Results of Interviews with Informants on the Second Question Attitude Variable in Facing Health Tourism

7. How prepared are you as a health worker to develop health tourism at the Community Health Center?

No.	Informant	Interview result
1.	First	*Will prepare yourself as part of competence and responsibility in service*
2.	Second	*In accordance with competency will be prepared*
3.	Third	*Prepare according to competency*
4.	Fourth	*Prepare according to competency, expertise and knowledge*
5.	Fifth	*Respond well with the best service from health promotion*

Table 9. Results of Interviews with Informants on the Third Question Attitude Variable in Facing Health Tourism

8. Have tourists ever come to seek health services?

No.	Informant	Interview result
1.	First	*As far as I remember, I did*
2.	Second	*Once*
3.	Third	*There is*
4.	Fourth	*Some tourists from China*
5.	Fifth	*Yes, here*

Table 10. Results of Interviews with Informants on the Fourth Question Attitude Variable in Facing Health Tourism

9. What is your process for providing health services to tourists?

No.	Informant	Interview result
1.	First	*In accordance with the existing SOP, of course the service will be carried out*
2.	Second	*In accordance with existing SOPs and different from services to ordinary people*
3.	Third	*Have an SOP and serve according to the existing SOP*
4.	Fourth	*Existing SOPs, maybe there are SOPs specifically for tourism*
5.	Fifth	*Find out the language used and explain and provide services according to SOP*

Table 11. Results of Interviews with Informants on the Fifth Question Attitude Variable in Facing Health Tourism

10. What will you provide as a health worker to optimize health services to tourists?

No.	Informant	Interview result
1.	First	*Will welcome tourists who ask for services and convey knowledge about health to the public*
2.	Second	*Be kind and provide services according to your knowledge and abilities*
3.	Third	*Providing good service and developing competence in the form of health training and seminars*
4.	Fourth	*Time and energy to feel well served*
5.	Fifth	*Be kind and accept in a friendly manner*

Table 12. Results of Interviews with Informants on the First Question Motivational Variable in Facing Health Tourism

11. How would you feel if your health center became a health tourism destination?

No.	Informant	Interview result
1.	First	*Of course you are ready, and will be happy about visits that come for treatment*
2.	Second	*Of course very happy*
3.	Third	*Very happy and proud*
4.	Fourth	*Very happy and supportive*
5.	Fifth	*Of course very happy*

Table 13. Results of interviews with informants on the motivation variable for the second question in dealing with health tourism

12. If your health center becomes a health tourism destination, what do you hope for yourself?

No.	Informant	Interview result
1.	First	*Encourage and motivate friends in service*
2.	Second	*The more encouraged, the more people who come and are challenged to improve themselves, the better they are*
3.	Third	*Knowledge is more developed, because there will be tourists checking it out*
4.	Fourth	*Become more dedicated in serving people*
5.	Fifth	*Motivated, how to use language to make it easier to provide services*

Table 14. Results of Interviews with Informants on the Motivational Variable for Question Three in Facing Health Tourism

13. Are you ready to become a health worker and be given the responsibility to handle health tourism?

No.	Informant	Interview result
1.	First	*Of course it will be ready*
2.	Second	*Ready*
3.	Third	*Ready*
4.	Fourth	*Very ready of course to see what the job description is like and maybe it can be developed*
5.	Fifth	*Definitely ready and must be ready*

Table 15. Results of Interviews with Informants on the Fourth Question Motivational Variable in Facing Health Tourism

14. What is your opinion regarding the SOP for handling tourist health services?

No.	Informant	Interview result
1.	First	*So far, it has been appropriate to apply existing SOPs*
2.	Second	*SOP services specifically for self-isolation and quarantine during the Covid-19 pandemic*
3.	Third	*Services have SOPs, especially in the pandemic era, some have been developed and will definitely be implemented for those in isolation and quarantine*
4.	Fourth	*SOPs can be developed, services must be practical, fast and easy*
5.	Fifth	*Services for self-isolation and quarantine are in accordance with existing SOPs*

Table 16. Results of Interviews with Informants on the Fifth Question Motivational Variable in Facing Health Tourism

15. How is your relationship with other colleagues in dealing with tourists receiving health services?

No.	Informant	Interview result
1.	First	*Good relationships with cooperation, according to their respective parts*
2.	Second	*Maintain communication so that the service runs well*
3.	Third	*Certainly good and cooperative to create maximum service*
4.	Fourth	*Challenges for individuals, both individual communication and work teams at the community health center*
5.	Fifth	*Good relations and good coordination of health services to the community so that they receive them well*

Discussions

Tourism development in the City of Manado as an integral part of national tourism development is built based on religious norms and cultural values as a concept of balanced life, namely the relationship between humans and Almighty God, the relationship between fellow humans and humans with the natural environment, both in the form of natural resource environments and geographic environments. Manado City tourism was developed with a development growth approach that is oriented towards regional development, relies on the community and is empowering which includes human resources, health, marketing, science and technology, intersectoral linkages, small business empowerment, and responsibility in the utilization of natural resources. and culture(Anonymous, 2020).

In accordance with the Manado City Regional Development Strategic Plan, tourism development is one of the mainstay sectors that must be developed because it is able to influence other development sectors. Tourism development includes 3 (three) dimensions, namely environmental dimensions, economic dimensions and socio-cultural dimensions. The environmental dimension is part of efforts to utilize, protect and manage the natural environment and its ecosystem in a sustainable manner for the benefit of society and future generations. From the environmental dimension, tourism development must pay attention to maintaining environmental quality, because in the tourism industry, the environment is what actually has selling value, in other words, in tourism development, the principle of utilization, protection and management of the environment based on the carrying capacity of the environment itself is very important(Anonymous, 2020).

From an economic dimension, tourism development is part of efforts to increase competitiveness and at the same time increase regional income. In line with the development of national conditions in the country caused by the political and security situation in the country, tourism development must be able to restore the image of tourism both regionally and nationally as a tourist destination that is safe and comfortable to visit. Furthermore, from the socio-cultural dimension, tourism development is an integrated approach in preserving the cultural values of local communities, preserving nature, preserving the environment and fostering a sense of national pride, in order to anticipate the influence of global culture which is contrary to national culture.(Anonymous, 2020).

Studies on health tourism or medical tourism system models are still developing and there is a lot of potential using this model. In North Sulawesi itself, especially Likupang and Manado, it is a super priority tourist area destination as determined inManado City Regional Regulation Number 2 of 2020Regarding the "2020-2025 Regional Tourism Development Master Plan". This is in accordance with the points outlined in article 1 regarding:

a.   Tourism;

b.   Regional tourism destinations;

c.   Regional tourism strategic areas;

d.   Marketing and tourism industry;

e.   Organizing meetings, incentive trips, conventions and exhibitions (meetings, incentives, conventions, exhibitions) or "MICE"

The purpose of this study and regulation is not only to obtain regional revenue and income, to introduce and promote it to tourists, especially to anticipate if there are tourists who come and are exposed to infection or a history of disease, or disease disorders during their visit because Indonesia, especially Manado, has The 4 seasons are different from other countries, so there is a tendency for those who come to adapt instantly and do not rule out the possibility of health problems when arriving, during and when returning to their place of origin.

According to research resultsKusumawati (2018) when a patient or tourist seeks health services in Indonesia, generally they will focus on the doctor's credentials and forget other important factors, namely the location (country, region) of the doctor and the hospital they are going to. The results of this study are in line with the research resultsAnsaril (2019)which states that knowledge is related to the quality of Puskesmas services, so the better the knowledge of health workers, the better the quality of Puskesmas services. This indicates that health workers have very good preparation to improve the quality of health services. With good knowledge, it will be easier to make changes, including improving the quality of health services. For officers

who already have good knowledge, they just need to be given motivation and support to improve the quality of services provided to the community.

In assessing the potential of hospitals in Indonesia for medical tourism, there is still very little information that supports and describes the condition of hospitals in Indonesia for medical tourism. In research(Habibi and Ariffin, 2018)shows that the quality of experience is very important to improve tourists' perceptions, because it plays an important role in improving tourists' perceptions by reducing the negative influence of perceived sacrifices (e.g. perceived risks and perceived costs), thus the need for strategies to manage or reduce the risks perceived by tourists medical.

Studies on the Medical Tourism system model are still developing and there is a lot of potential using this model. Study of the relationship between health service providers and consumers in the medical tourism industry or the formation of marketing strategies according to target markets or consumer groups(Gyu Ko, 2011).

Research results fromAnsaril (2019)also stated that a good attitude from health workers will result in good quality health services at the Community Health Center. In general, health workers at the Kuala Tadu Community Health Center are very supportive of the quality of health services at the Community Health Center. This positive attitude can occur because of being a health worker.

Based on interviews with each informant in the Minanga Community Health Center working area, it was concluded that their knowledge, attitudes and motivation in dealing with health tourism or medical tourism were better as expected due to the provision of information in the form of information from both health agencies in terms of health services and community health centers as well as The regional government's determination and policy in making Manado, especially North Sulawesi Province, ready to welcome tourist arrivals in 2022. Moreover, in the last 1 year, community members have enthusiastically welcomed the Central Government's program through mass vaccination against the Covid-19 virus, resulting in efforts to improve health. and improving health is increasingly being carried out in terms of the movement for clean and healthy living (GERMAS).

Based on journals from Hardiyanti (2020) States thatKnowledge can be increased by providing health education and health promotion using simulation methods, theories about providing BHD and first aid. The right attitude is to obey procedures and guidelines and remain calm when providing treatment. Actions or skills can be improved with regular training and using demonstration media. Conclusion: There is a significant relationship between knowledge and action (0.002<0.05), and attitude and action (0.006<0.05). Measuring knowledge, attitudes

and actions can make it easier to carry out evaluations in order to avoid and reduce the number of accidents or emergency incidents. Suggestion: Providing information such as BHD, CPR and first aid training to tourism actors, namely local communities, lifeguards and health workers, can be used as one of the most common efforts to improve a person's knowledge, attitudes and actions.

Other research also byArin, et al (2021)The results of research on health workers' work motivation can also be seen from a clean and comfortable work environment, additional facilities and infrastructure as well as facilities to encourage health workers to work optimally as well as good relationships with co-workers, work safety according to predetermined standards, the creation of ethics at work. .

The research results show that the relationship between motivation and the level of academic achievement is caused by several factors, one of which is that individual characteristics or health workers themselves have an important role in motivation to achieve a goal. This condition often reduces students' motivation to study. In accordance with research results, low motivation results in learning achievement being only good and not optimal (Welong, 2020).

Motivation is not only a person's own, but the relationship between colleagues is also a determinant in achieving a goal, especially in health services, teamwork is needed, not only among doctors but also between other medical personnel such as nurses, pharmacists, health promotion experts and others. those involved in providing health tourism services according to the answers to the interviews conducted, namely collaboration and coordination with colleagues from one agency, in this case the community health center, is very important.

Cooperation or collaboration with other parties is the most important thing to achieve program goals. This is the conclusion from interviews with informants. Collaboration is based on the principle of need and mutual benefit for all parties, namely the private sector, local government, namely cross-sector collaboration. This is also in accordance with research byMusruroh, et al (2020) at Tegurejo Hospital, Kendal Regency, Central Java. Stating that collaboration across sectors and partners plays an important role and is the key to the success of implementing health tourism.

4. CONCLUSION

The understanding and knowledge of each health worker at the Minanga Community Health Center is good. Readiness and commitment of health workers in providing services in accordance with standard operational procedures. The motivation for health workers is the

availability and improvement of facilities and infrastructure as well as regular training and development.

THANK-YOU NOTE

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Application Of The Braden Scale Instrument in Detecting Risk of Decubitus

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Abstract. *Decubitus wounds are wounds caused by prolonged pressure on a prominent surface area of the bone. Nurses play an important role in preventing the incidence of decubitus, especially by carrying out an early assessment of the risk of decubitus, namely by using the Braden Scale. Objective: to determine the risk of decubitus injuries using the Braden Scale. Method: This type of research is quantitative research with a descriptive research design. The sample in this study was 20 people using a non-probability accidental sampling. Inclusion criteria for this research were patients treated in hospital. Islam Malahayati Medan for more than 2 days of treatment, young elderly, middle elderly and old elderly patients. Data analysis in this study used SPSS 25 for Windows for descriptive statistics. Results: There were 7 people (35%) in the no risk category, 6 people (30%) in the mild risk category, 2 people (10%) in the moderate risk category and 4 people (20%) in the high risk category and 1 person (5%) severe risk category. Suggestion: Hospitals need to include the Braden Scale assessment format in the inpatient assessment format to detect the risk of decubitus injuries and carry out assessments on patients every day while the patient is hospitalized.*

Keywords: Braden Scale, Decubitus Ulcer, Patient.

1. INTRODUCTION

Pressure sores are a common phenomenon frequently encountered in bed rest patients, with a high incidence rate. Decubitus is local tissue necrosis that tends to occur when soft tissue is compressed between bony prominences and external surfaces over a long period of time (Potter & Perry, 2011).

The prevalence of pressure ulcers in Indonesia reaches 40%, the highest among other large ASEAN countries. According to Bujang, Aini & Purwaningsih (2014), the incidence of pressure ulcers in acute care is 5-11%, in long-term care is 15-25%, and in home care. care) of 7-12% (Bujang et al., 2014).

The prevalence of decubitus in Indonesia is still quite high, research results in several government hospitals in Indonesia show that the incidence of decubitus in bed rest patients is 15.8% to 38.18% (Okatiranti, Sitorus, & Tsuawabeh, 2013). To reduce the incidence of decubitus Nurses play an important role in preventing the emergence of pressure ulcers by early detection of the emergence of pressure ulcers using appropriate assessment instruments. Currently, there are several instruments that can be used to detect early onset of pressure ulcers by assessing the degree of risk of developing pressure ulcers such as the Braden Scale, Norton Scale, etc. (Yustina et al., 2021).

To facilitate early assessment of the risk of pressure ulcers in patients, Braden and Begstrom (1989) developed the American Braden scale in the area of home care. The Braden Scale consists of six subscales, on five subscales (sensory perception, activity, mobility, nutritional status, humidity, friction and shifting) (Kozier, 2010).

According to Mizan et al (2016) the instrument most commonly used by hospitals in Indonesia is the Braden Scale. Because the Braden scale has been widely tested for validity and reliability in various types of hospitals and patients. Based on research by Giorgieva (2021) regarding assessing the risk of decubitus wounds using the Braden Scale, as many as 50.83% of respondents experienced decubitus wounds which were quite risky, 26.67% were at high risk, and 14.17% were at moderate risk, and only 8.33% were at risk. light (Giorgieva, 2021).

Malahayati Islamic Hospital is one of the hospitals in Medan City. one of the hospitals that will develop. Therefore, researchers are interested in conducting research on the application of the Braden Scale in detecting pressure sores in inpatients at Malahayati Islamic Hospital, Medan.

2. METHOD

This type of research is quantitative research with a descriptive research design. With the aim of determining the risk of decubitus injuries using the Braden scale. Research Location at Malahayati Islamic Hospital, Medan. The sample in this study was 20 people using a non-probability sampling technique, namely accidental sampling. The inclusion criteria for this research were patients who were hospitalized. Islam Malahayati Medan more than 2 days of treatment, elderly patients, bedrest patients, patients willing to become respondents proven by providing informed consent. The data collection process in this research uses the Braden Scale instrument where the Braden Scale has subscales, namely: sensory perception, humidity, activity, mobility, nutrition, friction and tearing. Data analysis in this study used univariate analysis to determine the frequency distribution of the risk of decubitus injuries at the Malahayati Islamic Hospital, Medan.

3. RESULT

The data of respondent will be presented in table 1 to describe the category of respondent data age category

Table 1

Respondent Data According to Age Category

No	Respondent	F	%
1	Young elderly	8	40
2	Middle elderly	9	45
3	Elderly	3	15
Total		25	100

Table 2

Braden Scale in Detecting the Risk of Pressure Ulcers in the Inpatient Room at RSIM Malahayati Medan

No	Klasifikasi	F	%
1	No Risk	7	35
2	Mild Risk	6	30
3	Medium Risk	2	10
4	High Risk	4	20
5	Severe Risk	1	5
Total		20	100

4. DISCUSSION

From Table 1, it shows that the age of vulnerable respondents is 8 young elderly people, 9 middle elderly people, 3 elderly people. With a total of 20 respondents. The majority of respondents were middle elderly, namely the age range 70-79 years. According to the World Health Organization (2020), the age division of the elderly consists of young elderly 60-69 years, middle elderly 70-80 years, old elderly over 80 years.

According to Revis (2015), age is an intrinsic factor that causes pressure ulcers because in old age there is a decrease in elasticity and vascularization, thereby increasing the risk of pressure ulcers. As a result of the aging process, elderly people generally experience loss of muscle elasticity, decreased serum albumin levels, decreased inflammatory response, and decreased cohesion between the epidermis and dermis. This risk increases because in the elderly there is a decrease in the body's physiological abilities, including reduced tolerance to pressure and friction, reduced subcutaneous fat tissue, reduced collagen and elastin tissue, and decreased efficiency of capillary collaterals in the skin. The elderly's ability to feel painful sensations due to pressure decreases as a result of decreased sensory perception.

From Table 2, there were 4 people (20%) in the high risk category and 1 person in the severe risk category where the respondent's medical diagnosis was a diagnosis of a neurological disorder, namely hemiparase caused by ischemic stroke. Hemiparase is a condition where the patient experiences weakness on one side of the patient's body, where this condition causes the patient to experience limitations in activities.

Risk assessment is the main step that is immediately carried out at the beginning of the treatment period, when the risks have been assessed then the preventive measures that will be given will be appropriate. Risk assessment for wounds can use the Norton, Braden, Waterlow Scale, and Gosnell Scale instruments (Richardson et al., 2017).

Risks Prevention of pressure ulcers is very important to reduce pain, affect the patient's quality of life emotionally, physically, socially, and even reduce the risk of death in patients, as well as preventing increased length of stay and increasing treatment costs (Whitty et al., 2017). Interventions in skin care are an indicator of the quality of nursing services provided. Nurses regularly observe damage or impaired skin integrity in patients (Potter et al., 2016).

The results of research (Kale et al 2014) regarding the use of the Braden Scale is effective in predicting the incidence of pressure ulcers in bed rest patients treated in hospital where, the level of validity of the Braden scale remains better with a sensitivity value of 88.2%, specificity 72.7%, positive predictive value 27.3%, and negative predictive value 11.8% at a cut of point 15, and the area under the ROC curve is 0.880. These results show that the Braden scale has a good balance between sensitivity and specificity. And also the Braden scale has proven to be effective in predicting the incidence of pressure ulcers.

The results of this study are in accordance with Giorgieva's (2021) research on assessing the risk of decubitus wounds using the Braden Scale, that as many as 50.83% of respondents experienced decubitus wounds which were quite risky, 26.67% were at high risk, and 14.17% were at moderate risk, and only 8.33% are at mild risk (Giorgieva, 2021).

5. CONCLUSION AND RECOMMENDATION

The conclusion in this study was that there were 7 people (35%) in the no risk category, 6 people (30%) in the mild risk category, 2 people (10%) in the moderate risk category and 4 people (20%) in the high risk category and 1 person (5%) severe risk category. The application of the Braden Scale can be applied in hospitals to prevent decubitus wounds early and determine the next steps and plans in treating patients to prevent decubitus wounds, especially in patients in the moderate, high and severe categories.

The researcher's suggestion to hospitals is that hospitals need to include the Braden Scale assessment format in the inpatient assessment format in detecting the risk of decubitus wounds in the inpatient room and conducting assessments on patients every day while the patient is hospitalized.

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Factors Influencing The Implementation Of Pregnant Women's Exercise In The Work Area Of Medan Johor Health Center, Medan City, Medan City In 2024

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Abstract. Pregnancy exercise is an effort to improve the health of mothers and babies during pregnancy. Maternal participation in pregnancy exercise in Indonesia is still low, including in Medan City, of 168 pregnant women, 140 of them did not take part in pregnancy exercise. Survey results at the Medan Johor Community Health Center showed that pregnant women did not participate in pregnancy exercise due to lack of knowledge and lack of motivation (60%). The aim of this research is to identify factors that influence the implementation of pregnancy exercise in the Medan Johor Community Health Center Work Area, Medan City in 2024. This type of research is an analytical survey using an approach cross-sectional. The population of this study was all 135 pregnant women aged 22 weeks and over. The sampling technique uses the method proportional sampling as many as 101 people. Data analysis uses univariate and bivariate analysis with tests chi square and multivariate with logistic regression. The results of research using logistic regression are known valuesp-value Logistic regression of educational variables 0.808>0.05, knowledge 0.021<0.05, family support 0.000<0.05 and motivation 0.000<0.05. It is recommended that pregnant women actively participate in outreach programs to increase their knowledge and carry out pregnancy checks and participate in pregnancy exercises.

Keywords: Influencing Factors, Pregnant Women, Gymnastics.

1. INTRODUCTION

Health problems during pregnancy can develop into risks for the mother, around 15% of all pregnant women will experience complications related to pregnancy and can threaten the health of pregnant women. *World Health Organization* (WHO), targets by 2030 to reduce the risk of maternal death globally to less than 70 per 100,000 live births. In 2015 approximately 830 women died every day due to complications from pregnancy or childbirth with a risk of maternal death of 216 per 100,000 live births. According to data from the 2015 Indonesian Demographic Health Survey (SDKI), the Maternal Mortality Rate (MMR), related to pregnancy, childbirth and postpartum, was 305 per 100,000 live births. This figure is still quite high when compared with ASEAN countries. The Maternal Mortality Rate (MMR) in Indonesia in 2012 reached 359 (Indonesian Ministry of Health, 2019).

According to the 2018 Indonesian Profile Data, the Maternal Mortality Rate (MMR) is an indicator to see the success of maternal health efforts. In general, there was a decrease in maternal deaths during the 1991-2015 period from 390 to 305 per 100,000 live births. Even though there is a trend towards decreasing maternal mortality, it has not succeeded in achieving the MDGs target which must be achieved, namely 102 per 1000,000 live births in 2015. The results of the 2015 supas show that

the maternal mortality rate is three times the MDGs target. (Indonesian Ministry of Health, 2019).

According to data from North Sumatra Province, the percentage of K4 service coverage for pregnant women according to districts/cities in North Sumatra province in 2018 shows that Deli Serdang City has the highest K4 coverage at 96.23%, followed by Langkat at 95.79% and Batu Bara at 94.67 %, while the districts/cities with the lowest K4 coverage among pregnant women are Gunung Sitoli City at 58.55%, South Nias District at 58.05% and Samosir District at 59.10% (North Sumatra Health Service, 2019).

One program to reduce problems in pregnant women is by doing pregnancy exercises. Pregnancy exercise can train the respiratory organs to adapt to changes in the condition of the stomach so that it can relax and the body's minimum oxygen requirements can be met. Pregnancy exercise can also teach you to control your body's posture in dealing with the increasing weight of the fetus and re-teach reflexes (especially inside the body), so that you can control your strength and also train the mother-to-be to prepare physically and mentally with relaxation by controlling muscle work correctly. Pregnancy exercise can also improve physical health, physics and self-confidence in facing childbirth, as well as guiding pregnant women towards physiological labor or normal and safe labor. (Latief, 2016)

According to the Health Profile of Medan City in 2018, the percentage of pregnant women receiving K1 antenatal care reached 75.4%, whereas in 2017 it was 80.3%, this achievement has not met the target according to the Health Service, namely 96%, let alone the standard target. Minimum Service (SPM), all pregnant women must receive health services according to standards. Meanwhile, the percentage of pregnant women receiving K4 antenatal care reached 62.15, this figure does not meet the set target of 100%. The percentage of Tetanus Diphtheria (TD) Immunization coverage for pregnant women and women of childbearing age was 9,950 people (138.2%). Pregnant women who receive K1 and K4 visits must consume a minimum of 90 Blood Supplement Tablets (TTD). Based on target data on the number of mothers 7,201 people were pregnant and 3,663 people received TTD 90 tablets (50.9%), this illustrates that there are still many pregnant women who do not carry out pregnancy exercises, which can be seen from Q4. Pregnancy exercise visits have been provided for pregnant women so that pregnant women can carry out

pregnancy exercises at the Community Health Center with the aim of ensuring that the mother and fetus remain healthy. (Medan Health Service, 2019).

Medan Johor Community Health Center is one of the Community Health Centers in Medan City which consists of 24 villages in the District. Pregnancy exercise instructors in the Medan Johor Health Center work area, Medan City , have received training at the Sibuhuan Health Service, Medan City. Based on data obtained from the Medan Johor Community Health Center, it can be seen that the number of pregnant women in 2023 will be 172 people, while there will be 39 people who want to take part in pregnancy exercise. In 2019 the number of pregnant women was 168 people, while 28 people wanted to take part in pregnancy exercises. Data obtained from the Medan Johor Community Health Center in October saw the number of pregnant women coming to the Medan Johor Community Health Center as many as 58 people/month, while there were 16 people who wanted to take part in pregnancy exercise. In November the number of pregnant women who came to the Lantong Community Health Center was 55 people/month, while there were 15 people who wanted to take part in pregnancy exercises. In December the number of pregnant women who came to the Medan Johor Community Health Center was 52 people/ month, while there were 12 people who wanted to take part in pregnancy exercises. Based on data obtained from the Medan Johor Community Health Center, it can be seen that from year to year the number of pregnant women is increasing, but pregnant women who do not want to take part in pregnancy exercise are decreasing in the Medan Johor Community Health Center working area.

According to Notoatmodjo, the factors that influence behavior are determined by several factors, namely: predisposing factors which include: education, knowledge, attitudes and motivation. Driving factors include: environment, income, facilities and infrastructure. Supporting factors include: colleagues, officer support, family support and so on. (Notoatmodjo, 2010). The mother's lack of knowledge about pregnancy exercise results in the mother's lack of interest and desire to carry out pregnancy exercise activities. So it has a negative impact on the condition of the mother and fetus. These impacts include, the occurrence of vaginal bleeding, slowing down the delivery process, susceptibility to premature birth, signs of abnormalities in the fetus, *eclampsia / pre-eclampsia* and so on (Bobak, Lowdermilk, 2012).

Pregnant women who have a high level of knowledge about pregnancy exercise tend to do pregnancy exercise frequently. On the other hand, pregnant women who are less knowledgeable tend not to want to do pregnancy exercises. The implementation of pregnancy exercises can be influenced by feelings of laziness, lack of desire to do pregnancy exercises, and lack of motivation to do pregnancy exercises from health services (Muhimah, 2015)

Knowledge of pregnant women is what pregnant women know, information about pregnancy exercise and the health benefits for the fetus and mother. According to Anasari's research entitled Analysis of Factors Associated with the Participation of Pregnant Women in Carrying out Pregnancy Exercises in Pregnancy Classes in 2013, it shows that there is a significant relationship between knowledge and education of pregnant women. This significant relationship can be seen from the value*p value*education ($p= 0.005$) and knowledge ($p=0.002$), meaning that there is a significant relationship between education and knowledge on the implementation of pregnancy exercises (Anasari, 2013).

According to Juliani's research entitled The Relationship between Husband's Support and Motivation and Mother's Participation in Pregnancy Exercises at the Rimasdalifah Arumy Clinic, Binjai City in 2018, it shows that there is a significant relationship between husband's support and motivation for pregnant women. This significant relationship can be seen from the value*p value*husband's support ($p=0.031$) and motivation ($p=0.031$), meaning that there is a significant relationship between husband's support and motivation for carrying out pregnancy exercises (Juliani, 2019)

The research results are in accordance with Masini's research on the influence of gravida, employment, husband's support, support from midwives/health workers on maternal participation in classes for pregnant women in Magelang City. The results of data analysis show that there is an influence of husband's support on mothers' participation in classes for pregnant women in Magelang City (Masini., 2015).

The results of interviews conducted with health workers at the Aek Batu Community Health Center, Torgamba District, South Labuhanbatu City, the pregnant mother class at the Aek Batu Community Health Center is a program that is carried out once a month. Each meeting for one exercise group can be attended by a maximum of 10 pregnant women, this is in accordance with the regulations for

implementing pregnancy exercise. The place for the exercise is the Aek Batu Community Health Center hall. Pregnancy exercise equipment such as mats and pictures of pregnancy exercise displays have been provided by the Health Service.

The results of the initial survey conducted by researchers through interviews with 10 pregnant women in the work area of the Medan Johor Community Health Center, revealed that 4 pregnant women took part in pregnancy exercise because they were motivated to have a normal birth and already knew the benefits of pregnancy exercise through a lot of information. 3 mothers said they did not participate in pregnancy exercise because they felt that their pregnancy was healthy and there were no problems. 3 mothers did not take part in the pregnancy exercise due to lack of financial means and the distance to travel to the place where the pregnancy exercise was carried out.

2. RESEARCH METHODS

This research is analytical in nature with a research design *Cross Sectional*. The population in this study were all pregnant women with a gestational age of > 22 weeks in the Medan Johor Community Health Center Working Area, Medan City. Based on data recorded on visits by pregnant women from January to December 2023, there were 135 pregnant women. Research subjects were taken using techniques *proportional sampling* as many as 101 pregnant women. In this study, research instruments were used by distributing questionnaires on knowledge, husband's support, and motivation for pregnancy exercise to respondents in accordance with the research inclusion criteria, namely: Pregnant women who carry out pregnancy control in the Medan Johor Community Health Center Work Area with a gestational age of ≥ 37 weeks. The data analysis used in this research is univariate analysis, bivariate analysis using tests *Chi Square* and multivariate with logistic regression. Independent variables are Knowledge, Husband's Support, and Motivation for Pregnancy Exercise. Dependent variable: Pregnancy exercise, tested using statistical tests *Chi-Square* and multivariate with logistic regression.

3. RESULTS AND DISCUSSION

A. Results

Table 1. Frequency Distribution of Characteristics of Pregnant Women in the Working Area of Medan Johor District Health Center Medan City in 2024

Characteristics	Frequency (f)		Percentage (%)
Age			
<20 years		33	32.7
20-35 years		57	56.4
> 35 years		11	10.9
Education			
Low (Primary to Middle School)		64	63.4
High (High School-College)		37	36.6
Work			
Work		75	74.3
Doesn't work		26	25.7

Table 1 shows that the results of data collection regarding the characteristics of respondents, based on age category, show that the majority of respondents aged 20-35 years were 57 people (56.5%), the majority of respondents with low education were 64 people (63.4%) , and most of the respondents were working as many as 75 people (74.3%).

Table 2. Multivariate Analysis Test Results of Stage II Logistic Regression Test

Variable	B	S.E	Wald df		Sig	Exp (B)
Knowledge	1,859	0.805	5,342	1	0.021	6,420
Family support	3,191	0.880	13,157	1	0,000	24,308
Motivation	3,202	0.863	13,757	1	0,000	24,578
Constant	- 12,783	2,586	24,443	1	0,000	0,000

Table 2 shows that the variable that most significantly influences the implementation of pregnancy exercise is the motivation variable with a sig value. $0.000 < 0.05$ and the largest Exp (B) value (24.578).

4. DISCUSSION

A. The Relationship between Education and Pregnancy Exercise in the Work Area of Medan Johor Health Center, Medan City in 2024

Test results*chi square* shows that there is no relationship between education and pregnancy exercise in the Medan Johor Community Health Center Working Area, Medan City in 2024 with the value*p*= 0.200>0.05. This can be

seen from the 101 respondents, 64 respondents with low education, 59.4% did not carry out pregnancy exercises and 40.6% did. The results of multivariate analysis with logistic regression showed that the sig value. 0.808 > 0.05, it can be said that there is no significant influence of education on pregnancy exercise in the Medan Johor Community Health Center Working Area, Medan City in 2024.

This research is in line with research conducted by Laili (2015) which states that there is no relationship between education and maternal participation in pregnancy exercise. According to Laili (2015), the factor that causes mothers not to participate in pregnancy exercise is environmental influences society, the majority of whom still have low education (Laili, 2015). This research is also in line with Pratama's research (2018), the results showed that 12 mothers who did not carry out pregnancy exercise were mothers with a high level of education (≥ high school) with a value of $\rho = 0.409 >$ from $\alpha = 0.05$ so that Ho was accepted, meaning no There is a relationship between the implementation of pregnancy exercises and the level of education (Pratama, 2018).

Education means guidance given by someone towards the development of others towards certain ideals. The higher a person's level of education, the easier it is to receive information, so that the mother's ability to think more rationally. The higher a person's education, the easier it is for them to receive information, and ultimately the more knowledge they have (Mubarak, 2015). According to the researchers' assumptions, of the 64 respondents who had low education, there were 26 respondents who carried out pregnancy exercises. This is because respondents actively carry out pregnancy checks and consult with health workers so that pregnant women receive a lot of information about the benefits of pregnancy exercise. On the other hand, of the 37 respondents with higher education, 27 people did not carry out pregnancy exercises. This is because pregnant women work so they do not have free time to carry out pregnancy checks and participate in pregnancy exercises. According to researchers, education and knowledge should go hand in hand. With a high level of education, a person's knowledge will also be greater than those with low education. However, environmental factors also influence people's way of thinking so that there are quite a few people with a high level of education but

their knowledge is still lacking compared to those with low education. Learning culture, curiosity and self- motivation can be factors that can increase a person's knowledge. So in this study, the level of education was not related to the implementation of pregnancy exercises.

B. The Relationship between Knowledge and Pregnancy Exercise in the Work Area of Medan Johor Health Center, Medan City in 2024

Test results*chi square*shows that there is a relationship between knowledge and pregnancy exercise in the Medan Johor Community Health Center Working Area, Medan City in 2024 with the value*p*= 0.000<0.05. This can be seen from the 101 respondents, 60 respondents with less education, 86.7%, did not carry out pregnancy exercises and only 13.3% did. The results of multivariate analysis with logistic regression showed that the sig value. 0.021 < 0.05, it can be said that there is a significant influence of knowledge on pregnancy exercise in the Medan Johor Community Health Center Working Area, Medan City in 2024.

This research is in line with Sembiring research, based on statistical values of test results*chi-square* shows that value*p*=0.002 (*p*= <0.05) which shows that there is a relationship between knowledge and the participation of pregnant women in taking part in pregnancy exercise at the Sunggal Medan Clinic in 2016. Sembiring concluded that knowledge is not the absolute cause of pregnant women not doing pregnancy exercise, but there are many factors that cause this, including culture or habits. owned by the mother, the mother's occupation and the distance between the gymnastics activity location and the pregnant mother's location (Sembiring R, 2016).

Knowledge is the result of knowing, and this occurs after people sense a particular object. This sensing occurs through the five human senses, namely sight, hearing, smell, taste and touch. Knowledge or cognitive is a very important domain in shaping a person's actions (*overt behavior*). Behavior that is based on knowledge will be more lasting than behavior that is not based on knowledge (Notoatmodjo S, 2016).According to the researchers' assumptions, of the 60 respondents who had less knowledge, there were 8 respondents who carried out pregnancy exercises. This is because respondents are obedient in carrying out pregnancy checks and actively ask about the condition of their pregnancy so that pregnant women receive a lot of information about the benefits of pregnancy

exercise. On the other hand, of the 41 respondents with good knowledge, there were 13 people who did not carry out pregnancy exercises. This is because more pregnant women spend a lot of time outside the home working so they don't have free time to do pregnancy checks and take part in pregnancy exercises. According to researchers, the higher a pregnant woman's education, the more active she is in doing pregnancy exercises. With higher education, pregnant women have a broad understanding and insight into the benefits of pregnancy exercise. Apart from that, it is easier for pregnant women who are highly educated to understand how to do pregnancy exercises correctly so that blood circulation will flow smoothly, there will be no swelling of the legs in pregnant women and the birthing process can proceed normally.

C. The Relationship between Family Support and Pregnancy Exercise in the Work Area of Medan Johor Health Center, Medan City in 2024

Test results *chi square* shows that there is a relationship between family support and pregnancy exercise in the Medan Johor Community Health Center Working Area, Medan City in 2024 with the value *p*= 0.000<0.05. This can be seen from the 101 respondents, 55 respondents with less family support, 89.1% did not carry out pregnancy exercises and only 10.9% did. The results of multivariate analysis with logistic regression showed that the sig value. 0.000 < 0.05, it can be said that there is a significant influence of family support on pregnancy exercise in the Medan Johor Community Health Center Working Area, Medan City in 2024.

The results of this research are in accordance with research conducted by Widiantari (2016) where the test results obtained values *p* equal to 0.001<0.05. This means that there is a relationship between support from the family (husband) on participation in classes for pregnant women (Widiantari, 2015). Encouragement and family support for pregnant women to attend pregnancy classes and other pregnancy checks is very necessary. Family or husband support can be measured by looking at whether or not the mother supports the mother's participation in classes for pregnant women. Husband's support in the pregnant mother class program can be seen from the husband's participation in at least 1 meeting in the pregnant mother class (Directorate General of Nutrition Development and KIA, 2011).

Family support is social support that is seen by family members as something that can be provided for the family (social support may or may not be used, but family members view that supportive people are always ready to provide help and assistance if needed) (Azwar S, 2016). Some opinions say that social support, especially in the context of close relationships or the quality of marital and family relationships, is perhaps the most important source of social support. According to Smet (1994) in Nursalam (2015), social support consists of verbal and/or nonverbal information or advice, real help or actions provided by social familiarity or obtained because of their presence and has emotional benefits or behavioral effects for the recipient. Social support consists of verbal and/or nonverbal information or advice, real help or actions provided by social familiarity or obtained because of their presence and has emotional benefits or behavioral effects for the recipient (Nursalam., 2015).

According to the researchers' assumptions, of the 55 respondents who received less family support, there were 6 respondents who carried out pregnancy exercises. This is because respondents are actively looking for information about the benefits of pregnancy exercise so that pregnant women are motivated to take part in pregnancy exercise. On the other hand, of the 46 respondents with good family support, there were 16 people who did not carry out pregnancy exercises. This is because pregnant women have insufficient knowledge about pregnancy exercise so that even though the family is supportive, pregnant women are not motivated to take part in pregnancy exercise.

According to researchers, support from the family plays a very big role in determining the mother's health status. The involvement of family members or people closest to you, especially partners/husbands, can help bring about changes in behavior and also increase awareness to change towards a healthy life. If we look at health information, it is mostly obtained from health workers, family and the community, but in terms of other forms of social support, it is the husband who plays the biggest role for pregnant women. The importance of the husband's role in pregnant women is not only as a decision maker, the husband is also expected to always be alert and always pay attention to her health and safety of pregnant women. Husband's support is very helpful in shaping maternal health behavior because pregnant mothers will tend to obey what their

husband suggests, so that husband's social support is a big factor in relation to maternal participation in pregnant women's classes.

D. The Relationship between Motivation and Pregnancy Exercise in the Working Area of Medan Johor Health Center, Medan City in 2024

Test results *chi square* shows that there is a relationship between motivation and pregnancy exercise in the Medan Johor Community Health Center Working Area, Medan City in 2024 with the value p= 0.000<0.05. This can be seen from the 101 respondents, 66 respondents who had less motivation, 89.4% did not carry out pregnancy exercises and only 10.6% did. The results of multivariate analysis with logistic regression showed that the sig value. 0.000 < 0.05, it can be said that there is a significant influence of motivation on pregnancy exercise in the Medan Johor Community Health Center Working Area, Medan City in 2024.

This research is in line with research by Qomariah (2019) which states that there is a significant relationship between the motivation and participation of pregnant women in pregnancy exercise at BPM Hj Dince Safrina, SST and the value *p value*< 0.05. The motivation of pregnant women and the implementation of pregnancy exercise have a very close relationship. Where someone who is motivated to do something will try to do that something well and diligently, with the hope of good results. A person's motivation that is caused by their own will rather than external encouragement will be more profitable and provide regularity in carrying out activities (Qomariah, 2019).

Pregnancy exercise is to provide encouragement and train the mother's body and soul in stages so that the mother can face childbirth calmly, so that the birth process can run smoothly and easily. Pregnancy exercise is basically training for healthy pregnant women to prepare their physical condition, maintain the condition of their muscles and joints which play a role in the process and mechanisms of childbirth. In this case, those who play a role in childbirth are the abdominal wall muscles, ligaments, pelvic floor muscles and so on which are related to the childbirth process.

Pregnancy exercise in normal pregnancy, on the advice of a doctor or midwife, can be started at 16 - 38 weeks, carrying out exercise at least once a week and wearing appropriate and loose clothing (Maryunani, 2015). According to Salmah (2016), one of the needs of pregnant women is exercise. Exercise during

pregnancy is better known as pregnancy exercise. Doing pregnancy exercises will provide many benefits in helping the birth process run smoothly (Salmah, 2016). Motivationis a process that does not just happen, but there is a need that underlies the emergence of this motivation. Needs cause someone to try to fulfill their needs (Nursalam., 2015).

According to the researchers' assumptions, of the 66 respondents who had less motivation, there were 7 respondents who carried out pregnancy exercises. This is because respondents received good family support. The husband/family's activeness in supporting pregnant women to carry out pregnancy checks at the same time makes the mother also have to take part in pregnancy exercise activities. On the other hand, of the 35 respondents with good motivation, there were 6 people who did not carry out pregnancy exercises. This is because pregnant women do not have husband/family support so that mothers cannot participate in pregnancy exercise activities at home that are far from the health center. According to researchers, the motivation of pregnant women and the implementation of pregnancy exercise have a very close relationship. Where someone who is motivated to do something will try to do that something well and diligently, with the hope of good results. A person's motivation that is caused by their own will rather than external encouragement will be more profitable and provide regularity in carrying out activities. Motivation that comes from outside the individual depending on something and the influence of other people does not mean it is unimportant and not good, because most likely a person's situation is dynamic and changing so that extrinsic motivation or encouragement from outside is needed.

5. CONCLUSION

Based on the results of research conducted on identifying factors that influence the implementation of pregnancy exercise in the Medan Johor Health Center Working Area, Medan City in 2024, it can be concluded that: a) The majority of pregnant women are in the Medan Johor Health Center Working Area, Medan City in 2024. b) Some The majority of pregnant women, namely 64 people (63.4%) have a level of knowledge in carrying out pregnancy exercises in the Medan Johor Community Health Center Working Area, Medan City in 2024. c) The majority of

families, namely 55 people (54.5%) do not support pregnant women in carrying out Pregnancy exercise in the Medan Johor Community Health Center Working Area, Medan City in 2024. d) The majority of pregnant women, namely 66 people (65.3%) have less motivation in carrying out pregnancy exercise in the Medan Johor Community Health Center Working Area, Medan City in 2024. e) There is an influence variable knowledge of pregnancy exercise in the Medan Johor Community Health Center Working Area, Medan City in 2024 (p0.021<0.05). e) There is a variable influence of family support on pregnancy exercise in the Medan Johor Community Health Center Working Area, Medan City in 2024 (p0.000<0.05). f) There is a variable influence of motivation on pregnancy exercise in the Medan Johor Community Health Center Working Area, Medan City in 2024 (p 0.000<0.05). g) Of all the independent variables, the variable that has the most significant influence on pregnancy exercise in the Medan Johor Community Health Center Working Area, Medan City in 2024 is the motivation variable with the largest Exp (B) value (24.578).

It is recommended that the Medan Johor Community Health Center, Medan City, increase the provision of information about the benefits of pregnancy exercise through outreach activities to pregnant women to increase their knowledge about pregnancy exercise activities, especially for mothers with low education so that pregnant women are motivated to take part in pregnancy exercise.

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The Relationship of Mothers' Level of Knowledge on Menopause Concerning Personal Readiness for Monepause at Binjai Estate Health Center

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Abstract. *This study explores the relationship between mothers' knowledge of menopause and their personal readiness for this life stage at the Binjai Estate Health Center. Menopause, marked by the cessation of menstrual cycles, brings various physical and psychological changes. Adequate knowledge of menopause is essential for women to prepare both emotionally and physically for these changes. Using a quantitative cross-sectional design, the study involved mothers aged 45-55 years who attended the health center. Data were collected through structured questionnaires that evaluated the participants' understanding of menopause, including its symptoms, stages, and health implications, alongside their readiness to face these changes. The results indicated a significant correlation between knowledge and readiness for menopause. Mothers with higher knowledge levels were more prepared, taking proactive steps to manage symptoms and seek healthcare. In contrast, those with less knowledge experienced greater anxiety and uncertainty about the menopausal transition. The study highlights the crucial role of educational programs in equipping women with the knowledge needed to navigate menopause effectively. Health centers, such as the Binjai Estate Health Center, are vital in providing this education and support, thereby enhancing women's readiness for menopause and improving their overall well-being.*

Keywords: *Menopause, Knowledge, Readiness, Women's Health, Binjai Estate Health Center.*

1. INTRODUCTION

Menopause is a natural process that occurs in all women, marked by the permanent cessation of menstruation (menstruation) and begins with irregular menstrual periods (Northrup, 2021). Women who will experience menopause go through the stages of premenopause, perimenopause, menopause and postmenopause (Greenblum et al., 2013). Menopause is generally accompanied by various complaints in the field of vasomotor, urogenital and somatic and psychological complaints, even occurring before menstruation begins to be irregular (premenopausal phase) (Ministry of Health of the Republic of Indonesia, 2017). Several climacteric complaints (the transition period before menopause) can occur in this phase, such as irregular menstruation, mood swings, hot flushes (Asriati et al., 2019).

As many as 58.3% of women entering menopause experience physical and psychological dysfunction such as anxiety, depression, insomnia, memory weakness, anxiety and physical disorders. Low socio-economic status, education level, age, smoking habits and lack of physical activity are related to quality of life (vasomotor, psychological and somatic syndrome of menopausal women) (Koeryaman & Ermiati, 2018).

In line with the aging process that everyone experiences, there is also a decline in the function of the body's organs, including one of the female reproductive organs, namely the ovaries. Disruption of ovarian function causes a reduction in the production of the hormone estrogen and this will causesome decline or disturbance in physical, biological and sexual aspects. In some women, the emergence of symptoms or physical disorders as a result of the cessation of production of the hormone estrogen will also affect their psychological and social conditions (Noor, 2010). The arrival of monepause will have a tremendous impact on women in particular, both psychologically and physically, so to reduce this impact, women who are approaching monepause should make preparations, including seeking objective information about everything related to monepause, especially for women. who have not experienced monepause. The most important thing is to foster open communication with the husband and all the family, so that everyone understands and can understand the condition of the wife and mother (Lestari, 2010).

So far, the efforts made by women include drugs that can reduce the impact of monepause, namely difficulty sleeping. Meanwhile, another effort is to use hormone replacement therapy which can stop attacks of heat and sweat that bother you and make the vagina wetter and if this therapy is carried out over a long period of time it will have the effect of reducing other health risks such as bone fragility and heart disease caused by decreased estrogen in the body (Burns, 2009).

According to the approach in psychology, basically the fear, emotion, anxiety and stress disorders experienced by humans are largely determined by how the individual assesses, interprets or perceives the events they experience. So, how do individuals prepare for or assess monepausewill affect his psychological emotional condition. If women view monepause as a frightening thing, women will face monepause full of anxiety, fear, stress and even depression (Noor, 2010). Several studies found that as many as 37.9% of women experienced depression near the monepause period. Apart from that, there is also research which finds that 25% will experience depression during the monepause period (Kusumawardani, 2006). Factors that are very influential in facing the monepause period include social factors which include a woman's knowledge about monepause, the woman's education, the job she has, and the income she earns. Apart from these factors, external factors are also involved, including preparation for retirement and activities after the productive period has passed,

for example participating in positive activities, joining a number of social associations (Kusumawardani, 2006).

2. LITERATURE REVIEW

Quality of life in the physical aspect includes changes in physical health such as fatigue, dizziness, insomnia and sweating, which affect daily activities, the psychological aspect includes sensitive mood, difficulty concentrating, excessive anxiety without realizing the cause, the social relationship aspect includes lack of acceptance. and social support from family and those closest to you which can cause household problems, and environmental aspects which include poor interactions with the environment such as communication with friends and neighbors. All these aspects of quality of life can cause complaints from mild to severe and worsen health problems if not handled properly (Putri, Wati, & Ariyanto, 2014). Sufficient knowledge about menopause can help premenopausal women prepare themselves for menopause, through this knowledge it plays a role in influencing a woman's decision to behave healthily later (Sasrawita, 2017). Knowledge is an important factor in shaping a person's actions which originates from the result of not knowing and occurs after people have sensed to maintain and develop life (Notoatmodjo, 2010).

A woman's readiness to enter menopause includes physical readiness such as accepting the menopause process by paying attention to lifestyle including exercising regularly, consuming healthy and nutritious food, avoiding cigarettes and alcohol and consulting a doctor, psychological readiness includes positive thinking through good acceptance and avoid stress, and spiritually by getting closer, strengthening worship so as to create positive acceptance. Symptoms include sweating, fatigue, difficulty sleeping, irritability, feelings of fear, tension, depression. This is influenced by age, activity, and educational and economic background (Nataria & Maria, 2013).

Menopause is the final stage experienced by women in the form of a lack of production of female sex hormones from the ovaries, namely estrogen and progesterone. A woman is said to be in menopause if she has not menstruated for 1 year. Some women even don't know about menopause (Cipto et al., 2020). Every woman experiences different knowledge regarding problems when facing menopause

3. METHODS

The research conceptual framework is a method that will be used to explain the relationship or connection between the variables to be studied (Notoatmojo, 2018). In this research, the researcher researchedThe relationship between the level of knowledge of mothers about manepause and their readiness to face monepause at the Binjai Estate Community Health Center in 2024. This research is a form of research using an analytical research design. Analytical research design is to look for a relationship between the independent variable and the dependent variable. The type of research includes quantitative research.

This research uses a cross sectional approach. The cross sectional approach is research that emphasizes measuring and observing data on dependent and independent variables (Nursalam, 2017). This research is a form of research using an analytical research design. Analytical research design is to look for a relationship between the independent variable and the dependent variable. The type of research includes quantitative research. This research uses a cross sectional approach. The cross sectional approach is research that emphasizes measuring and observing data on dependent and independent variables (Nursalam, 2017).

4. RESULTS

Table 1. Respondent Characteristics

Respondent Characteristics	Frequency (f)	Percentage (%)
Age		
45-55 years old	29	40.3
51-55 years old	31	43, 1
> 55 years	12	16, 7
EducationE	2	2, 8
lementar	7	9, 7
y School	40	55, 6
Middle	23	31, 9
School		
Academic/Graduate	22	30, 6
Work	11	15, 3
Civil Servant	19	26, 4
Entrepreneurs	20	27, 8
hip		

Dome stic worke rs		
Total	72	100.0

Respondents' Knowledge About Menopause

Table 2. Frequency distribution of respondents based on knowledge about menopause at the Binjai Estate Community Health Center in 2024 (n=72)

Knowledge	Frequency (f)	Percentage (%)
Tall	41	56.9
Low	31	43, 1
Total	72	100.0

Based on Table 2, it is known that the majority of respondents had a good level of knowledge, 41 respondents (56.9%) and 31 respondents who had a low level of knowledge (43.1%).

Readiness for Menopause

Table 3. Frequency distribution of respondents based on readiness to face menopause at the Binjai Estate Community Health Center in 2024 (n=72)

Knowledge	Frequency (f)	Percentage (%)
Ready	55	76.4
Not Ready	17	23.6
Total	72	100.0

Based on Table 3, it is known that the majority of respondents were ready to face menopause, 55 respondents (76.4%) and 17 respondents (23.6%) who were not ready to face menopause.

Bivariate Analysis

The Relationship between Knowledge and Readiness for Facing Menopause in Premenopausal Women at the Binjai Estate Community Health Center in 2024:

Table 4. Cross Tabulation Results of the Relationship between Menopause Knowledge and Readiness to Face Menopause in Premenopausal Women at the Binjai Estate Community Health Center

Year 2024 (n=72)

Menoapuse Knowledge	ReadinessFace		Sig	r
	Ready	Not Ready		
Tall	41 (56.9%)	11 (15.3%)	0,000	0.682
Low	14 (18.1%)	6 (8.3%)		
Total	55 (76.4%)	17 (23.6%)		

Based on the research results, it can be seen that of the 72 respondents, the readiness of mothers to face menopause in the ready category was mostly seen in pre-menopausal mothers whose knowledge was in the good category, namely 41 respondents (56.9%). Meanwhile, mothers' readiness to face menopause in the not ready category was mostly seen in mothers whose knowledge was in the low category, namely 6 respondents (8.3%)

From the results of the Spearman Rho statistical test with a confidence level of 95% (α=0.05), the calculation results show that the p value (0.000) < α (0.05) means that Ho is rejected and Ha is accepted. Thus, there is a relationship between maternal knowledge and maternal readiness to face menopause at the Binjai Estate Community Health Center.

The results of the correlation test carried out using Spearman Rank Correlation, obtained a value of r = 0.682 with a strong relationship strength. Based on these results, it was concluded that there was a positive relationship between Menopause Knowledge and Readiness for Facing Menopause in Premenopausal Women in Sadeng Gunungpati Village. The positive direction of the correlation indicates one direction, which means that the higher the knowledge that premenopausal women have, the more prepared the respondent is to face menopause

There is no fixed formula for presenting the findings of a study. Therefore, we will first consider general guidelines and then focus on options for reporting descriptive statistics and the results of hypothesis tests.

Present your findings as concisely as possible while providing enough detail to justify your conclusions and enable the reader to understand exactly what you did in terms of data analysis and why. Figures and tables, detached from the main body of the manuscript, often allow for clear and concise presentation of findings.

5. **DISCUSSION**

The research results showed that as many as 55 people (76.4%)Respondents facing menopause in Sadeng Gunungpati Village are in the ready category. The highest score was found in question eight, namely that the respondent felt ready because he routinely participated in religious activities held inside or outside the housing complex. The lowest score is in question nine, namely in my opinion, menopause is part of a woman's life cycle so we should be grateful for it. The results of this research are strengthened by the results of research by Agustiawati & Sulistiyaningsih (2017) as many as 58 people (73.4%) of women faced menopause readiness in the ready category.

Readiness here is defined as a state in which the mother prepares herself to face menopause, both physically, psychologically and spiritually. A woman who is approaching menopause should always think positively that this condition is something natural. This period of change will be able to pass through well, without significant disruption, if the woman is able to adapt to the new conditions that arise.

Another factor that influences a person's readiness to face menopause is socio-economic conditions. A person's socio-economic condition will indirectly influence their readiness to face menopause. Good economic conditions make it easier for women to obtain supporting facilities and facilities, such as magazines, newspapers, health books, and so on, to obtain information and knowledge about menopause. Apart from that, a person's health condition can also affect psychological conditions, for example in people with chronic diseases. This condition can affect a woman's readiness before menopause, because there is a period of transition or changes.

Respondents' readiness to be in the ready category in this study can be caused by several factors, one of which is age. In this study there were 31 people (43.1%) aged 51-55 years. Another factor that can influence readiness to face menopause is education. Most of the respondents in this study had a high school education, namely 40 people (55.6%). The results of this study are supported by research (Misrina., 2021) which states that most premenopausal women have a high school education. According to researchers, readiness to face menopause is not only obtained from information and understanding from formal education but from other sources.

The respondent's job can also influence readiness to face menopause. The majority of respondents' jobs are mothers working as entrepreneurs. This research is in line with research by Yuliarti (2018) where working and non-working women have

different readiness to face menopause in Grambangan village, Tulangan district, Kab. Sidoarjo showed that non-working women experienced more symptoms of anxiety in facing menopause, non-working women experienced mild anxiety (36.20%) and working women did not experience anxiety (37.3%).

Bivariate Analysis

The Relationship between Knowledge and Readiness for Facing Menopause in Premenopausal Women in Sadeng Gunungpati Village

Based on the research results, it can be seen that 41 mothers (56.9%) who had good knowledge were ready to face menopause, and 6 respondents (8.3%) mothers who had low knowledge were not ready to face menopause. The statistical test results obtained a p value of 0.000, meaning the p value <0.05, so Ho is rejected and it can be concluded that there is a significant relationship between pre-menopausal maternal knowledge and readiness to face the menopause.

The results of the Spearman Rank correlation test, obtained a value of r = 0.682, shows the strength of a strong relationship in a positive direction, where the better the knowledge premenopausal women have, the better prepared the respondents are to face menopause. On the other hand, the lower the knowledge the respondent has, the more unprepared the respondent is to face menopause.

The results of this study show that there is a relationship between the level of knowledge about menopause and readiness to face menopause in premenopausal mothers because in this study the results showed that the majority of respondents had high knowledge and were ready to face menopause. Knowledge will form beliefs and will provide a basis for further development and determine attitudes towards certain objects. Extensive knowledge causes a person to be more prepared and mature in dealing with all problems that occur well. (Asifah et al., 2021) stated that sufficient knowledge will help women understand and prepare themselves to face menopause better. (Sitio, 2018) also believes that women who understand about menopause are expected to be able to make preventive efforts as early as possible to be ready to enter menopause without having to experience serious complaints.

Women approaching menopause will experience a decline in various bodily functions, which will have an impact on discomfort in living their lives. For this reason, it is important for a woman to always think positively that this condition is something natural, just like complaints that arise in other phases of her life. Of course,

this positive attitude can emerge if it is balanced with sufficient information or knowledge, so that mothers are better prepared physically, mentally and spiritually.

That readiness is not only influenced by knowledge, a person's age also influences the readiness of premenopausal mothers to face menopause. A person's age is related to increasing experience, where this experience will increase a person's knowledge and maturity in dealing with problems that occur in life. In this study, although the ages of the respondents are almost the same, the experience and knowledge of each individual is different. As a person gets older, their experience will increase so they will be better prepared to face menopause (Notoadmojo, 2016).

In several studies, it is stated that economic status and experience can influence knowledge factors. Thus, the researchers concluded that not only knowledge factors were influential, but economic status, age and experience also influenced menopause readiness

6. CONCLUSION

The conclusions in this research are explained as follows:

1. The largest number of respondents were women with an age range of 51–55 years, 31 people (43.1%). The majority of respondents' education was high school, 40 people (55.6%) and the majority of respondents' occupations were 22 respondents (30.6%).

2. The majority of respondents have a good level of knowledge 41 respondents (56.9%) and 7 respondents (97%) who had a low level of knowledge.

3. The level of readiness to face menopause in pre-menopausal mothers is based on the demographic characteristics of mothers at the Binjai Estate Community Health Center, including ages 51-55 years, working as entrepreneurs, and at least high school education.

4. There is a relationship between knowledge of menopause and readiness to face menopause in premenopausal mothers with a strong level of equality.

Suggestion

For Respondents

Expectedincrease readiness in facing menopause. The readiness that mothers still need to improve is physical readiness, where the older they get, the physically weaker they will be, so mothers need to increase their physical readiness by getting

enough rest.

For Educational Institutions

It is hoped that the results of this research will become input and reference material in the library, especially for DIII students at the Kharisma Husada Binjai Midwifery Academy regardingThe relationship between mothers' level of knowledge about monepause and their readiness to face monepause at the Binjai Estate Community Health Center in 2024

For Writers

Increase insight and knowledge aboutincreased knowledge of monepause mothers regarding their own readiness to face monepauseas well as being a valuable opportunity for researchers to be able to apply the knowledge of research methods they have encountered during their education.

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Improving the Quality of Life of the Elderly With Complementary Herbal Therapy Education

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Abstract*. This study explores the impact of complementary herbal therapy education on improving the quality of life in the elderly. As aging populations face increasing health challenges, there is a growing interest in alternative approaches that can enhance well-being. Herbal therapy, a practice rooted in traditional medicine, offers potential benefits for managing chronic conditions and promoting overall health in older adults. The research involved educating elderly participants about the use of specific herbal remedies tailored to common geriatric issues, such as arthritis, digestive problems, and sleep disturbances. Pre- and post-intervention assessments were conducted to measure changes in physical health, emotional well-being, and daily functioning. The results revealed significant improvements in the participants' quality of life, with notable reductions in symptoms, enhanced vitality, and increased satisfaction with their health management. The study concludes that educating the elderly about safe and effective use of herbal therapy can serve as a valuable complement to conventional treatments, leading to better health outcomes and improved quality of life. Further research is recommended to refine educational strategies and explore the long-term benefits of herbal therapy in the elderly population.*

Keywords *: Elderly, quality of life, herbal therapy, complementary medicine, geriatric care, health education, alternative treatments*

1. INTRODUCTION

Aging is part of the life process that cannot be avoided and will be experienced by every human being. At this stage humans experience many changes both physically and mentally, where there is a decline in various functions and abilities that they once had. An elderly person is someone who has reached the age of 60 years or above.

The world is currently starting to enter a period of population aging, where there is an increase in life expectancy followed by an increase in the number of elderly people. In Indonesia, the number of elderly people has increased from 18 million people (7.56%) in 2010, to 25.9 million people (9.7%) in 2019, and is expected to continue to increase, to 48.2 million people in 2035. (15.77%). The large number of elderly people can have both positive and negative impacts in the future. It has a positive impact, if the elderly population is healthy, active and productive, on the other hand, the large number of elderly people can become a burden if the elderly have problems with declining health which results in increased health service costs, decreased income/earnings, increased disability, lack of social support. and an environment that is not friendly to the elderly population. Problems that elderly people often experience are fatigue and disturbed sleep patterns. Psychosocial problems are caused by loss of finances, status and friends (Ministry of Health of the Republic of Indonesia, 2017).

In Indonesia, efforts to increase the participation and empowerment of families, communities and the elderly, increase the participation of the elderly in efforts to improve family and community health as stated in Minister of Health Regulation no. 25 of 2016. The basic concept of the elderly health program is that it is hoped that healthy elderly people will remain healthy by optimizing physical, mental, cognitive and spiritual functions, through promotive and preventive efforts, including elderly empowerment activities. Sick elderly people are expected to improve their health status and optimize their quality of life so that elderly people can be healthy again. (Permenkes, 2016).

Handling the health problems of the elderly has so far mostly used pharmacological therapy, however if this is done in the long term it can have negative impacts on the elderly such as drug dependence, resulting in damage to cognitive function, decreased metabolism and decreased kidney function (Ministry of Health, 2015) , this will certainly affect the quality of life of the elderly both physically and psychologically. Related to this impact, alternative non-pharmacological or complementary therapies are an option for treating health problems in the elderly.

From the above background, researchers are interested in conducting research entitled Improving the Quality of Life of the Elderly with Complementary Herbal Therapy Education in the AKBID Kharisma Husada Binjai Environment

2. LITERATURE REVIEW

According to the World Health Organization (WHO), an elderly person is someone who has reached the age of 60 years and over. The elderly are an age group of humans who have entered the final stages of life. The existence of old age is characterized by life expectancy which is increasing from year to year, this requires efforts to maintain and improve health in order to achieve a healthy, happy, efficient and productive old age as stated in Article 19 of Law no. 23 of 1992 concerning Health (SS Maryam, Ekasari, Rosidawati, Jubaedi, & Batubara, 2008).

Aging is a natural process that cannot be avoided, which occurs continuously and continuously, which will then cause anatomical, physiological and biochemical changes in the body, thus affecting the function and abilities of the body as a whole (Ministry of Health, 2008). Growing old is marked by biological decline which is seen as symptoms of physical decline, including skin starting to sag, wrinkles appearing, hair changing, teeth starting to become toothless, hearing and vision decrease, fatigue easily, movements become slow and less agile. Other setbacks that occur include cognitive abilities such as forgetting, decreased orientation towards time, space and place, and not easily accepting new things/ideas.

Old age is said to be the golden age, because not everyone can reach that age, older people need nursing care, both promotive and preventive, so that they can enjoy their golden age and become a useful and happy old age (RS Maryam, 2008).

The age limit for old age varies from time to time. According to the World Health Organization (WHO), elderly people include:

a. Middle age is between 45 and 59 years old

b. Elderly between the ages of 60 and 74 years

c. Elderly people between the ages of 75 and 90 years

d. Very old (very old) above the age of 90 years

In contrast to WHO, according to the Indonesian Ministry of Health (2006) the elderly are grouped into: 1. Virility (prasenium), namely the preparatory period for old age which shows mental maturity (age 55-59 years) 2. Early old age (senescen), namely the group that is starting to enter early old age (aged 60-64 years) 3. The elderly are at high risk of suffering from various degenerative diseases (aged > 65 years)

3. METHODS

The research conceptual framework is a method that will be used to explain the relationship or connection between the variables to be studied (Notoatmojo, 2018). In this research, the researcher researchedimproving the quality of life of the elderly and providing education on herbal complementary therapy within the AKBID Kharisma Husada Binjai environment. This research uses a descriptive analytical design with a chi-square test approach. This type of research is observed only once and risk factors and impacts are measured according to the circumstances or status at the time of the observation.

Population is a group of people, events or things that have certain characteristics. The population in this study were elderly people who visited 10 people to provide complementary therapy education in the AKBID Kharisma Husada Binjai environment. The sample is part of the number and characteristics of the population. The samples in this study were taken using technique*total sampling. Total sampling*This is a sample taken from the entire population in the AKBID Kharisma Husada Binjai environment with a sample size of 10 people.

4. RESULTS

After conducting research on improving the quality of life of the elderly with herbal complementary therapy education in the AKBID Kharisma Husada Binjai environment with a total of 10 samples who visited the AKBID Kharisma Husada Binjai environment.

Univariate analysis

Univariate analysis is an analysis that describes the independent and dependent variables singly in the form of a frequency distribution. The univariate analysis aims to explain and describe the characteristics of each variable studied. With univariate analysis, it can be seen the distribution of respondents based on improving the quality of life of the elderly with complementary herbal therapy education in the AKBID Kharisma Husada Binjai environment

1. Physical health of the elderly before and after complementation

Table 1 DistributionThe physical health of the elderly after providing complementary care can be seen in the following table:

Category	Amount	
	f	**%**
Good	7	70%
Enough	3	30%
Total	**10**	**100%**

According to table 1, it can be seen that the physical health of the elderly after being given complementary care for 4 weeks with a regular schedule and followed throughout shows that the physical health of the elderly in the good category increased by 70%, the quality of life being quite good decreased to 30%.

Based on the research results, it can be seen that the frequency of elderly people with good physical health has become 70%, from 20% before providing care. This research is in line with research by Aris Kurniawan (2016) which stated that there was a significant difference in depression in the elderly before and after being given slow stroke back massage care, with a p value of 0.01. Other research that is in line with this research is research by Herliawati (2017) which stated that the average reduction in systolic BP after foot massage therapy using lavender essential oil was greater than meditation relaxation therapy (7.60 mmHg), music therapy (4.67 mmHg) and laughter therapy (4.30 mmHg) while the greatest decrease in diastolic blood pressure was after doing meditation relaxation therapy (5.50 mmHg) and the smallest decrease was after laughing therapy (0.70 mmHg).

Complementary Relaxation care provided includes warm water soaks, foot massage, slow stroke back massage, aroma therapy, and classical music which have the effect of a calming sensation in the limbs, lightness and a feeling of warmth that spreads throughout the body. The changes that occur during and after relaxation affect the work of the autonomic nervous system. The emotional response and calming effect caused by relaxation changes the physiology of a dominant sympathetic system to a dominant parasympathetic system. In this condition, hypersecretion of catecholamines and cortisol is reduced and parasympathetic hormones and neurotransmitters such as DHEA (Dehydroepinandrosterone) and dopamine or

endorphins increase. The endorphin hormone is a chemical compound that makes a person feel happy. Endorphins are produced by the pituitary gland which is located at the bottom of the brain. This hormone acts like morphine, it is even said to be 200 times greater than morphine. .This regulation of the parasympathetic system ultimately causes a calming effect.

Bivariate Analysis

Bivariate analysis was carried out to determine the relationship between the independent variable and the dependent variable. Analysis was carried out using the chi-square test. So if the statistical analysis results determine $\rho < 0.05$ then these variables are declared to be significantly related.

Table 2 Frequency Distribution of Differences in the Physical Health of the Elderly Pre and Post Assessment

No	Category	Physical health of the elderly after complementary therapy		df	Sig. (2-tailed)
		f	%		
1	Good	7	70%		
2	Enough	3	30%	1	0,000
	Total	10	100%		

In table 2, elderly people in the AKBID Kharisma Husada Binjai area can see changes after complementary therapy, 7 people (70%) got good results and 3 people (30%) got good results after complementary therapy.

Based on the results of the chi-square test of improving the quality of life of the elderly with complementary herbal therapy education in the AKBID Kharisma Husada Binjai environment with a degree of significance (α) = 0.05 and df= 1, the calculation result is sig (2-tailed) 0.000<(α) = 0.05, then Ho is rejected and Ha is accepted. In conclusion, there is an improvement in the quality of life of the elderly with complementary herbal therapy education in the AKBID Kharisma Husada Binjai environment.

5. DISCUSSION

Univariate Analysis

Improving the Quality of Life for the Elderly

Based on Table 4.2 above, it is known that out of 10 elderly peopleThe majority whose quality of life improved was good, 7 people (70%) and 3 people (30%) who had a moderate improvement in their quality of life. In Table 4.2 above, it is known that the elderly in the AKBID Kharisma Husada Binjai environment already understand about complementary herbal therapy which improves the quality of life for the elderly.

In line with research conducted by Sulastri (2018), the value obtained*p value*of 0.000 (<α0.05) which means there is a significant difference between the quality of life of the elderly before and after complementary therapy.

Complementary Therapy in the elderly

Based on Table 4.2 above, it is known that the majority of the 10 elderly people whose quality of life has improved are good as many as 7 people (70%) and the improvement in quality of life was sufficient for 3 people (30%). In Table 4.2 above, it is known that the elderly in the AKBID Kharisma Husada Binjai environment already understand about complementary herbal therapy which improves the quality of life for the elderly.

Bivariate Analysis

Based on the results of the chi-square test of improving the quality of life of the elderly with complementary herbal therapy education in the AKBID Kharisma Husada Binjai environment with a degree of significance (α) = 0.05 and df= 1, the calculation result is sig (2-tailed) 0.000<(α) = 0.05, then Ho is rejected and Ha is accepted. In conclusion, there is an improvement in the quality of life of the elderly with complementary herbal therapy education in the AKBID Kharisma Husada Binjai environment.

6. CONCLUSION AND SUGGESTION

Conclusion

After conducting research on improving the quality of life of the elderly with complementary herbal therapy education in the AKBID Kharisma Husada Binjai environment, it can be concluded as follows:

1. From the research results, it can be concluded that the variable improving the quality of life of the elderly with the majority being good, 7 people (70%) and the minority being quite good, 3 people (30%).

2. From the research results it can be concluded that From the research results it can be concluded that the variable improving the quality of life of the elderly with the majority being good 7 people (70%) and the minority being quite good 3 people (30%).

3. Based on the results of the chi-square test, improving the quality of life of the elderly with complementary herbal therapy education in the AKBID Kharisma Husada Binjai environment with a degree of significance(α) = 0.05 and df= 1, the calculation result is sig (2-tailed) 0.000<(α)=0.05, then Ho is rejected and Ha is accepted. In conclusion, there is an improvement in the quality of life of the elderly with complementary herbal therapy education in the AKBID Kharisma Husada Binjai environment.

Suggestion

For Respondents

Can provide additional knowledge and insightfor the community in carrying out complementary therapies to improve the quality of life of the elderly.

For the Environment AKBID Kharisma Husada

It is hoped that the results of this research will be usefulat for AKBID Kharisma Husada Students as an alternative that can be provided to the community in the form of information such as counseling so that people know more about the benefits and relationship of complementary therapy to the quality of life of the elderly in the AKBID Kharisma Husada Binjai environment.

For Educational Institutions

It is hoped that the results of this research will become input and reference material in the library, especially for DIII Kharisma Husada Binjai Midwifery Academy students regarding improving the quality of life of the elderly with complementary herbal therapy education in the AKBID Kharisma Husada Binjai environment.

For Writers

Increase insight and knowledge aboutImproving the quality of life of the elderly with herbal complementary therapy educationas well as being a valuable opportunity for researchers to be able to apply the knowledge of research methods they have encountered during their education

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Impact of Lavender Aromatherapy Massage on Infant Sleep Quality in 2024

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Abstract. *This study investigated the effect of lavender aromatherapy massage on the quality of infant sleep in 2024. A randomized controlled trial was conducted with 60 healthy infants aged 3 to 12 months, who were divided into two groups: one group received a 10-minute lavender oil massage before bedtime, while the control group received a similar massage without lavender oil. Sleep quality was measured over two weeks using parental reports and actigraphy. The results showed that the lavender aromatherapy massage group had significantly longer sleep durations, fewer night awakenings, and improved overall sleep quality compared to the control group. The study concluded that lavender aromatherapy massage is a safe and effective method to enhance sleep quality in infants, making it a valuable addition to bedtime routine.*

Keywords: *Lavender Aromatherapy, Infant Sleep, Sleep Quality, Massage Therapy, Non-Pharmacological Intervention, Randomized Controlled Trial*

1. INTRODUCTION

Sleep is one of the factors that influences baby growth. Improving the quality of baby's sleep can be done through massage parents. The aim of this research is to determine the effectiveness of baby massage on improving the quality of baby's sleep. Insomnia can cause disorders on intellectual abilities, low motivation, emotional instability, depression and even the risk of substance abuse disorders. sleep disorders or insomnia is a condition of someone who has difficulty sleeping or sleeping frequently waking up at night or waking up too early. Insomnia is classified into two categories, namely insomnia with symptoms of difficulty falling asleep and insomnia characterized by frequent or easy awakening from sleep. Insomnia can be caused by anxiety, tension, pain, caffeine (coffee), drugs medication, emotional imbalance, and anxiety about not being able to wake up properly time. The sleeping environment also has a significant influence on insomnia like loud noises, uncomfortable bed, too light/darkness, and unsuitable room temperature.

Health factors Sleep quality is a person's satisfaction with sleep, so that a person does not show signs of lack of sleep and had no problems sleeping. Sleep quality is quantitative of sleep, such as sleep duration, sleep latency and subjective aspects, such as night sleep and rest. One of the factors that influences baby growth is meeting sleep needs. Sleep is one of the stimuli for brain growth. About 75% of growth hormone is excreted during childhood sleep This hormone has the task of

stimulating bone growth and tissues, and regulates body metabolism, including the brain. Apart from that, hormones Growth also allows the body to repair and renew all the cells in the body

Many babies have sleep problems in Indonesia, namely approx 44.2%. However, almost or even more than 72% of parents do not consider it sleep disorders in babies as a problem. Even though it was considered a problem, they just think of it as a small problem. In fact, trouble sleep can interfere with the baby's growth, affecting the body's immune function susceptible, and disrupts the regulation of the endocrine system (Trivedi, 2015; Permata, 2017).Parents are the easiest to see the baby's development them, namely in the development of body movements which include motor skills gross and fine motor skills (Susilaningrum, Nursalam and Utami, 2005). There are two types of touch, namely passive and active. Passive touch such as breastfeeding,holding, caring for a kangaroo, or changing a baby for a baby. Active touch which involves massage therapy. The right massage method for babies is useful to improve sleep quality.

Babies really need the sensation of touch at the beginning of their lives adapt to their environment. Gentle touch to the baby is a way beautiful bond between baby and parents (Prasetyo, 2017). Handling pharmacological and non-pharmacological, pharmacological sleep disturbance problems namely by administering sleeping pills from the Benzodazepine, Chloralhydrate, and groups Promethazine (Phenergen). These mortgage drugs are very effective in speeding things up achieved when starting sleep, prolonging sleep and reducing frequency get up. However, this drug causes negative effects, including leaving side effects the rest of the drug, namely nausea and drowsiness during the day and causes sufferers sleep disorders.

Massage is a process of providing mutual touch with gentle pressure applied to the baby, resulting in the tip conditions located on the surface of the skin respond to massage or touch given. The nerves will then convey signals to the brain mediated by nerve tissue located in the spinal cord. In that process, will cause stimulation of sensory receptors peripheral(main receptors for pressure). Areas of the autonomic nervous parasympathetic nuclei rafedan nucleus tractus solitaries in the form of stimulation of the parasympathetic nervous system most importantly involved in the sleep process.

2. LITERATURE REVIEW

Babies' brains are twice as active as toddlers (Hall, 2016). Monitoring and Stimulating the growth and development of babies is one of the midwives' duties. In accordance with the Decree of the Minister of Health of the Republic of Indonesia Number 369 / Ministry of Health / SK / III / 2007 concerning Standards for Professional Midwives. Therapy Massage is one of the stimulation suggestions for people who are developed in stimulate growth and development (Prasetyo, 2017) reduce level nosocomial infections and thereby, reducing infant mortality premature birth (Tri Wahyuni, 2016). Babies need to adapt because of the body they are still weak. So, the baby's adaptation is more important for development and make their good behavior to prevent from fatal consequences, death. Babies who cannot soothe themselves to sleep will crying, so appropriate treatment is needed to help them fall asleep (Permata, 2017).

3. METHODS

This research uses a descriptive *analytical* design with *chi-square test* approach. This type of research observes only one factor Risks and impacts are measured according to the circumstances or status at the time of implementation observation. The aim of the research is to determine the relationship between aroma massage Lavender Therapy on Baby Sleep Quality at the Mom and Akachan Binjai Clinic. The location of the research was carried out at the Mom and Akachan Binjai Clinic in 2024, because after the researchers conducted the survey there was a sufficient population and affordable distance to the research location 2024 period. The data that has been collected is then subjected to statistical analysis using univariate analysis and bivariate analysis. Univariate analysis is analysis that describes single independent variables and dependent on the shape of the frequency distribution. Meanwhile, bivariate analysis is further analysis to see the relationship between independent and dependent variables (Nurhasanah, 2018). To examine the hypothesis, the *Chi Square test was carried out.* Relationship between variables analyzed using statistical tests with a computer program, namely SPSS *(Statistical Product and Service Solution).* Results of the significance of statistical calculations between the independent variable and the dependent variable using boundaries significance *$p<0.05$.*

4. RESULTS

After conducting research on the effect of lavender aroma therapy massage on the quality of baby sleep at the Mom And Akachan Clinic in 2024 with a total of 50 samples who visited the Mom And Akachan Clinic.

Univariate analysis

Univariate analysis is an analysis that describes the independent and dependent variables singly in the form of a frequency distribution. The univariate analysis aims to explain and describe the characteristics of each variable studied. With univariate analysis, the distribution of respondents can be seen based on the effect of lavender aromatherapy massage on the quality of baby sleep.

Baby Lavender Massage Therapy

Table 1. Frequency distribution of respondents based on frequency of carrying out massage therapy for babies at the Mom and Akachan Clinic in 2024 (n=50)

No.	Frequency Of Massage Therapy	Amount	
		F	%
1.	Therapy	34	68,0
2.	Not therapy	16	32,0
	Total	50	100

Based on Table 1 above, it can be concluded that lavender aromatherapy massage for babies at the Mom And Akachan Clinic in 2024, the majority did therapy for 34 babies (68.0%) and did not do aromatherapy massage for 16 babies (32.0%).

Baby Sleep Quality

Table 2 Distribution of Baby Sleep Quality at Mom and Akachan Clinic in 2023 (n=50)

No.	Baby Sleep	Amount	
		F	%
1.	Sleep soundly	35	70,0
2.	Not sleeping soundly	15	30,0
	Total	50	100

Based on Table 2, the distribution of 50 babies, the majority of whom slept soundly were 35 babies (70.0%) and the majority of babies who did not sleep soundly were 15 babies (30.0%).

Bivariate Analysis

Bivariate analysis was carried out to determine the relationship between the independent variable and the dependent variable. Analysis was carried out using the chi-

square test. So if the statistical analysis results determine $\rho < 0.05$ then these variables are declared to be significantly related.

1. The Relationship between Lavender Aromatherapy Massage on Baby Sleep Quality at the Mom And Akachan Clinic in 2024

Among babies at the Mom And Akachan Clinic in 2023, the number of babies who had Lavender Aromatherapy Massage with sound quality sleep was 27 babies (23.8%). There were 7 babies who received Aromatherapy Massage but did not sleep soundly (10.2%). There were 8 babies who did not have Aromatherapy Massage (11.2%) and 8 babies who did not have therapy with poor sleep quality (4.8%). Based on the results of the chi-square test of the relationship between Lavender Aromatherapy Massage and sleep quality in babies in 2023 with a degree of significance (α) = 0.05 and df = 1, the calculation result is sig (2-tailed) 0.034 < (α) = 0, 05, then Ho is rejected and Ha is accepted, the conclusion is that there is a relationship.

5. DISCUSSION

Univariate Analysis

The Effect of Lavender Aromatherapy Massage

It is known that of the 50 babies, the majority who did Lavender Aromatherapy Massage were 34 babies (68.0%) and those who did not do Lavender Aromatherapy Massage were 16 babies (36.3%). In Table 4.1 above, it is known that the parents of babies at the Mom And Akachan Clinic already understand about Lavender Aromatherapy Massage which can improve the quality of sleep in babies so that the baby's mothers do Aromatherapy Massage on their babies.

Baby Sleep Quality

It can be concluded that the majority of babies who do not experience sleep disorders are 35 babies (70.0%) and babies who experience sleep disorders are 15 babies (30.0%). In table 4.2 it can be analyzed that babies at the Mom And Akachan Clinic have regular lavender aromatherapy massages so that babies can fall asleep soundly.

Bivariate Analysis

The relationship between Lavender Aromatherapy Massage and the Quality of Baby's Sleep at the Mom And Akachan Clinic in 2023. Based on the results of the chi-square test. The relationship between Lavender Aromatherapy Massage and the Quality of Baby's Sleep at the Mom And Akachan Clinic in 2023. with a degree of significance

(α) = 0.05 and df = 1, the calculation result is sig (2-tailed) 0.034 < (α) = 0.05, then Ho is rejected and Ha is accepted, conclusion on the Relationship between Lavender Aromatherapy Massage on Baby Sleep Quality at the Mom And Akachan Clinic in 2023.

6. CONCLUSION

After conducting research on the relationship between Lavender Aromatherapy Massage and Baby Sleep Quality at the Mom And Akachan Clinic in 2024, it can be concluded as follows:

1. From the research results it can be concluded that the variable Lavender Aromatherapy Massage for Babies with the majority doing Lavender Aromatherapy Massage was 34 respondents (68.0%) and the minority did not do Lavender Aromatherapy Massage as many as 16 respondents (32.0%).
2. From the research results, it can be concluded that the quality of baby's sleep is 35 respondents (70.0%) sound, and 15 respondents (30.0%) are not sound.
3. Based on the results of the chi-square test with the relationship between Lavender aromatherapy and sleep quality in babies in 2023 with a degree of significance (α) = 0.05 and df = 1, the calculation results were obtained, namely sig (2-tailed) 0.034 < (α) = 0.05 , then Ho is rejected and Ha is accepted, the conclusion is that there is a relationship between Lavender aromatherapy and sleep quality in babies in 2024

7. LIMITATION

It is inevitable that your research will have some limitations, and this is normal. However, it is critically important to strive to minimize the scope of these limitations throughout the research process. Additionally, you need to acknowledge your research limitations honestly in the conclusions chapter.

Identifying and acknowledging the shortcomings of your work is preferable to having them pointed out by your final work assessor. While discussing your research limitations, do not merely list and describe them. It is also crucial to explain how these limitations have impacted your research findings.

Your research may have multiple limitations, but you should discuss only those that directly relate to your research problems. For example, if conducting a meta-analysis of secondary data was not stated as your research objective, there is no need to mention it as a limitation of your research.

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The Relationship of Keygel Exercises With the Healing of Perineal Wounds in Partworse Mothers With Normal Delivery

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Abstract. This study examines the relationship between Kegel exercises and the healing of perineal wounds in postpartum mothers who underwent normal delivery. Perineal wounds, a common outcome of vaginal childbirth, can lead to discomfort and complications if not properly managed. Kegel exercises, known for strengthening the pelvic floor muscles, may also play a crucial role in accelerating the healing process of perineal wounds. This research involved a sample of postpartum mothers who were instructed to perform Kegel exercises regularly. Data were collected through clinical observations and self-reported healing experiences over a specified period. The findings indicate a significant positive correlation between the regular practice of Kegel exercises and the expedited healing of perineal wounds. Mothers who adhered to the exercise regimen reported reduced pain, faster wound closure, and improved overall postpartum recovery. These results suggest that Kegel exercises should be recommended as a routine postpartum practice to promote faster healing and enhance the well-being of new mothers. Further research is recommended to explore the underlying mechanisms and to establish standardized guidelines for the implementation of Kegel exercises in postpartum care.

Keywords: Kegel exercises, perineal wounds, postpartum recovery, normal delivery, maternal health, wound healing, pelvic floor muscles

1. INTRODUCTION

Childbirth is a physiological process experienced by women. In this process, a series of major changes occur for the mother to be able to give birth to her fetus through the birth canal (Decherney et al, 2012). A complication that is often experienced in childbirth is perineal laceration, which is a tear in the tissue between the opening of the vagina and the rectum. Perineal suture wounds can be caused by natural tissue damage due to pressure on the fetal head or shoulders during labor or an episiotomy (Rukiyah, 2010). In a normal delivery with an episiotomy, you will definitely feel pain, and some may even experience swelling. The complete healing process for an episiotomy wound usually takes 3-6 months, although the wound itself is dry after 1-2 weeks. So the pain and symptoms of swelling are part of the healing process that mothers usually face and will disappear by themselves, so there is no need to worry if there are no signs of infection.

Perineal tears occur in almost all first deliveries and are not uncommon in subsequent deliveries. This tear can be avoided or reduced so that the fetal head does not pass through the pelvic floor quickly. On the other hand, the head of the fetus that will be born should not be held too tightly and for a long time so that bleeding asphyxia does not occur in the fetal skull and weakening of the muscles and the pelvic floor due to being stretched too long. The healing process for perineal tears depends on the perineal wound (the severity or extent of the

injured area) and the relationship with nutrition and rupture care (Ministry of Health RI, 2012).

There are several methods that can be used to prevent perineal tearing due to normal delivery, including encouraging the mother to do Kegel exercises frequently, and choosing a comfortable position when urinating and menstruating. Kegel exercises are exercises to strengthen the pelvic floor muscles before childbirth, the aim is to strengthen the pelvic floor muscles, help prevent urinary incontinence problems, and can stretch the perineal tissue as the baby's birth canal. The Kegel exercise procedure can be remembered and carried out along with activities related to the mother's daily activities. Like when sitting in the bathroom after urinating and this is a relaxing position for muscle contractions, and when the mother wants to sleep and under any circumstances. Kegel exercises can also flex the mother's perineal tissue to welcome childbirth (Proverawati, 2012).

Perineal pain is pain caused by tears that occur in the perineum, vagina, cervix or uterus, which can occur spontaneously or as a result of manipulative actions for delivery assistance (Prawirohardjo, 2010). Perineal pain is a manifestation of suture scars that the patient feels due to perineal rupture during expulsion. Perineal tears occur in almost all vaginal births, whether they are intentional tears with an episiotomy or spontaneous tears as a result of childbirth, some perineal tears require suturing, some don't, from the suture marks the perineal wound definitely causes pain, this pain is due to severing of the nerve tissue and muscle tissue (Chapman, 2011). Many factors influence perineal wound healing, including early mobilization, vulvahygiene, wound area, age, vascularization, stressors and also nutrition. The wound is said to have healed if within 1 week the wound is dry, closed and there are no signs of infection (Mochtar, 2012).

Infections during the postpartum period contribute to high maternal mortality and morbidity. Based on data from the World Health Organization (WHO) in 2011, worldwide cases of infection were caused by birth canal infection or episiotomy (25-55%). According to the Indonesian Health Demographic Survey (SDKI) in 2012, the Maternal Mortality Rate (AKI) due to childbirth in Indonesia is still high, namely 208/100,000 live births and the infant mortality rate (IMR) is 26/1,000 live births (Ministry of Health of the Republic of Indonesia, 2013). In East Java, the incidence of postpartum infections reaches 38 post partum mothers or 8% of the 487 total cases of maternal deaths. The direct factor causing high AKI is bleeding (45%), especially post partum bleeding. Apart from that, there were pregnancy poisoning (24%), infection (11%) and prolonged or obstructed labor (7%). Obstetric

complications generally occur during labor, which is short, namely around 8 hours (Trijanto, 2012).

The maternal mortality rate (MMR) actually reached its highest figure in 2013, reaching 142.1 maternal deaths out of 100,000 live births, but this figure has managed to fall again in 2014. In 2014, the MMR was 93.08 out of 100,000 live births, and in 2015 there were an increase of 3.22%, namely 96.2 out of 100 thousand live births. And in 2016 it fell again to 87.3 per 100 thousand live births (Banyuwangi Health Office, 2016). A stiff perineum can make the tear wider. Approximately 70% of mothers giving birth vaginally experience perineal trauma. Various ways to reduce tearing of the birth canal include Kegel exercises and perineal massage for pregnant women in the third trimester. During pregnancy, the mother's pelvic bones will widen to prepare for the birth process later. Kegel exercises and perineal massage during pregnancy will maintain the flexibility of the perineum. Another benefit in pregnancy is that it is also effective in helping the pelvic floor muscles become firmer and more elastic.

Research by Ridlayanti (2011) on the relationship between Kegel exercises and healing of perineal suture wounds in normal post-partum mothers at RB Alfiatul Hasanah, Bandung City. There was a difference in perineal wound healing before and after Kegel exercises, with a p-value of 0.001, where 0.001<0.05. Pre-survey research conducted on patients who underwent an episiotomy said that they were not taught by health workers in the room about Kegel exercises which are useful for speeding up wound healing. Kegel exercises are not commonly used for postpartum, but looking at this data and the benefits of Kegel exercises for pregnant women, researchers are interested in conducting research on the relationship between Kegel exercises and perineal wound healing in postpartum mothers.

Based on an initial survey conducted at the Pratama Kasih Bunda Clinic in 2024 .Data from postpartum mothers who gave birth normally were 50 mothers who had perineal injuries, 34 mothers (68.0%) participated in Kegel exercises. Meanwhile, 16 mothers (32.0%) did not participate in Kegel exercises.

From the background above, researchers are interested in conducting research entitledThe Relationship between Keygel Exercises and Healing of Perineal Wounds in Postpartum Women with Normal Births at the Pratama Kasih Bunda Clinic in 2024

2. LITERATURE REVIEW

Kegel exercises or also known as lower pelvic muscle training exercises are useful for improving conditions that can reduce the function and strength of the lower pelvic muscles. Weakening of the lower pelvic muscles can be caused by various things, starting from the process labor, aging, being overweight, and even surgery. Kegel exercises can be done by men and women. Kegel exercises strengthen the pelvic floor muscles that support the uterus, bladder, small intestine and rectum. You can do Kegel exercises, also known as pelvic floor muscle exercises. The easiest way to identify these muscles effectively is to briefly stop the flow of urine while urinating, while sitting on the toilet. Alternatively, imagining yourself sitting on a marble and trying to lift it can also help in identifying and training the right muscles. Kegel exercises involve contracting or contracting the pelvic muscles and then relaxing them. If done correctly and consistently, these exercises help strengthen the pelvic floor muscles and improve problems such as urinary incontinence, fecal incontinence, and help prevent prolapse of the pelvic organs.

3. METHODS

The research conceptual framework is a method that will be used to explain the relationship or connection between the variables to be studied (Notoatmodjo, 2018). On research. This time, researchers will examine the relationship between Keygel exercises and healing perineal wounds in postpartum women who give birth normally.The population in this study was normal postpartum mothers who visited 50 people to do Kegel exercisesPrimary Love Mother Year 2024. *Total sampling*This is a sampling of the entire population in the clinic Primary Love Mother Year 2024 with a sample size of 50 people.

4. RESULTS

Univariate analysis

Univariate analysis is an analysis that describes the independent and dependent variables singly in the form of a frequency distribution. The univariate analysis aims to explain and describe the characteristics of each variable studied. With univariate analysis, the distribution of respondents can be seen based onKegel Exercises for Healing Perineal Wounds in Normal Postpartum Women

1. **Kegel Exercises for Postpartum Mothers**

Table 1 Frequency distribution of respondents based on frequency of performing Kegel Exercises on Normal Postpartum Women (n=50)

No.	Frequency of Doing Kegel Exercises	Amount	
		F	%
1.	Exercise	34	68.0
2.	No gymnastics	16	32.0
	Total	50	100

Based on Table 1 above, it can be concluded thatKegel Exercises for Healing Perineal Wounds in Normal Postpartum Women, the majority did exercise as many as 34 mothers (68.0%) and did not do Kegel exercises as many as 16 mothers (32.0%).

2. **Perineal Wound Healing**

Table 2 DistributionKegel Exercises for Healing Perineal Wounds in Normal Postpartum WomenYear 2024 (n=50)

No.	Perieum Wounds	Amount	
		f	%
1.	Good	35	70.0
2.	Bad	15	30.0
	Total	50	100

Based on Table 2, the distribution of 50 perineal wounds in postpartum mothers,the majority improved, amounting to 35 mothers (70.0%) and poor, amounting to 15 mothers (30.0%).

Bivariate Analysis

Bivariate analysis was carried out to determine the relationship between the independent variable and the dependent variable.

1. The Relationship between Kegel Exercises and Perineal Wound Healing in Normal Postpartum Women

Based on the research results, there areThe Relationship between Kegel Exercises and Perineal Wound Healing in Normal Postpartum Womenin the following table:

Table 3 The Relationship between Kegel Exercises and Healing of Perineal Wounds in Normal Postpartum Women in 2024 (n=50)

No	Kegel exercises	Perineal Wounds				Amount		df	Sig (2-tailed)
		Good		Bad					
		f	%	f	%	f	%		
1	Exercise	27	23.8	7	10.2	34	34.0	1	0.034
2	No gymnastics	8	11.2	8	4.8	16	16.0		

Based on Table 3 For postpartum mothers giving birth normally at the Pratama Kasih Bunda ClinicThe number of mothers who performed Kegel exercises to heal perineal wounds was 27 mothers (23.8%). There were 7 mothers who did Kegel exercises but were in poor condition (10.2%).

There were 8 mothers who did not do Kegel exercisesmothers (11.2%) and mothers who did not do gymnastics badly were 8 mothers (4.8%).

Based on the results of the chi-square testThe Relationship between Kegel Exercises and Perineal Wound Healing in Normal Postpartum Womenwith the degree of significance (α) = 0.05 and df = 1, the calculation results obtained are sig (2-tailed) 0.034 < (α) = 0.05, then Ho is rejected and Ha is accepted, the conclusion is that there is a relationshipKegel Exercises for Healing Perineal Wounds in Normal Postpartum Women

5. DISCUSSION

Univariate Analysis

The relationship between Kegel exercises and healing of perineal wounds in Postpartum Mothers Normal Delivery

Based on Table 4.1 above, it is known that the majority of the 50 mothers did it*Kegel exercises*there were 34 mothers (68.0%) and 16 mothers (36.3%) did not do Kegel exercises. In Table 4.1 above, it is known that postpartum mothers give birth normally At the Pratama Kasih Bunda ClinicI already understand the benefits of Kegel exercises which can heal perineal wounds in postpartum women giving birth normally so that mothers are enthusiastic about doing Kegel exercises.

Kegel exercises

Based on TFrom table 4.2 above, it can be concluded that the majority of mothers who did not do Kegel exercises were 35 mothers (70.0%) and 15 mothers who did Kegel exercises (30.0%). In table 4.2 it can be analyzed that motherAt the Pratama Kasih Bunda Clinichave prescribed regular Kegel exercises so that they can heal perineal wounds in postpartum mothers who give birth normally.

Bivariate Analysis

Based on the results of the chi-square testThe Relationship between Kegel Exercises and Healing of Perineal Wounds in Postpartum Women with Normal Births at the Pratama Kasih Bunda Clinic in 2024. with the degree of significance (α) = 0.05 and df = 1, the calculation results obtained are sig (2-tailed) 0.034 < (α) = 0.05, then Ho is rejected and Ha is accepted, the conclusion isThe Relationship between Kegel Exercises and Healing of Perineal Wounds in Postpartum Women with Normal Births at the Pratama Kasih Bunda Clinic in 2024

Kegel exercises are one of the efforts that can be made to heal perineal wounds in normal postpartum mothers because Kegel exercises are considered a valuable component of antenatal care, which contributes to the mother's overall well-being and postnatal recovery.

6. CONCLUSION

After conducting research onThe Relationship between Kegel Exercises and Healing of Perineal Wounds in Postpartum Women with Normal Births at the Pratama Kasih Bunda Clinic in 2024, then it can be concluded as follows:

1. From the research results, it can be concluded that the variable Kegel Exercises in postpartum women giving birth is normal with the majority doing Kegel Exercisesas many as 34 respondents (68.0%) and the minority did not do Kegel exercises as many as 16 respondents (32.0%).

2. From the research results, it can be concluded that the healing of perineal wounds in postpartum mothers with normal deliveries is good with the majority being 35 respondents (70.0%) and the minority not being good as many as 15 respondents (30.0%).

3. Based on the results of the chi-square test withThe Relationship between Kegel Exercises and Healing of Perineal Wounds in Normal Postpartum Women with the degree of significance (α) = 0.05 and df = 1, the calculation results obtained are sig (2-tailed) 0.034 < (α) = 0.05, then Ho is rejected and Ha is accepted, the conclusion is thereThe Relationship between Kegel Exercises and Healing of Perineal Wounds in Postpartum Women with Normal Births at the Pratama Kasih Bunda Clinic in 2024

Suggestion

For Respondents

Can provide additional knowledge and insight for the community in carrying outKegel Exercises for Healing Perineal Wounds in Normal Postpartum Women.

For the Pratama Kasih Bunda Clinic

It is hoped that the results of this research will be useful forPratama Kasih Bunda Clinicas an alternative that can be provided to the public in the form of information such as counseling so that the public is more aware of the benefits and relationships it carries outKegel Exercises for Healing Perineal Wounds in Normal Postpartum Women.

For Educational Institutions

It is hoped that the results of this research will become input and reference material in the library, especially for DIII Kharisma Husada Binjai Midwifery Academy students regardingKegel Exercises for Healing Perineal Wounds in Normal Postpartum Women.

For Writers

Increase insight and knowledge aboutKegel Exercises for Healing Perineal Wounds in Normal Postpartum Womenas well as being a valuable opportunity for researchers to be able to apply the knowledge of research methods they have encountered during their education

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Development Of Health Information Systems For Patient Data Management and Better Care

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Abstract. The development of health information systems (GIS) is important in this digital era to improve patient data management and provide better care. This research aims to develop a SIK that can help health service providers manage patient data more efficiently and improve care coordination. Development steps include requirements analysis, system design, implementation, and performance evaluation. The developed system has features such as recording patient medical history, scheduling appointments, monitoring health conditions, and communication between health care providers. The evaluation results show that the developed SIK succeeded in increasing efficiency in patient data management and care coordination. Healthcare providers can easily access patient information, plan more coordinated care, and communicate effectively with colleagues. Thus, the development of this SIK is expected to make a significant contribution to improving the quality of health services and patient outcomes through better data management and more coordinated care.

Keywords: Health Information Systems, Patient Data Management, Health Care, Efficiency, Care Coordination

1. INTRODUCTION

In today's digital era, computer networks have become the backbone for various aspects of life, including business, government and personal communications. However, with technological advances also come new threats in the form of cyber attacks that can threaten the security and integrity of the network.[4].

Attack detection in computer networks is becoming increasingly important as cyber attacks continue to evolve and become more complex. Attacks such as denial of service (DoS), malware, phishing, and brute force attacks can cause significant financial losses, leaks of sensitive data, and reputational damage to the targeted organization or individual.[5]. To combat this threat, attack detection in computer networks has become a major focus in the field of information security. However, manual detection of attacks has become impossible due to the large volume of data and the ever-growing complexity of attacks. Therefore, an automated and artificial intelligence-based approach is needed to detect and respond to cyber attacks quickly and effectively.

In this context, the use of the C4.5 decision tree algorithm becomes interesting because of its ability to make decisions based on rules learned from data. This algorithm has been proven effective in a variety of applications, including classification and prediction,

which makes it an attractive candidate for application in attack detection in computer networks.[6],[7].

Against this background, this research aims to explore the potential of the C4.5 decision tree algorithm in attack detection in computer networks and its contribution to improving information security in increasingly complex and connected digital environments.

2. RESEARCH METHODOLOGY

a. Literature Review:

The literature study stage is to collect relevant information and knowledge related to the development of management information systems.

b. Requirement Analysis:

The needs analysis stage is to understand the requirements and needs of the management information system to be developed.

c.System Design:

The system design stage is to design the structure and architecture of the management information system based on the results of the needs analysis.

d. Implementation:

The implementation stage involves building and coding a management information system based on a previously designed design.

e. Testing:

System testing stage to ensure that the system functions according to specifications and meets user needs.

f. Conclusion and Recommendations:

The stage of drawing conclusions from research results and providing suggestions for further development of management information systems.

3. RESULTS AND DISCUSSION

The Care Giver Management Information System that will be created in this research is created to fulfill and assist the existing service processes in pedis care care giver services. In this system, starting from the process of ordering care packages, scheduling, nurse reports, to payroll. The system helps collect data on care giver services such as care reports, patient data, patient contracts, and scheduling. The system is expected to help provide information to patients, management and nurses more easily because the data is centralized and easily accessible for the actors involved

a. Actor Identification

Actors in the Care Giver Management Information System are divided into 6 actors. The following is a description of each actor.

b. *Use Case Diagrams*

The use case diagram of this system contains 81 functional requirements divided by 6 actors. Figure 2 will show an example of a use case diagram. Figure 4 displays a use case diagram for patients and guests.
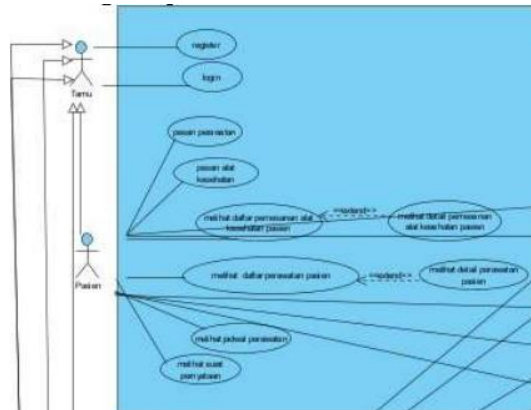

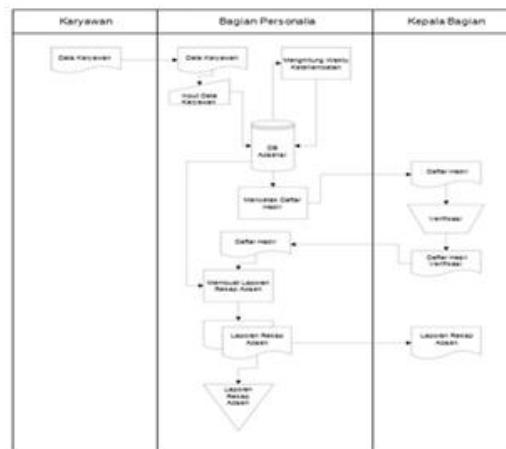**Figure 1. Use Case Diagram display**

Figure 2. Flow Map

The introduction of the Health Information System has had a transformative impact on patient data management and care quality. One of the most significant benefits observed was the reduction in data fragmentation, which historically has been a major challenge in healthcare settings. By centralizing patient records and ensuring that all relevant data is accessible in real-time, the system has addressed the inefficiencies that often lead to delayed or suboptimal care.

a. Enhanced Communication and Collaboration

The HIS facilitated better communication and collaboration among healthcare professionals. The ability to access comprehensive patient records allowed for more coordinated care, particularly in multi-disciplinary teams where different specialists are involved in a patient's treatment. This has been particularly beneficial in managing complex cases, such as those involving chronic illnesses or multiple comorbidities.

b. Challenges and Areas for Improvement

Despite the overall success of the HIS, several challenges were identified. The initial implementation phase encountered resistance from some staff members who were accustomed to the traditional methods of record-keeping. However, ongoing training and support helped mitigate these issues. Additionally, while the system significantly improved data accessibility, there were occasional technical issues such as system downtimes and slow loading times during peak hours. These challenges highlight the need for ongoing system maintenance and upgrades to ensure reliability.

Another area for improvement is the integration with external healthcare providers and pharmacies. While the HIS successfully integrated internal departments, extending this integration to external entities would further enhance the continuity of care, especially for patients transitioning between different levels of care or those requiring long-term medication management.

c. Impact on Patient Safety

The system's alert and reminder features have had a positive impact on patient safety. Automated alerts for potential drug interactions, allergies, and critical lab results have contributed to a reduction in medical errors. This is particularly important in environments with high patient turnover, where the risk of errors increases due to the fast-paced nature of care delivery.

d. Future Directions

Looking forward, the system could be enhanced by incorporating advanced analytics and artificial intelligence (AI) capabilities. Predictive analytics could be used to identify patients at risk of adverse outcomes, allowing for early intervention. AI-driven decision support tools could further assist healthcare providers in making evidence-based decisions, ultimately leading to even better patient outcomes.

In conclusion, the development and implementation of the Health Information System represent a significant advancement in patient data management and care quality. While there are areas for improvement, the system has laid a strong foundation for more efficient,

effective, and patient-centered healthcare delivery. Continued investment in technology and training will be essential to fully realize the system's potential and to address the evolving needs of the healthcare sector.

4. CONCLUSION

The development of health information systems (GIS) has an important role in improving patient data management and better care. Through this research, we succeeded in developing a SIK that has features that support recording patient medical history, scheduling appointments, monitoring health conditions, and communication between health service providers. The evaluation results show that the developed SIK is able to increase efficiency in patient data management and care coordination. With an integrated system, healthcare providers can easily access patient information, plan more coordinated care, and communicate effectively with colleagues. Thus, the development of this SIK is expected to make a significant contribution in improving the quality of health services and patient outcomes. Through better data management and more coordinated care, it is hoped that better results can be achieved in managing the patient's overall health condition.

The critical role of health information systems (HIS) in enhancing the management of patient data and improving the overall quality of healthcare delivery. The article concludes that the implementation of robust HIS is essential for efficient patient data management, enabling healthcare providers to access accurate and timely information. This, in turn, leads to better-informed clinical decisions, improved patient outcomes, and enhanced operational efficiency within healthcare facilities. Furthermore, the journal emphasizes the importance of integrating HIS with existing healthcare processes to create a seamless flow of information across different departments and stakeholders. It also highlights the challenges, such as data security, user training, and system interoperability, that need to be addressed to ensure the successful deployment of HIS. The development and continuous improvement of HIS are deemed crucial for meeting the evolving needs of the healthcare industry and ensuring that patient care is optimized through effective data management.

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Characteristics Overview Mother with Incidence of Low Birth Weight Babies at dr. Hospital H. L. M Baharudin, M. Kes in 2023

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Abstract. Introduction: Low birth weight babies are babies whose birth weight is <2500 grams, which is caused by maternal, nutritional, age, parity and economic factors. Objective:To determine the characteristics of mothers with LBW incidents at RSUD dr. HLM Baharuddin, M.Kes 2023. Method: This research was quantitative descriptive, conducted at RSUD dr.Baharuddin, M.Kes on mothers who gave birth to low birth weight babies for the period January - June 2023 with a sample of 30 mothers determined by total sampling. Results: LBW occurred in mothers aged 20-35 years, namely 23 people (76.67%), mothers with multiparous parity, namely 18 mothers (60%), mothers with a birth interval of ≥2 years, namely 25 mothers (56.67%) , 18 mothers (60%) suffered from the disease, and the highest incidence of LBW was in mothers with ≥high school education as many as 19 mothers (63.33%).Conclusion: Mothers with LBW incidence at the age of 20-35 years were 23 mothers (76.67%), Age <20/>35 years 7 mothers (23.33%), Primiparous parity 8 mothers (26.67), Multiparous 18 mothers (60%), Grandemultiparous 4 mothers (13.33%), Birth interval <2 years 5(16.67%), ≥2 years 25(56.67%), 18 mothers with disease (60%) 12 mothers (40%) did not suffer, had ≤junior high school education 11(36.67%) and ≥high school education 19(63.33%)

Keywords : Age, Parity, Birth interval, Disease, LBW education

1. BACKGROUND

In 2017, *the World Health Rankings* reported that out of 172 countries, Indonesia was in 72nd position which had an infant mortality rate caused by LBW of around 9.92% (World Health Rankings, 2017). The Ministry of Health's Strategic Plan for 2015-2019 shows that in five years Indonesia experienced The infant mortality rate due to LBW occurred in the perinatal group, namely 11.2%. This figure has not yet reached the target planned by the Indonesian Ministry of Health as an effort to resolve the problem of infant and toddler mortality caused by LBW, namely 8% (Ministry of Health-RI Strategic Plan, 2015). Temporary in HOSPITAL Dr. HLM Baharuddin, M.kes Pada Year year 2020 The incidence of LBW is 75 out of 739 total or approx 10%. In 2021, the incidence of LBW has decreased, amounting to 66 out of 794 births or around 8%. Then in 2022 there will be an increase in LBW babies, namely 151 out of 987 births or around 15%. (Medical Records, 2023). Therefore, based on this description, it is the reason for researchers to conduct research regarding the characteristics of mothers with low birth weight babies.

2. THEORETICAL STUDY

The World Health Organization or WHO explains that LBW is a baby whose birth weight is <2500 grams. Until now, LBW has become a health problem that occurs in society worldwide, which is linked to several short-term or long-term problems or effects. According to WH, LBW can cause an infant mortality rate (IMR) of around 60-80%. LBW has a greater risk experience more death and morbidity than babies born with a normal birth weight, namely between 2500 and 4000 grams (WHO, 2014). Several factors can cause LBW namely chronic diseases in mothers such as hypertension, kidney disease, excessive sugar levels or what is called diabetes, then excessive maternal weight and pregnant women with a height < 145 cm, bleeding during pregnancy, high risk at age mothers (< 20 years or > 35 years), have a gestational age that is noisy like premature age (Ghahfarokhi, et al. 2018).

The risk for babies with LBW is that the baby will die at the beginning of birth. If the baby is born safely then the baby is at greater risk of problems with growth and development (Rahayu et al, 2020). Besides Therefore, babies with LBW are at risk of experiencing asphyxia, disorders of the respiratory system, hypothermia, infection, and pathological jaundice (Khoiriyah, 2018) **.** Research conducted by Mahdalena, et al. (2017), said that the experience of giving birth or the number of children could be the cause of LBW at Wonosaro Regional Hospital, Gunung Kidul. The results of the research showed that most of the mothers who gave birth to LBW were Primipara mothers or those experiencing childbirth for the first time.

3. RESEARCH METHODS

This study uses a descriptive analytical method to observe maternal characteristics related to the incidence of Low Birth Weight (LBW) at RSUD dr. H. L. M. Baharuddin, M.Kes. The approach applied is retrospective, where researchers evaluate maternal characteristics based on secondary data from the previous period. The study population consisted of all mothers who gave birth to babies with LBW in the perinatology room of RSUD dr. H. L. M. Baharuddin during the period January-June 2023, totaling 30 babies. The study sample included all mothers who gave birth to LBW babies at the hospital, with a sampling technique using total sampling, namely making the entire population a sample. The independent variables in this study include maternal age, parity, birth spacing, maternal illness, and maternal education, while the dependent variable is the incidence of LBW in babies born. Data were collected using secondary data taken from medical records regarding maternal age, parity, and the incidence of LBW at RSUD dr. H. L. M. Baharuddin during the specified period.

4. RESULTS AND DISCUSSION

Results

This study was conducted at L.M.H Baharuddin Regional Hospital in August 2023.

Univariate Analysis

a) Distribution of Respondents Based on mother's age

Table 1 Distribution of Respondents Based on Mother's Age

age	amount	presentation (%)
< 20 / > 35	7	23.33
20- 35	23	76.67
Total	30	100

Source: Data from the medical record room of dr. H.L.M, Baharudin M. Kes

Regional Hospital in 2023. Based on Table 1, the age of mothers aged <20 or >35 was 7 people or 23.33% and mothers aged 20-35 were 23 people or 76.67%.

b) Mother's Characteristics Based on Parity

Table 2 Characteristics Mother Based on Parity

Parity	amount	presentation (%)
Primipara	8	26.67
Muiltipara	18	60
Grandeimuiltipara Total	4	13.33
	30	100

Source: Data from the medical records room at RSUD dr. HLM, Baharuidin M. Kes 2023

Based on table 2, the data obtained in the Primipara category was 8 people or 26.67%, Multipara was 18 people or 60% and the lowest number was grandemultipara, 4 people or 13.33%.

c) Maternal Characteristics Based on Birth Distance

Table 3 Characteristics Mother Based on Distance Birth

birth spacing	amount	presentation (%)
< 2 Year	5	16.67
≥ 2 Year Total	25	56.67
	30	100

Source: Data from the medical records room at RSUD dr. HLM, Baharudin M. Kes 2023

Based on table 3, it can be concluded that there were 5 mothers with a birth interval of <2 years or 16.67% and mothers with a birth interval of ≥ 2 years were 25 or 56.67%.

Discussion

The research results obtained showed that 7 people (23.33%) of mothers aged less than 20 years or more than 35 years gave birth to LBW babies, while 23 mothers aged 20-35 years (76.6%). These results show that more mothers aged 20-35 years experience LBW than mothers aged less than 20 years or more than 35 years. The results of this study are not in accordance with the previous theory which states that mothers who are more than 35 years old or less than 20 years old have a higher risk of experiencing LBW because this age is a high risk during pregnancy because it can cause several complications during pregnancy and childbirth

due to not yet ready or decreased ability of the reproductive organs. Complications that can occur include LBW or several diseases such as gestational hypertension, pre-eclampsia, antepartum bleeding, obstructed labor and so on. However, this research needs to be developed further to determine the relationship and influence of maternal age on LBW births. In line with research conducted by Willy Lestiana Windarti (2015) which said that of 226 mothers who had babies with LBW, there were 166 people (73%) in the group of mothers who were not at high risk (aged 20-35 years). This number is greater than the high risk group of mothers (<20 or >35 years). The difference between this research and previous theory could be due to the small sample size or the larger number of mothers aged 20-35 years.

Meanwhile, the description of the parity of mothers and babies experiencing LBW at LM Regional Hospital. Baharuddin is a mother who gave birth to a LBW baby, in the primipara group there were 8 people (26.67%), multipara there were 18 people (60%) and grandemultipara there were 4 people (13.33%. These results show that mothers in the multipara group gave birth more often babies with LBW namely the number of births with fetuses that can survive outside the womb for 28 weeks. According to the 2011 BKKBN, parity is the number of children ever born. According to previous theories, mothers with primiparous or grandemultiparous parity have a higher risk of giving birth to LBW babies than mothers with parity of 2 to 4 children. This could be because primiparous mothers are giving birth for the first time, physically and mentally they are not yet able to adapt or have no previous experience (Erlina, 2015). The results obtained are not in line with research conducted by Gunawan et al. (2012), where the results were 141 mothers in the primiparous parity group out of 178 mothers who had LBW newborns. Different results can be caused by differences in sample size and research location, therefore it is necessary to develop further research.

The description of the characteristics of mothers who gave birth to LBW babies based on birth interval in this study was that there were 5 mothers (16.67%) with birth intervals of less than 2 years, while there were 25 mothers with birth intervals of more than or equal to 2 years (83.33%). %). So it can be concluded that the results found are not in line with the previous theory which stated that birth intervals of less than 2 years are at risk of having LBW babies because the results of this study show that more mothers have LBW babies with birth intervals of more than or equal to 2 years. Inconsistent differences can also be caused by differences in the number of samples and the place where the research was conducted.

5. CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Characteristics of mothers with the incidence of low birth weight babies at the age of 20-35 years were 23 people (76.67%), Age <20/>35 years 7 people 23.33%, Parity primipara 8 people (26.67), Multipara 18 people (60%), Grandemultipara 4 people(13.33%), Birth interval <2 years 5(16.67%), ≥2 years 25(56.67%), 18(60%) mothers suffering from disease Not suffering 12(40%), education ≤junior high school 11(36.67%) and education ≥high school 19(63.33%)

Suggestion

For health workers at RSUD dr. HLM Baharuddin, M.Kes is expected to be able to provide information and improve health promotion efforts by conducting outreach and activities promotion health other.

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Systematic Literature Review: Irritant Contact Dermatitis Among Palm Oil Harvesters

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Abstrac *Irritant Contact Dermatitis (ICD) is a common occupational health issue among palm oil harvesters, who are frequently exposed to irritants such as crude palm oil, fertilizers, and pesticides. ICD is characterized by inflammation of the skin resulting from direct contact with irritants that disrupt the skin barrier without involving an allergic response (Diepgen et al., 2016). This review systematically examines global research on ICD in palm oil harvesters, focusing on its etiology, pathophysiology, prevalence, risk factors, clinical manifestations, diagnostic approaches, and management strategies.*

Keywords : *Systematic Literature Review, Irritation Contact Dermatitis, Oil Palm Farmers*

1. INTRODUCTION

Irritant Contact Dermatitis (ICD) is a common occupational health issue among palm oil harvesters, who are frequently exposed to irritants such as crude palm oil, fertilizers, and pesticides. ICD is characterized by inflammation of the skin resulting from direct contact with irritants that disrupt the skin barrier without involving an allergic response (Diepgen et al., 2016). This review systematically examines global research on ICD in palm oil harvesters, focusing on its etiology, pathophysiology, prevalence, risk factors, clinical manifestations, diagnostic approaches, and management strategies.

Palm oil harvesting involves labor-intensive tasks that expose workers to various chemicals and environmental conditions contributing to ICD. Given the significant impact of ICD on workers' health and productivity, understanding the global context of this condition is essential for developing effective preventive and treatment strategies. This review consolidates findings from various studies worldwide to provide a comprehensive overview of ICD in palm oil harvesters and to highlight areas for further research and intervention (Cazzaniga et al., 2019).

2. METHODOLOGY

A systematic literature review was conducted to gather data on ICD among palm oil harvesters from global research. The search included databases such as PubMed, Scopus, and Google Scholar. The search was limited to peer-reviewed articles published between 2000 and 2023. Keywords used included "Irritant Contact Dermatitis," "occupational dermatitis," "palm oil harvesters," and "cutaneous irritants" to capture relevant studies (Alinaghi et al., 2019).

Inclusion criteria comprised studies focusing on human subjects, peer-reviewed articles, and publications in English. Exclusion criteria included studies on allergic contact dermatitis and animal studies to maintain the review's focus on ICD specifically. The review process involved screening titles, abstracts, and full-text articles to ensure the relevance and quality of the included studies (Diepgen et al., 2016).

The methodological approach ensured a comprehensive analysis of ICD in palm oil harvesters, providing insights into the global prevalence, risk factors, and management practices related to this condition. This review aims to offer a thorough understanding of ICD across different regions and occupational settings to inform better preventive and therapeutic strategies (Lundqvist et al., 2021).

3. ETIOLOGY AND PATHOPHYSIOLOGY

The etiology of ICD among palm oil harvesters is primarily related to exposure to irritants such as crude palm oil, fertilizers, and pesticides. The repeated and prolonged exposure to these substances in palm oil plantations exacerbates the risk of developing ICD. Palm oil workers are routinely exposed to various irritants, including crude palm oil, fertilizers, and pesticides. Each of these substances has the potential to disrupt the skin's barrier function and provoke an inflammatory response. (Kiken & Cohen, 2002;Proksch, Brandner, & Jensen, 2008). Crude palm oil, which contains fatty acids and other irritating compounds, can damage the stratum corneum, leading to barrier dysfunction.

The cumulative effect of these exposures is particularly detrimental. Prolonged contact with irritants leads to chronic irritation, which can overwhelm the skin's natural repair mechanisms. Over time, this persistent exposure exacerbates the damage to the skin barrier, leading to increased susceptibility to ICD. Chronic irritation can also lead to alterations in skin physiology, such as thickening of the stratum corneum and enhanced permeability, which further exacerbates the condition (Diepgen et al., 2016). This chronic exposure not only increases the risk of ICD but also makes it more difficult to manage and treat effectively.

Mechanisms of Cumulative Skin Damage

The pathophysiological mechanisms underlying the exacerbation of ICD due to repeated exposure involve both direct and indirect effects on the skin. Directly, irritants such as crude palm oil and chemicals in fertilizers can continuously disrupt the lipid matrix and protein structure of the stratum corneum, leading to persistent barrier dysfunction (Lundqvist et al., 2021). This ongoing damage results in increased trans-epidermal water loss and reduced ability of the skin to retain moisture, making it more vulnerable to further irritation and inflammation.

Indirectly, chronic exposure can lead to secondary changes in the skin, including alterations in the immune response and inflammatory pathways. Repeated irritation can result in a heightened inflammatory response, with prolonged activation of immune cells and sustained release of inflammatory mediators such as cytokines and prostaglandins (Diepgen et al., 2016; Cork, M. J., et al. 2009, Günther, et al). This prolonged inflammatory state contributes to the development of chronic ICD, characterized by symptoms such as lichenification, scaling, and fissuring. The continuous cycle of irritation and inflammation exacerbates skin damage and increases the severity and duration of ICD symptoms

Direct Damage to the Stratum Corneum

The pathophysiology of Irritant Contact Dermatitis (ICD) is fundamentally linked to the damage inflicted upon the skin's outermost layer, the stratum corneum. The stratum corneum is composed of dead keratinocytes that form a robust barrier protecting underlying skin layers from environmental insults. Irritants such as harsh chemicals, detergents, or natural substances like crude palm oil can disrupt this barrier through their cytotoxic effects, leading to direct damage (Lundqvist et al., 2021, Kiken & Cohen, 2002;Proksch, Brandner, & Jensen, 2008). These substances compromise the structural integrity of the stratum corneum, resulting in the breakdown of the lipid matrix and the loss of barrier function. Therefore, the skin becomes more permeable to additional irritants and environmental factors, which exacerbates the inflammatory response.

The impairment of the stratum corneum's barrier function increases the trans-epidermal water loss and allows irritants to penetrate deeper into the skin, triggering a cascade of inflammatory events. The disrupted barrier fails to retain moisture effectively, leading to skin dryness, cracking, and further susceptibility to irritant-induced damage. This barrier dysfunction is a crucial factor in the development and progression of ICD, as it facilitates the entry of irritants that provoke the inflammatory response (Diepgen et al., 2016).

Inflammatory Response Mediated by Cytokines

The inflammatory response in ICD is mediated by the release of various cytokines and other inflammatory mediators. Upon exposure to irritants, keratinocytes in the affected area release pro-inflammatory cytokines such as interleukin-1 (IL-1), tumor necrosis factor-alpha (TNF-α), and interleukin-6 (IL-6) (Lundqvist et al., 2021). These cytokines play a pivotal role in initiating and sustaining the inflammatory response by recruiting immune cells to the site of irritation and promoting inflammation.

The inflammatory process begins with the activation of these cytokines, which enhance the permeability of blood vessels in the dermal layer, allowing leukocytes and other

inflammatory cells to infiltrate the skin (Diepgen et al., 2016). This infiltration is responsible for the clinical manifestations of ICD, including erythema (redness), swelling, and blistering. The sustained release of cytokines and inflammatory mediators results in chronic inflammation, leading to more severe skin symptoms and potentially contributing to the development of chronic ICD if exposure to irritants is not adequately managed.

Histological Changes and Clinical Manifestations

Histologically, ICD is characterized by spongiosis, which is the accumulation of fluid in the epidermal layer due to increased permeability of the skin. This fluid accumulation results in the formation of vesicles and bullae, which are commonly observed in acute ICD (Lundqvist et al., 2021). Over time, continued irritation can lead to lichenification, where the skin becomes thickened and leathery due to repeated inflammation and scratching. The chronic inflammatory process can also lead to secondary infections if the skin barrier remains compromised and becomes an entry point for pathogens. (Bieber, T. 2008; Leung, et al 2004;Flohr, C., & Mann, J. 2014; Wilkinson, S. M., & Williams, H. C. 2006).

The clinical symptoms of ICD, such as erythema, edema, and vesiculation, are directly linked to the underlying inflammatory mechanisms. These symptoms not only cause discomfort and pain but also impair the affected individual's quality of life and ability to perform daily activities. Effective management of ICD involves addressing both the irritant exposure and the inflammatory response to alleviate symptoms and restore skin barrier function (Diepgen et al., 2016).

Environmental Factors: Humidity and Temperature

Environmental factors, notably high humidity and temperature, significantly exacerbate Irritant Contact Dermatitis (ICD) among palm oil harvesters. High humidity levels lead to increased moisture on the skin, which can result in maceration, a condition where the skin becomes soft and weakened due to prolonged exposure to moisture (Cazzaniga et al., 2019). This maceration compromises the skin's barrier function, making it more susceptible to irritant penetration and irritation. The disrupted barrier function allows irritants to penetrate more deeply into the skin, exacerbating the inflammatory response and increasing the risk of developing ICD.

In conjunction with high humidity, elevated temperatures can further exacerbate skin damage by promoting the breakdown of the stratum corneum and increasing skin permeability. High temperatures can cause sweating, which interacts with irritants like crude palm oil, leading to enhanced absorption and greater irritation (Lundqvist et al., 2021). The combination of moisture and heat creates an environment conducive to both the proliferation of irritants and

the development of inflammatory skin conditions. This synergistic effect underscores the need for effective environmental controls and protective measures in palm oil plantations to mitigate the risk of ICD.

Physical Stress from Manual Labor

Physical stress from manual labor in palm oil harvesting also plays a crucial role in exacerbating ICD. The demanding nature of palm oil harvesting involves repetitive movements, such as climbing trees and cutting fruit, which can lead to mechanical irritation and friction on the skin. This physical stress can aggravate pre-existing irritant-induced damage and contribute to the development of ICD (Diepgen et al., 2016). Repeated friction and pressure on the skin can lead to localized damage, further compromising the skin barrier and enhancing the inflammatory response.

Additionally, manual labor often involves direct contact with irritants such as crude palm oil, fertilizers, and pesticides, which can combine with the physical stress to exacerbate skin irritation (Cazzaniga et al., 2019). The combination of physical stress and irritant exposure creates a challenging environment for managing ICD. Workers who experience chronic physical stress and irritation may develop more severe symptoms, including persistent erythema, scaling, and lichenification. This complexity in the pathophysiology of ICD highlights the need for comprehensive management strategies that address both environmental and physical factors.

4. PREVALENCE AND RISK FACTORS

ICD is prevalent among palm oil harvesters due to their occupational exposure to irritants. Studies conducted in various countries, including Malaysia, Indonesia, and Nigeria, have reported high rates of ICD among palm oil workers. For instance, a study in Malaysia found that approximately 30% of palm oil workers experienced symptoms of ICD (Alinaghi et al., 2019). Similarly, research in Indonesia reported high prevalence rates of skin conditions related to irritant exposure in palm oil plantations (Cazzaniga et al., 2019).

Risk factors for ICD among palm oil harvesters include the type and concentration of irritants, the duration and frequency of exposure, and environmental conditions. Workers who handle crude palm oil and chemicals without adequate protective measures are at greater risk of developing ICD (Diepgen et al., 2016). High temperatures and humidity can exacerbate skin irritation by promoting the breakdown of the skin barrier and increasing irritant absorption (Lundqvist et al., 2021).

Individual susceptibility also plays a role in ICD development. Factors such as pre-existing skin conditions, genetic predispositions, and overall skin health can influence how a worker's skin responds to irritants (Cazzaniga et al., 2019). Understanding these risk factors is crucial for designing effective preventive measures and improving the management of ICD among palm oil harvesters.

5. CLINICAL MANIFESTATIONS

ICD among palm oil harvesters presents with a variety of clinical manifestations, which can vary in severity depending on the intensity and duration of irritant exposure. Acute ICD is characterized by symptoms such as erythema, swelling, and vesiculation, which appear shortly after contact with irritants (Kiken & Cohen, 2002). These symptoms are often accompanied by itching and discomfort, which can significantly impact the worker's ability to perform their tasks.

Chronic ICD can lead to more severe skin changes, including lichenification, where the skin becomes thickened and rough due to prolonged irritation (Alinaghi et al., 2019). Chronic exposure to irritants can result in fissuring, scaling, and secondary infections, further complicating the management of ICD (Cazzaniga et al., 2019). The severity of symptoms often correlates with the extent of irritant exposure and the effectiveness of preventive measures.

Accurate diagnosis of ICD involves a comprehensive assessment of the worker's exposure history and a physical examination of the affected skin. Differentiating ICD from other skin conditions, such as allergic contact dermatitis, is crucial for appropriate management (Lundqvist et al., 2021). Early diagnosis and intervention are essential for managing ICD effectively and preventing long-term skin damage.

6. DIAGNOSTIC APPROACHES

Diagnosing ICD among palm oil harvesters involves evaluating the worker's history of irritant exposure, conducting a physical examination, and, if necessary, performing patch tests to rule out allergic contact dermatitis (Diepgen et al., 2016). The assessment begins with a detailed history of occupational exposure, including the types of irritants, duration, and frequency of contact.

A physical examination of the affected skin provides insight into the clinical manifestations of ICD, such as erythema, swelling, and vesiculation. In cases where ICD is suspected, patch testing may be conducted to exclude allergic contact dermatitis, as the management of ICD differs from that of allergic reactions (Kiken & Cohen, 2002). This

differential diagnosis is crucial for determining the most appropriate treatment and preventive measures.

Additionally, evaluating environmental factors and individual susceptibility is important for a comprehensive diagnosis. Factors such as high humidity, temperature, and pre-existing skin conditions can influence the development and severity of ICD (Cazzaniga et al., 2019). Accurate diagnosis and understanding of these contributing factors are essential for effective management and prevention of ICD among palm oil harvesters.

7. MANAGEMENT STRATEGIES

Effective management of ICD among palm oil harvesters involves preventive measures, symptomatic treatment, and education. Preventive strategies include reducing exposure to irritants through the use of personal protective equipment (PPE), such as gloves and barrier creams. Employers should ensure that workers are equipped with appropriate PPE and trained in its proper use to minimize skin contact with irritants (Diepgen et al., 2016).

Symptomatic treatment for ICD typically involves the use of topical corticosteroids to reduce inflammation and emollients to restore skin barrier function. Regular application of these treatments is necessary for managing acute symptoms and preventing chronic ICD (Kiken & Cohen, 2002). Addressing environmental factors, such as improving workplace conditions and reducing irritant concentrations, is also crucial for effective management.

Education and training are essential components of ICD management. Workers should be informed about the risks of irritant exposure, the importance of using PPE, and effective skin care practices to maintain skin health and prevent ICD (Cazzaniga et al., 2019). Employers should also provide access to medical care for affected workers and implement workplace interventions to support skin health and reduce the incidence of ICD.

8. DISCUSSION AND ANALYSIS

The review of global literature highlights the significant impact of ICD on palm oil harvesters and underscores the need for targeted interventions and improved management strategies. The high prevalence of ICD among palm oil workers emphasizes the importance of addressing occupational exposures and implementing effective preventive measures to protect workers' skin health (Alinaghi et al., 2019). The review also identifies gaps in current research, such as the need for more studies on the effectiveness of different preventive and therapeutic approaches.

Analysis of the reviewed studies reveals that while preventive measures such as PPE are effective, they are not always adequately implemented or used consistently by workers. Improved training and education are crucial for ensuring that workers adhere to preventive practices and properly use protective equipment (Diepgen et al., 2016). Further research is needed to explore novel therapeutic options and develop standardized diagnostic criteria for ICD.

Overall, the findings from this review emphasize the importance of a comprehensive approach to managing ICD. Addressing both environmental and individual factors, along with implementing effective treatment and preventive strategies, is essential for reducing the burden of ICD among palm oil harvesters and improving their overall health and well-being (Lundqvist et al., 2021).

9. CONCLUSION

Irritant Contact Dermatitis (ICD) remains a significant public health issue, particularly in occupational settings such as palm oil plantations. This review underscores the importance of a comprehensive approach to managing ICD, including preventive strategies, early diagnosis, and effective treatment. The findings highlight the need for improved preventive measures, better education and training for workers, and further research to develop standardized diagnostic criteria and explore novel therapeutic options (Alinaghi et al., 2019; Cazzaniga et al., 2019).

Future research should focus on evaluating the effectiveness of different preventive and therapeutic approaches, as well as developing standardized criteria for diagnosing ICD. Additionally, exploring new treatments and preventive technologies could help reduce the incidence and severity of ICD among palm oil harvesters. By addressing these areas, it will be possible to enhance workers' health and safety, improve job satisfaction, and reduce the overall impact of ICD in the palm oil industry (Diepgen et al., 2016; Lundqvist et al., 2021).

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Health Education In Improving The Self-Efficacy Management Of Hypertension Patients At Dr.Chalid Makassar Hospital

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ABSTRACT : Hypertension is a condition where blood pressure increases above normal, caused by various factors. The prevalence of hypertension in Indonesia among the population aged 18 years is 34.1%. Hypertensive patients must understand the importance of medication compliance so that effective communication between health care providers is needed.so that patients are able to self-efficacy MethodDescriptive research with cross sectional study subjects were hypertension patients with a sample of 43 people using a purposive sampling technique in accordance with inclusion criteria as secondary data and primary data in the form of a self-efficacy management questionnaire. Resultsafter health education was obtained, the Negative Ranks data showed that respondents' scores from pre-post 5 respondents experienced a decrease in self-efficacy management after health education, while the positive ranks data showed that 22 respondents' scores from pre-post experienced an increase in self-efficacy management after health education was carried out, and the data ties showed that 16 respondents got a fixed score from pre-post after health education, the Wilcoxon statistical test obtained a p value = (0.001) <α (0.05), then the alternative hypothesis (Ha) was accepted .Conclusion: There is an influence of health education on improving the self-efficacy management of hypertension sufferers at Dr. Chalid General Hospital Makassar. Suggestions for patients to be more active in seeking information in increasing self-efficacy in the treatment of hypertension.

Keywords: Health Education, Self-Efficacy, Hypertension

1. INTRODUCTION

Hypertension is a condition where blood pressure increases above normal. This disease is known as a silent killer because it does not cause symptoms and tends to be left uncontrolled which can cause sudden death. Apart from that, it is also a multifactoral disease caused by various individual factors such as age, gender, genetic factors.(D. Susanti et al., 2019),Women who experience hypertension during pregnancy are at risk of developing hypertension(Behrens et al., 2017)hypertension is a growing epidemic in the United States, according to the Centers for Disease Control and Prevention, more than 40% of adults aged 45-64 years and more than 70% of adults aged 65 years and over are diagnosed with hypertension, the physical damage from hypertension is cumulative, so that adherence to treatment becomes an important health behavior in preventing more serious diseases such as end-stage kidney disease, heart failure and stroke(Kang et al., 2020). The prevalence of hypertension in Indonesia based on measurements in the population aged 18 years is 34.1%, the highest is in South Kalimantan (44.1%), while the lowest is in Papua (22.2%). Lifestyle changes and antihypertensive medications are considered the most common guidelines for effective management of hypertension(Weber et al., 2014)with a more active lifestyle and wanting to try, everyone

regardless of age can minimize or prevent and overcome the problems they experience(Milroy & Neil, 2000), such as health problems, both acute and chronic diseases, by instilling an obedient and obedient attitude such as taking and taking medication on time, actively doing physical activities or exercising, consulting health services, the ability to seek treatment information, following the recommended diet and other things that are considered to be ways or beliefs in overcoming health problems(Kara, 2017). Prevalence Data from the Makassar City Health Service in 2015, there were 11,596 cases of hypertension with gender details, namely 4,277 cases of men and 7,319 cases of women, specifically in Makassar City, it showed an increase of 69 cases or around 33.82% (2017), in 2018 with 72 cases or around 34.1% and in 2019 there were 78 cases or around 35.3% of all types of diseases treated(Muh Basri, Sitti Rahmatia, Baharuddin, 2022)hypertension occurs in the age group 31-44 years (31.6%), age 45-54 years (45.3%), age 55-64 years (55.2%) (M. Reinaldi Pratama, Sri Rahayu, 2019) . As you get older, the risk of experiencing hypertension becomes greater. In old age, the majority of cases found are increased systolic blood pressure. This causes structural changes in large blood vessels so that the lumen becomes narrower and the blood vessel walls become stiffer(Kalehoff & Oparil, 2020).

Human behavior is a reflection of various factors, the best educational strategies can be designed to change and adapt current behavior by knowing the most important factors that influence oneself(Mahnaz Solhi et al., 2022). Higher self-efficacy is significantly and positively associated with greater medication adherence. Increasing patient self-efficacy through various interventions can improve the way hypertension patients are treated.(Kara, 2022). Hypertensive patients must understand the importance of medication adherence and therefore the need for effective communication between health care providersso that patients can be motivated to increase self-efficacy in treatment(Okuboyejo et al., 2018). Self-efficacy has a partial significant mediating effect on the relationship between drug literacy and medication adherence. Therefore, medication adherence in hypertensive patients can be improved and driven by increased self-efficacy.(Shen et al., 2020)

2.   METHOD

This research is a descriptive study using a cross sectional study approach with a total sample of 43 hypertensive patients, sampling was carried out using a purposive sampling technique in accordance with the inclusion criteria as secondary data and primary data in the form of a self-efficacy management questionnaire, length of suffering, comorbidities and pressure monitoring. next bloodprocessed and analyzed using SPSS and presented in table form

3. RESEARCH RESULT

Based on research conducted at RSUP Dr. Chalid Makassar in August 2023, the population in this study were hypertension sufferers with a sample size of 43 people. Next, univariate and bivariate analyzes were carried out. Univariate analysis to describe the distribution of general characteristics of variables including age, gender, education level, length of suffering and comorbidities. Meanwhile, bivariate analysis was carried out to see the influence between variables in proving the hypothesis, the basis for decision making with a significance level of 95% (α=0.05). The data obtained was then processed and analyzed using SPSS and presented in table form as follows:

Univariar Analysis

Table 1. Frequency Distribution Based on Age of Respondents at Dr. Chalid General Hospital Makassar

Age	Frequency (n)	Percentage (%)
40-50 Years	10	23.3
51-60 Years	17	39.5
> 61 Years	16	37.2
Total	**43**	**100.0**

Source: Primary Data, 2023

Based on Table 5.1, it shows that of the 43 respondents, the age frequency distribution showed that 10 respondents (23.3%) had an age range of 40-50 years, 17 respondents (39.5%) had an age range of 51-60 years, and 16 respondents (37.2%) had an age range of over 61 years old.

Table 2. Frequency Distribution Based on Respondent Gender at Dr. Chalid General Hospital Makassar

Gender	Frequency (n)	Percentage (%)
Man	16	37.2
Woman	27	62.8
Total	**43**	**100.0**

Source: Primary Data, 2023

Based on Table 5.2, it shows that of the 43 respondents in the gender frequency distribution, 16 respondents (37.2%) were male and 27 respondents (62.8%) were female.

Table 3. Frequency Distribution Based on Respondents' Educational Level at Dr. Chalid General Hospital Makassar

Level of education	Frequency (n)	Percentage (%)
elementary school	8	18.6
junior high school	6	14.0
high school	19	44.2
College	10	23.3
Total	**43**	**100.0**

Source: Primary Data, 2023

Based on Table 5.3, it shows that of the 43 respondents, the frequency distribution of education level was found to be 8 respondents (18.6%) with elementary school education, 6 respondents (14.0%) with junior high school education, 19 respondents (44.2%) with high school education and 10 respondents (23.3%) with tertiary education.

Table 4. Frequency Distribution Based on Respondents' Length of Suffering at Dr. Chalid General Hospital Makassar

Long Suffering	Frequency (n)	Percentage (%)
1-6 Months	14	32.6
7-12 Months	10	23.3
13-18 Months	5	11.6
19-24 Months	6	14.0
>24 Months	10	27.8
Total	**43**	**100.0**

Source: Primary Data, 2023

Based on Table 5.4, it shows that of the 36 respondents, the frequency distribution of long suffering was obtained, 14 respondents (32.6%) had a long suffering range of 1-6 months, 10 respondents (23.3%) had a long suffering range of 7-12 months, 5 respondents (11.6%) had The range of duration of suffering was 13-18 months, 6 respondents (14.0%) had a range of duration of suffering of 19-24 months and 10 respondents (27.8%) had a range of duration of suffering above 24 months.

Table 5. Frequency Distribution Based on Concomitant Diseases Respondents at RSUP Dr. Chalid Makassar

Concomitant Diseases	Frequency (n)	Percentage (%)
There is	18	41.9
There isn't any	25	58.1
Total	**43**	**100.0**

Source: Primary Data, 2023

Based on Table 5.5 Frequency distribution based on comorbidities of respondents, it was found that 18 respondents (41.9%) had comorbidities and 25 respondents (58.1%) did not have comorbidities.

Table 6. Frequency Distribution Based on Pre-Test Health Education on Improving Respondents' Self-Efficacy Management at Dr. Chalid General Hospital Makassar

Pre Test Health Education on Improving Self-Efficacy Management	Frequency (n)	Percentage (%)
Not enough	29	67.4
Tall	14	32.6
Total	**43**	**100.0**

Source: Primary Data, 2023

Based on Table 5.6 Frequency distribution based on the health education pre-test on increasing respondents' self-efficacy management, it was found that 29 respondents (67.4%) had less improvement in self-efficacy management and 14 respondents (32.9%) had high levels of self-efficacy management.

Table 7. Frequency Distribution Based on Health Education Post Test on Improving Self-Efficacy Management of Respondents at RSUP Dr. Chalid Makassar

Post Test Health Education on Improving Self-Efficacy Management	Frequency (n)	Percentage (%)
Not enough	12	27.9
Tall	31	72.1
Total	**43**	**100.0**

Source: Primary Data, 2023

Based on Table 5.7 Frequency distribution based on the health education post test on increasing respondents' self-efficacy management, it was found that 12 respondents (27.9%) had less improvement in self-efficacy management and 31 respondents (72.1%) had high levels of self-efficacy management.

Bivariate Analysis

To analyze the effect of health education on improving the self-efficacy management of hypertension sufferers at Dr. Chalid Makassar. The results of the Wilcoxon normality test with a significance level of $\alpha=0.05$ are as follows:

Table 8. The Influence of Health Education on Improving the Self-Efficacy Management of Hypertension Sufferers at Dr. Chalid General Hospital Makassar

Ranks							
		n	Mean Rank	Sum of Ranks	Z	*P-Value*
Post test Improved	*Negative Ranks*	5a	14.00	70.00		

self-efficacy management - Pre test	*Positive Ranks*	22b	14.00	308.00	-3.272b	0.001
	Ties	16c				
Improved self-efficacy management	**Total**	43				

Source: Primary Data, 2023

a) Post test Improved self-efficacy management < Pre test Improved self-efficacy management
b) Post test Improved self-efficacy management > Pre test Improved self-efficacy management
c) Post test Increased self-efficacy management = Pre test Increased self-efficacy management
d) Wilcoxon Signed Ranks Test
e) Based on negative ranks

Based on Table 5.8, it can be seen that after the health education was carried out, the Negative Ranks data on respondents' scores from pre-post, 5 respondents experienced a decrease in self-efficacy management after health education, while the positive ranks data shows that 22 respondents experienced scores from pre-post. an increase in self-efficacy management after health education was carried out, and data ties showed that 16 respondents got a constant score from pre-post after health education was carried out.

4. DISCUSSION

Based on the results of the research conducted, the alternative hypothesis (Ha) is accepted. This means that it can be seen that there is an influence of health education on increasing the self-efficacy management of hypertension sufferers at Dr. Chalid General Hospital, Makassar. Respondents with low self-efficacy have weak self-confidence due to less positive life experiences, especially in adjusting their lifestyle to control blood pressure regularly. not maintaining a healthy diet and lifestyle properly, as well as having difficulty controlling emotions when angry or stressed(S. Susanti et al., 2022)Modern lifestyle is the main factor that makes it difficult for respondents to prevent complications(Amila et al., 2021). In addition, lack of time for exercise causes the accumulation of fat in the body which inhibits blood flow, characteristics of hypertension (HT) that are not well controlled, overweight or obesity, and more than half suffer from hyperlipidemia and diabetes mellitus as comorbidities. These patients also have low levels of knowledge, literacy and self-management. Factors significantly associated with HBP control included smoking history(Visanuyothin et al., 2018). As a result, respondents lose motivation to control blood pressure, which leads to poor

management of hypertension and increases the risk of serious complications such as coronary heart disease, stroke, and kidney failure, which can be fatal for people with hypertension. Therefore, attention and support from family and those closest to you are very important to help organize a healthy lifestyle. Health education about patient compliance in taking medication is influenced by various factors, including patient education, treatment follow-up, age, side effects, complexity of the regimen. Medication, low literacy levels, and social support also play a role in patient compliance. In general, patients from a better economic background and who have easier access to health services tend to be more compliant with treatment(Ni et al., 2019). Hypertensive patients tend to ignore self-management because they find it difficult even though the most common symptoms accompanying hypertension include headaches and fatigue as clinical symptoms that arise after experiencing hypertension for years in the form of headaches when awake, sometimes accompanied by nausea and vomiting, due to increased intracranial blood pressure.(NS Sriwahyuni, 2023), so that increasing knowledge through health education provided such as mHealth interventions is very helpful in providing patients with access to educational information anytime and anywhere, thereby increasing awareness and managing their own condition, thereby achieving good blood pressure control towards a healthy lifestyle, including adherence to medication, diet low salt, and physical activity achieved optimal blood pressure control at 6 months of continuous monitoring, and feedback(Liu et al., 2023). Research shows that the success of self-management in hypertension sufferers is greatly influenced by perceived control, namely a person's belief in his ability to control internal conditions and daily habits to achieve desired health goals. In addition, increasing self-care management for hypertension, especially in Southeast Asia, may require a multi-focused approach includes targeting personal preferences as well as external factors such as cultural relevance, environment, and resources(Irwan et al., 2022). Where hypertension is a type of chronic non-communicable disease that greatly affects the health status of Indonesian people(Israfil, 2019)Self-efficacy has an important role in the healing process for hypertensive patients. The higher a person's self-confidence in managing hypertension, the better their ability to undergo treatment and prevent complications. The relationship between self-efficacy and self-management is mutually reinforcing; when self-management goes well, self-efficacy also increases, and vice versa. Failure to self-management can have serious consequences, such as hypertension complications that can lead to stroke. In stroke patients, good self-management is very necessary for recovery. In line with the Self-Efficacy Theory proposed by Bandura, a person's belief in their ability to organize and carry out the necessary actions will influence every aspect of their life, including the management of

hypertension. When hypertension sufferers have strong self-efficacy, they are better able to live a healthy lifestyle, control their emotions, and maintain a medication routine, so that hypertension complications can be prevented. High blood pressure that is left without proper treatment for a long time can result in serious complications such as coronary heart disease,(MA Sriwahyuni., 2020)said that patients with coronary heart disease really need good self-management to prevent recurrence. Steps such as changing diet, quitting smoking, avoiding excessive physical activity, and controlling emotions and anxiety are key to effective self-management so hypertensive sufferers who do not manage their condition well are at high risk of developing diabetes mellitus (DM), which is increasingly emphasized. the importance of proper self-management and hypertension sufferers with high self-efficacy are better able to carry out various actions to prevent complications, such as controlling blood pressure regularly, adopting a healthy diet, and doing physical activity consistently can help lower blood pressure, improve fitness, and improves the body's metabolism, which in turn helps control blood pressure. High levels of physical activity, such as exercise, can alter the circulatory and respiratory systems simultaneously through a response known as hemostasis(Noyumala, Sri Darmawan, Sriwahyuni, 2021)So strong self-efficacy not only improves the quality of life of hypertension sufferers but also plays a vital role in preventing serious complications(Reanita et al., 2022)improving cognitive abilities that are important for gaining health knowledge and making informed health-related decisions about the impact of various behaviors has become a major factor(Lawrence, 2017)

5. CONCLUSIONS

The results of the Wilcoxon statistical test obtained a value of p= (0.001) <α (0.05), so the alternative hypothesis (Ha) was accepted. This means that it can be seen that there is an influence of health education on increasing the self-efficacy management of hypertension sufferers at Dr. Chalid General Hospital, Makassar. Suggestions for patients to be more active in seeking information in increasing self-efficacy in the treatment of hypertension

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The Effect of Swaddling, Stomach Position, Shushing, Swinging, Sucking Methods on Pain Responses of Infants After Basic Immunization in the Dahlia Health Center Area

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Abstract. Immunization via injection can cause immediate pain in children. Pain that occurs as a result of immunization injections, if not managed properly, can have a negative impact on the child's emotional aspects such as crying and fear. This research uses a quasi-experimental method with a one group pretest-posttest design approach. The sample involved in this research was 64 respondents, selected using Probability Sampling techniques. The research results show that based on the Paired T-Test statistical test, the p-Value value for the influence of the 5S Method (Swaddling, Side-Stomach, Shushing, Swinging, Sucking) is 0.000. Because p < 0.05, the Alternative Hypothesis (Ha) is accepted and the Null Hypothesis (H0) is rejected. Thus, it can be concluded that the 5S Method (Swaddling, Side-Stomach, Shushing, Swinging, Sucking) has a significant influence on the Infant's Pain Response After Basic Immunization at the Dahlia Makassar Community Health Center. The suggestion is that the 5s method be an alternative for treating pain experienced by babies as an effort to minimize pharmacological therapy.

Keywords: Basic Immunization, Baby Pain, 5S Method

1. BACKGROUD

The Indonesian government has taken steps to improve child health services in Indonesia, including through immunization programs (Sari et al., 2020). Some reasons why children do not receive complete or no immunization include fear of post-immunization side effects such as fever, pain, and crying, family non-permission, long distance to immunization sites, parents' busy schedules, frequent illnesses, economic reasons, and lack of knowledge about immunization service locations. (Sari et al., 2020).

One of the consequences of immunization is the sensation of pain caused by needle injections. (Putri et al., 2022). To reduce pain, pain management is needed. Nurses, as service providers, have an important role in managing pain in infants during the immunization process. Effective pain management can reduce tension in infants during the immunization procedure and has the potential to increase satisfaction with the immunization experience, especially from the infant's perspective, as well as getting positive responses from parents. (Sagita Dewi et al., n.d).

Pain management can be done using pharmacological and non-pharmacological methods. Pharmacologically, pain can be managed using opioids (narcotics), non-opioids/NSAIDs, and coanalgesics. Meanwhile, non-pharmacological management includes environmental interventions, the use of non-nutritive and nutritional suction

techniques, sweet solutions, skin-to-skin care (Kangaroo care), music, and giving. Pain management involves the use of several senses such as sight, hearing, touch, taste, and touch carried out by the baby's mother herself, more effective in reducing the pain response during immunization and minimizing the use of drugs that can have a negative impact on the baby's health.

2. THEORETICAL STUDY

Immunization is an action to actively stimulate or increase a person's immunity against certain diseases. The goal is that if one day exposed to the disease, the individual will not experience a serious illness or only experience mild symptoms. Some infectious diseases included in the immunization program in Indonesia (PD3I) include Hepatitis B, TB (Tuberculosis), diphtheria, pertussis (whooping cough), tetanus, polio, measles, rubella, meningitis, and pneumonia. (Ministry of Health of the Republic of Indonesia, 2022)

Pain in infants is a response to a stimulus or stimulation characterized by crying and body movements, indicating discomfort (Apriani et al., 2022). Pain in infants involves a complex interaction between the nervous system that sends impulse signals due to tissue damage and unpleasant sensory and emotional experiences (Wahyuni & Suryani, 2020). According to Dewi et al. (2020), pain in infants is an unpleasant sensory and emotional experience due to actual or potential tissue damage. According to Maradona (2023), the pharmacological approach to pain management involves the use of pain relievers. One common pharmacological intervention is Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), which have analgesic (pain reliever), anti-inflammatory, and antipyretic effects. NSAIDs are used to reduce inflammation, pain, and reduce fever in patients.

On the other hand, non-pharmacological methods, as recommended by the Association of Pediatric Anesthesia (APA) in 2012, are a very effective approach to reducing procedural pain in children. This method is not only easy to use but also cost and time efficient, and has a lower risk of side effects compared to pharmacological approaches (Maradona, 2023).

One of the non-pharmacological methods that can be used is the 5S Method (Swaddling, Stomach Position, Shushing, Swinging, Sucking) introduced by Harvey Karp involving Swaddling, Stomach Position, Shushing, Swinging, Sucking. This method aims to create an atmosphere that resembles the environment in the womb, which is known to provide comfort and reduce stress in babies (Maradona, 2023). Swaddling is a technique

of wrapping a baby in soft cotton cloth to provide warmth and comfort similar to the conditions in the womb. This helps focus the baby's attention, reduces reflex movements such as hitting, and avoids restlessness (Mamentu & Apriliawati, 2020). The 5S Swaddling method is an effective way to regulate a baby's body temperature and create a sense of security during wrapping (Susanti et al., 2020).

Side (Laying the Baby in a Side Position) Laying the baby in a side or stomach position helps calm the baby by reducing the startle Moro reflex when the baby is in a supine position. This position provides comfort similar to the atmosphere in the womb, either tilted to the left or right (Mamentu & Apriliawati, 2020). During the immunization process, positioning the baby on his side can reduce the stress felt (Sari et al., 2020a). Shushing (Soothing Sighs) is a technique of making a "ssssshhhhhhh" sound near the baby's ear, imitating the sound of blood flow in the womb which can calm the baby (Mamentu & Apriliawati, 2020). This sound helps reduce tension and anxiety in babies during immunization (Sari et al., 2020). Swinging involves gently rocking the baby, similar to the movements in the womb when the mother moves. These small movements help calm the baby by keeping the baby's head aligned with his body (Sari et al., 2020). This can reduce the baby's anxiety and speed up the calming process (Mamentu & Apriliawati, 2020). Sucking, such as breastfeeding, helps reduce the baby's pain response by stimulating the release of endogenous opioids in the baby's brain. Skin contact and the warm feeling from the mother while breastfeeding are also effective distractions to reduce pain and discomfort during immunization (Sari et al., 2020).

Pathophysiology of the 5S Method (Swaddling, Side/Stomach Position, Sushing, Swinging, Sucking) in Pain Management The Harvey method, including swaddling, side (tilted position), shushing (whispering the sound "ssssshhhhhhh" into the baby's ear), swinging (short swinging movements), and sucking, is a non-pharmacological pain management strategy that aims to increase the baby's comfort by stimulating them as in the womb (Sari et al., 2020).

Emotional and mental well-being significantly affects physical conditions and the release of chemicals and endorphin hormones that contribute to feelings of happiness, calm, and well-being (Falisha Achyar, 2023). Endorphins are compounds that function as inhibitors of the transmission of pain signals to the brain, blocking the release of substance P from sensory neurons when peripheral neurons send pain signals to the brain (Saputra et al., 2021). Distraction by breastfeeding or giving a pacifier can be effective in reducing pain responses because breast milk not only strengthens the psychological bond between

mother and baby but also has an analgesic effect due to its sweet taste. Lactose in breast milk stimulates the release of endogenous opioids that reduce the perception of pain without transmitting pain signals to the brain, so that the baby does not feel pain during the injection process (Dewi et al., 2020).

3. RESEARCH METHODS

This study uses a quasi-experimental method with a one group pretest-post test design. The sampling method used is probability sampling, where each individual in the population has an equal opportunity to be selected as a research sample. The sample in this study were babies who came to do DPT immunization in the Dahlia Makassar Health Center area, which were selected based on certain criteria set at 64 babies.

This study will begin by conducting a pre-test before giving treatment. After that, the treatment given is the 5S method (swaddling, side/stomach position, sushing, swinging, sucking) to babies after basic immunization. Finally, a post-test is conducted to evaluate the results after the treatment is given.

In this study, a paired comparative test was used to compare significant changes in babies before and after the application of the 5S method. The statistical method used is the Paired T Test, which was chosen because the observed variables have more than two categories and the data obtained from the data normality test are normally distributed.

4. RESULTS AND DISCUSSION

Result

From the results of data processing with a sample of 64 babies at the Dahlia Health Center which was carried out from March to July 2024. The following normality test results were obtained:

Table 1 . Tests of Normality

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Result	.290	128	.000	.769	128	.000

a. Lilliefors Significance Correction

Table 2 . The Effect of the 5S Method (Swaddling, Side-Stomach, Shushing, Swinging, Sucking) on the Pain Scale in Infants After Immunization Procedures

	Mean	N	Std. Deviation	Sig.
Pre Test	6.8594	64	1.54167	0.000
Post Test	2.5469	64	1.50058	

Source: Primary Data, 2024

Based on the results of the study using statistical analysis of the Paired T-Test, there was a significant difference between the conditions before and after the intervention. Before the intervention, the mean pain scale was 6.8594 with a standard deviation of 1.54167. After the implementation of the 5S Method (Swaddling, Side-Stomach, Shushing, Swinging, Sucking), the mean pain scale decreased to 2.5469, with a standard deviation of 1.50058, indicating a lower pain scale in the mild category. The results of the Paired T-Test statistical test showed a p-Value of 0.000. Because the p value <0.05, the alternative hypothesis (Ha) is accepted and the null hypothesis (H0) is rejected. Thus, it can be concluded that the 5S Method (Swaddling, Side-Stomach, Shushing, Swinging, Sucking) has a significant effect on the pain response of infants after basic immunization at the Dahlia Makassar Health Center.

Discussion

The 5S intervention is one of the non-pharmacological therapeutic approaches that is effective in increasing infant comfort and significantly reducing pain. This action includes several steps such as wrapping the baby with a soft cotton cloth (Swaddling), placing the baby in a tilted position to the mother's stomach (Side/Stomach Position), providing a swinging motion (Swinging), producing a "sssshhhhh" sound (Shushing) near the baby's ear, and providing an opportunity for non-nutritive sucking (Sucking). The combination of these actions is designed to relieve stress and increase the baby's comfort by mimicking the conditions they are familiar with in the womb.

Swaddling is a technique of wrapping a baby in a soft cotton cloth to provide warmth and comfort similar to the conditions in the womb. This helps focus the baby's attention, reduces reflex movements such as hitting, and avoids restlessness (Mamentu & Apriliawati, 2020). The 5S Swaddling method is an effective way to regulate the baby's body temperature and create a sense of security during wrapping (Susanti et al., 2020).

Laying the baby on the side or mother's stomach helps calm the baby by reducing the startle Moro reflex when the baby is in a supine position. This position provides comfort similar to the atmosphere in the womb, either tilted to the left or right (Mamentu

& Apriliawati, 2020). During the immunization process, positioning the baby on his side can reduce the stress felt.

Shushing is a technique of making a "sssssshhhhhhh" sound near the baby's ear, imitating the sound of blood flow in the womb which can calm the baby (Mamentu & Apriliawati, 2020). This sound helps reduce tension and anxiety in babies during immunization.

Swinging involves gently rocking the baby, similar to the movement in the womb when the mother moves. This small movement helps calm the baby by keeping the baby's head aligned with his body (Sari et al., 2020). This can reduce the baby's anxiety and speed up the calming process (Mamentu & Apriliawati, 2020). Sucking, such as breastfeeding, helps reduce the baby's pain response by stimulating the release of endogenous opioids in the baby's brain. Skin contact and the warm feeling from the mother while breastfeeding are also effective distractions to reduce pain and discomfort during immunization (Sari et al., 2020). Lactose in breast milk stimulates the release of endogenous opioids that reduce pain perception without transmitting pain signals to the brain, so that the baby does not feel pain during the injection process (Dewi et al., 2020). This non-pharmacological intervention has been shown to be effective in managing mild to moderate pain in newborns (Hidayah et al., 2023).

In line with research conducted by Pasaribu and Septiang (2021) which showed that the 5S Method (Swaddling, Side/Stomach Position, Shushing, Swinging, Sucking) can significantly reduce pain responses in infants. Another study by Silvia et al. (2020) also indicated that the 5S Method developed by Harvey had a significant effect on pain responses in infants during immunization, with a very low p-value ($p \leq 0.005$). In addition, research by Harahap (2021) also found that the 5S Method significantly reduced pain in infants after receiving basic immunization injections, with a p-value of 0.000 ($p < 0.05$).

5. CONCLUSIONS AND SUGGESTIONS

Based on the results of statistical tests using the Paired T-Test, it was found that the p value (0.000) was smaller than α (0.05), which means that H0 is rejected. This indicates the influence of the Swaddling, Stomach Position, Shushing, Swinging, Sucking Methods on Infant Pain Responses After Basic Immunization in the Dahlia Health Center Area. Suggestions for health workers and the public in general so that this method becomes an alternative for handling pain experienced by infants as an effort to minimize pharmacological therapy that can cause side effects.

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The Effect of Nutritional Status and Lighting on the Incident Pulmonary Tuberculosis in Padangsidimpuan City

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Abstract. *Pulmonary tuberculosis (TB) is still a global health problem, this disease is directly transmitted caused by Mycobacterium tuberculosis. The purpose of this study was to analyze the effect of nutritional status and lighting on the incidence of pulmonary TB in Padangsidimpuan City. This study is an analytical observational study with a case-control design. The sample consisted of 56 cases and 56 controls. The analysis used simple logistic regression and multiple logistic regression tests. The results of the logistic regression test showed a significant effect between nutritional status (p = 0.041; OR = 2.906, 95% CI 1.045-8.081) and lighting (p = 0.048; OR = 2.995, 95% CI 1.008-8.902) on the incidence of pulmonary TB. It is recommended to maintain body health by consuming nutritious food and paying more attention to the physical environment of the house, especially lighting so that sunlight enters the house.*

Keywords: Nutritional Status, Lighting, Pulmonary Tuberculosis

1. INTRODUCTION

WHO data shows that in 2015 there were 10.4 million new cases of TB with 1.4 million deaths. Incidents occurred in 6 countries, namely India, Indonesia, China, Nigeria, Pakistan, and South Africa by 60% (WHO, 2016). The incidence of TB in Indonesia itself in 2017 was found to be 319 cases per 100,000 population or 842 incidents/year and deaths due to TB were 40 per 100,000 population or 107,000 deaths/year (WHO, 2017).

Data from the North Sumatra Provincial Health Office in 2016, the number of new TB cases found reached 105.02/100,000 population, the number of TB suspects was 114,060 people while the number of positive BTA TB was 14,892 people. The highest TB data sequence in Regency/City is in Medan City, which is 3,006/100,000 population, Deli Serdang Regency is 2,184 per 100,000 population, and Simalungun Regency is 962 per 100,000 population. Padangsidimpuan City is ranked 13th, which is 375/100,000 population, which has increased by 29% from 2015 which was 290/100,000 population (North Sumatra Provincial Health Office, 2017). In 2015, the number of positive BTA TB cases in Padangsidimpuan City was 301 patients, in 2016 it was 382 patients, and 351 patients in 2017. The Padangsidimpuan City Health Office's Working Area consists of 9 Community Health Centers (Padangsidimpuan City Health Office, 2017).

The causes of the increasing TB problem according to the Indonesian Ministry of Health are external factors (low levels of education and income, high unemployment

rates, inadequate sanitation, housing, clothing and food conditions), as well as other health problems such as HIV, malnutrition, diabetes mellitus, smoking, and increasing cases of Drug-Resistant TB (TB-RO) which influence the spread and transmission of TB (Permenkes RI, 2016).

Home and family are one of the environments where disease transmission can potentially occur due to interactions between family members and positive TB sufferers (Amin et al., 1989), meaning that those who live in the same house are at greater risk of infection because they have close contact with sufferers (Benerson, 1990 in Susilowati, 2011).

The impact that occurs forAdult TB sufferers lose 3 to 4 months of work time so that their annual household income is reduced by around 20 to 30%. If they die, they will lose their income for around 15 years, while socially the impact is that they are ostracized by society, while economically it is around 75%.TB is experienced by the productive age group (15 to 50 years)(Ministry of Health of the Republic of Indonesia, 2014).

Madhona et al.'s (2016) research in Tanjung Pinang City showed that residential density, lighting and humidity of the house affected the incidence of pulmonary TB. Similar findings were also found in Rohayu et al.'s (2016) research in South Buton Regency, which found risk factors for contact history, lighting, and residential density for positive BTA pulmonary TB.

Based on a preliminary survey at the Padangsidimpuan City Health Office in 2023, the number of positive BTA pulmonary TB cases was 351 people with a case proportion of 9.58%. Of the number of cases, the two highest numbers of positive BTA TB sufferers were in the Sadabuan Health Center with 93 people (7.24%) and the Padangmatinggi Health Center with 87 people (9.58%), while the two lowest were in the Pokenjior Health Center with 9 people (7.83%) and the Pintu Langit Health Center with 3 people (4.84%). From this problem, the researcher was interested in conducting a study entitled "The effect of nutritional status and lighting on the incidence of pulmonary tuberculosis in Padangsidimpuan City.

2. LITERATURE REVIEW

Tuberculosis (TB), particularly pulmonary TB, remains a major global health issue and is prevalent in Indonesia. This disease is influenced by several health and environmental factors, including nutrition and living conditions. Padangsidimpuan City, like many other urban areas, faces specific challenges with high TB incidence due to

factors such as population density, limited health resources, and varying socio-economic conditions. This review explores how nutritional status and environmental lighting, particularly exposure to natural light, impact TB transmission in the city.

Research consistently links malnutrition with an increased susceptibility to TB infection. Individuals with low body mass index (BMI) and poor nutritional status are more likely to contract TB due to weakened immune systems, which cannot effectively resist infections. Protein-energy malnutrition impairs immune cell production, further reducing the body's ability to combat the Mycobacterium tuberculosis bacteria. Micronutrient deficiencies, including vitamin A, D, C, and zinc, also play crucial roles in immune function, with studies highlighting that low levels of vitamin D, for instance, correlate with higher TB reactivation rates. Proper nutrition is thus essential not only for general health but also as a frontline defense against TB.

Lighting and ventilation also have significant effects on TB transmission, as TB bacteria thrive in dark, poorly ventilated spaces. Ultraviolet (UV) rays from natural sunlight are known for their bactericidal properties, helping to inactivate TB bacteria in the environment and reduce infection rates. In poorly lit and ventilated areas, however, airborne TB bacteria can linger and spread more easily, especially in densely populated urban settings. Research shows that increased exposure to natural light and good ventilation practices, such as using open windows and direct sunlight, can effectively reduce TB incidence by enhancing air quality and eliminating bacteria from indoor air.

The interaction between nutritional status and lighting reveals a compounded effect on TB susceptibility. Poor nutrition weakens immune defenses, making individuals more vulnerable, while inadequate lighting increases bacterial loads in the environment. In cities with high population density and lower housing quality, these factors are often interrelated, where individuals with limited resources may live in poorly lit and ventilated conditions while also lacking access to nutritious food. Addressing both nutritional deficits and lighting improvements could therefore play a critical role in reducing TB incidence in Padangsidimpuan.

Studies from other densely populated regions in Southeast Asia, including Indonesia, indicate that programs addressing both nutrition and environmental conditions help to lower TB rates. For example, community-based nutrition support and public health initiatives promoting better lighting and ventilation in homes have been associated with decreased TB cases. Socioeconomic disparities exacerbate these issues in Padangsidimpuan, where poorer communities often face both inadequate diets and

substandard housing conditions. Tackling these determinants holistically offers a path toward effective TB prevention.

3. METHODS

This type of research is observational analytic using an unmatching case control study design. This sample consists of 56 respondents in the case group and 56 respondents in the control group with the sampling technique used is purposive sampling. Data analysis is univariate analysis, bivariate analysis with simple logistic regression statistical test and multivariate analysis with multiple logistic regression test. The location of the study was carried out in 4 Padangsidimpuan City Health Centers, namely Sadabuan Health Center, Padangmatinggi Health Center, Pokenjior Health Center, and Pintu Langit Health Center and the time of the study was carried out from August 2023 until completion. There are three variables in this study, namely, nutritional status and lighting as independent variables (X) and the incidence of pulmonary tuberculosis as the dependent variable (Y). The materials and instruments of this study are questionnaires and measurements.

4. RESULTS

Results

Univariate Analysis

In the nutritional status variable of 56 cases whose nutritional status is poor, it is 55.4%. While from 56 controls whose nutritional status is good, it is 75.0%. In the lighting variable of 56 cases whose home lighting does not meet the requirements, it is 82.1%. While from 56 controls, each house has adequate and inadequate lighting of 50.0%. The percentage of nutritional status and lighting is shown in Figures 1 and 2.
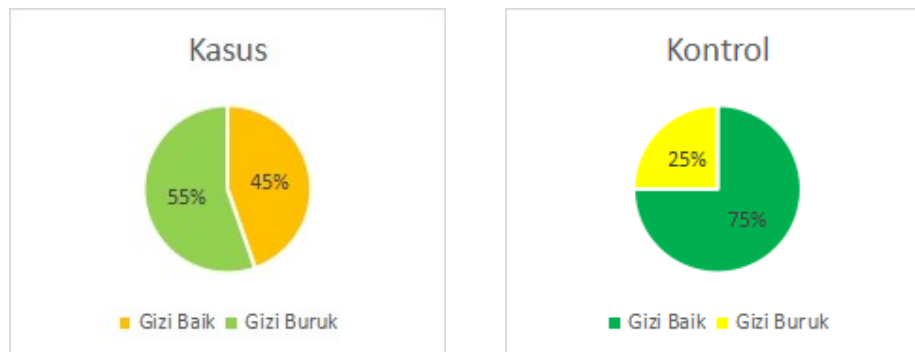

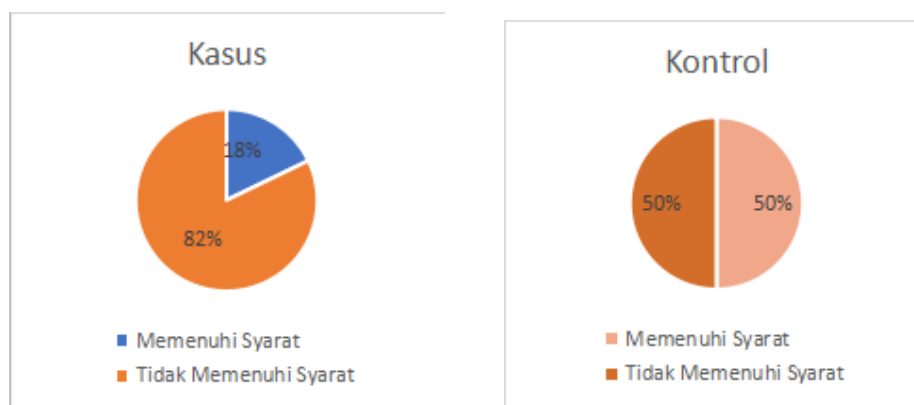**Figure 1. Nutritional Status Variables**

Figure 2. Lighting Variables

Bivariate Analysis

The results of a simple logistic regression test prove that there is a relationship between nutritional status (P= 0.001; OR= 3.720 (95% CI 1.668-8.297) and lighting (P= 0.001; OR= 4,600 (95% CI 1,944-10,886) with the incidence of pulmonary tuberculosis, shown in table 1.

Table 1 : Relationship between Nutritional Status and Ventilation with
the Incidence of Pulmonary Tuberculosis

Variables	Pulmonary TB		Not Pulmonary TB	
	n	%	n	%
Nutritional status				
Good	25	44.6	42	75.0
Bad	31	55.4	14	25.0
P= 0.001; OR= 3.720 (95% CI 1.668-8.297)				
Lighting				
Qualify	10	17.9	28	50.0
Not eligible	46	82.1	28	50.0
P= 0.001; OR= 4,600 (95% CI 1,944-10,886)				

Multivariate Analysis

The results of the study showed that two research variables, namely nutritional status and lighting, had an effect on the incidence of pulmonary tuberculosis. The most dominant variable influencing the incidence of pulmonary tuberculosis in Padangsidimpuan City was lighting with an OR value of 2.995 (95% CI 1.008-8.902), meaningRespondents living in houses with inadequate lighting are at risk of contracting pulmonary tuberculosis 2.995 times compared to respondents living in houses with adequate lighting., shown in table 2.

Table 2: Effect of Nutritional Status and Lighting on the

Incidence of Pulmonary Tuberculosis

Variables	B	Sig.	OR	95% CI
Nutritional status	1,067	0.041	2,906	1,045 - 8,081
Lighting	1,097	0.048	2,995	1,008 - 8,902
Constants	-4,569	-	-	-

5. DISCUSSION

The Influence of Nutritional Status on the Incidence of Pulmonary Tuberculosis

Nutritional status affects the occurrence of pulmonary TB where in the case group the majority of respondents had poor nutritional status of 55.4% and in the control group the majority of respondents had good nutritional status of 75.0%. The results of the simple logistic regression test analysis showed that there was an effect of nutritional status on the incidence of positive BTA pulmonary TB with the values obtained $p = 0.041$; OR = 2.906; 95% CI 1.045-8.081 meaning that people with poor nutritional status have a 2.906 times risk of suffering from positive BTA pulmonary TB compared to people with good nutritional status.

Lack of nutritional intake results in weight loss or BMI <18.5 so that low immunity acts as a risk factor for TB infection. Therefore, it is necessary to have good nutritional status in the body to attack the bacteria (Achmadi, 2010). Increasing the socio-economic level, and increasing immunity by eating balanced nutritious food can improve a person's nutritional status so that they can avoid infectious diseases, especially pulmonary TB.

Oktavia et al.'s research (2016) showed that there was a relationship between nutritional status and the incidence of pulmonary TB, this study found that the risk of contracting pulmonary TB was 16.7 times in people with poor nutritional status compared to people with normal/excessive nutritional status. This is also in line with Siahaan's research (2015) that poor nutritional status has a 16 times greater risk of contracting TB compared to good nutritional status.

The Effect of Lighting on the Incidence of Pulmonary Tuberculosis

The results of the logistic regression test showed that there was a significant influence between lighting on the incidence of positive BTA pulmonary TB with a value of $p = 0.048$; OR = 2.995; 95% CI 1.008-8.902, meaning that respondents living in houses with inadequate lighting will be at risk of developing positive BTA

pulmonary TB 2.995 times compared to respondents living in houses with adequate lighting.

Lack of sunlight in the house will facilitate the growth of germs, such as TB germs, so that the germs survive for years. TB germs survive at temperatures between 4 0C - minus 70 0C (Ministry of Health of the Republic of Indonesia, 2014). A good time to get effective sunlight is at 08.00 WIB–16.00 WIB (KepmenPUPR, 2002).

TB patients often have lower vitamin D levels than the general population, because vitamin D deficiency is caused by a lack of sun-induced vitamin D synthesis. So to prevent vitamin D deficiency can be done by exposing the body to sunlight for 15-30 minutes for 2-3 times / week or 2 hours / week. When the body is exposed to sufficient sunlight, vitamin D levels in the blood increase equivalent to consuming vitamin D 10,000-25,000 IU orally. The intensity of UV-B sunlight is low at 07.00 in the morning, increasing in the following hours until 11.00; after 11.00 this intensity is relatively stable and high until 14.00 then decreases, and at 16.00 it reaches the same intensity as at 07.00 (Rimahardika, 2016).

In line with Perdana and Putra's research (2018) which stated that respondents with poor lighting (<60 lux) were at risk of contracting pulmonary TB 25.32 times (95% CI 4.06-143.1) compared to respondents with good lighting (>60 lux). Madhona et al.'s research (2016) also showed that there was a significant relationship between lighting and TB incidence where lighting that did not meet the requirements had a risk of contracting TB 3.222 times compared to lighting that met the requirements (p=0.034 and OR=3.222)The results section summarizes the data collected for the study using descriptive statistics and reports the outcomes of relevant inferential statistical analyses (e.g., hypothesis tests) conducted on the data. Report the results in sufficient detail so that the reader can understand which statistical analyses were performed, why they were conducted, and to justify your conclusions. Mention all relevant results, including those that contradict the stated hypotheses.

There is no fixed formula for presenting the findings of a study. Therefore, we will first consider general guidelines and then focus on options for reporting descriptive statistics and the results of hypothesis tests.

Present your findings as concisely as possible while providing enough detail to justify your conclusions and enable the reader to understand exactly what you did in terms of data analysis and why. Figures and tables, detached from the main body of the manuscript, often allow for clear and concise presentation of findings.

6. CONCLUSION

Nutritional status and lighting affect the incidence of pulmonary tuberculosis. Lighting is the most dominant variable affecting the incidence of pulmonary tuberculosis. To increase public awareness of pulmonary tuberculosis, it is necessary to provide health education on lighting requirements and nutritional status

7. LIMITATION

It is inevitable that your research will have some limitations, and this is normal. However, it is critically important to strive to minimize the scope of these limitations throughout the research process. Additionally, you need to acknowledge your research limitations honestly in the conclusions chapter.

Identifying and acknowledging the shortcomings of your work is preferable to having them pointed out by your final work assessor. While discussing your research limitations, do not merely list and describe them. It is also crucial to explain how these limitations have impacted your research findings.

Your research may have multiple limitations, but you should discuss only those that directly relate to your research problems. For example, if conducting a meta-analysis of secondary data was not stated as your research objective, there is no need to mention it as a limitation of your research.

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Analysis Of Factors Influencing Health Workers Implementing Hand Hygiene At Peulumat Community Health Center, South Aceh

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Abstract. *Nurses' compliance in carrying out hand hygiene is very important because infection and disease transmission can be caused by health workers who are not compliant in carrying out hand hygiene every time they carry out health service actions. Health workers' compliance in carrying out hand hygiene both before and after carrying out procedures for providing health services can be a problem that must be considered due to various factors that are closely related to compliance in carrying it out. This research was conducted to analyze factors related to health workers' compliance in implementing hand hygiene at the Peulumat Health Center, South Aceh. The design used is descriptive correlation with a cross sectional approach. The total sample was 80 health workers. Data was obtained by interview using a questionnaire. There is an influence on attitudes with results (p 0.003) and length of service (p 0.002) the availability of hand hygiene facilities (p 0.000) which influences the compliance of health workers in implementing hand hygiene at the Peulumat Health Center in South Aceh. Based on statistical tests, it was found that factors that can influence the health of workers in carrying out hand hygiene consist of attitude, length of service, availability of facilities for carrying out hand hygiene. The implication for recommended services is that supervision and motivation of health workers need to be increased to carry out hand hygiene in accordance with recommendations. The research implication is that it is hoped that there will be research with a larger sample size, involving other people as researchers and using video.*

Keywords: Hygiene, Compliance, Infection, Health

1. INTRODUCTION

Washing hands is one of the efforts to break the chain of disease transmission. Washing hands with water alone is common but has proven to be ineffective compared to washing hands with water and soap (handwash). This is done with the intention that the remaining dirt, viruses and germs do not accumulate on the hands. In addition to washing hands with water and soap, washing hands is also done by using 60% or 70% alcohol liquid (handscrub). Washing hands with soap is also one of the procedures before and after taking action as an effort to spread infection to both patients and health workers (1).

Hand hygiene is an indicator of patient safety quality. According to the Centers for Disease Control and Prevention (CDC), washing hands with soap and water has benefits including: (1) more effective in killing germs on hands, (2) safe for children, (3) preventing antibiotic resistance (2).

According to WHO data in the world, health workers' compliance in washing their hands is generally around 40%, this figure varies widely from 5% to 81%. Studies in the United States show that the level of health workers' compliance in washing their hands is

still around 50% and in Australia it is still 65%, while the national prevalence of hand washing behavior is 23% (3). Health workers are one of the factors in the transmission of various pathogenic bacterial infections that occur through the hands. Research conducted in 40 hospitals showed that health workers' compliance in carrying out hand hygiene before and after meeting patients varied between 24% and 89% with an average of 56.6% [2].Another study also stated that the average compliance of health workers in Indonesia in carrying out hand hygiene is 20-40%. Studies in other countries also show that compliance of health workers in washing their hands is still relatively low, such as in the United States at around 50% and Australia at around 65% [3].

The Community Health Center is a health service unit that strives for public and individual health in its working area and emphasizes promotive and preventive efforts. Of course, the Community Health Center also carries out its functions in curative and rehabilitative actions [5].

In improving the quality of service in the Health Center, it is necessary to have a Standard Operating Procedure (SOP) on hand hygiene in carrying out medical actions on patients. In improving the performance of an effective and efficient hospital, it is necessary to have a technical, administrative and procedural SOP as a guideline in implementing hospital performance [8].

Compliance of health workers in implementing hand hygiene is very important because nosocomial infections can be caused by health workers who do not comply with implementing hand hygiene every time they perform health services. Therefore, hand hygiene in accordance with SOP must be applied by every health worker who will carry out activities and after performing health services on patients. The worst impact is that health workers can transmit diseases from one patient to another so that it can increase the number of nosocomial infections and have an impact on the length of hospitalization and high hospital costs [11].

Peulumat Health Center is one of the integrated health service providers in South Aceh Regency which has outpatient and inpatient facilities. Based on data collection conducted by the author in April 2023 at the Peulumat Health Center, it was found that out of 80 health workers consisting of 4 general practitioners, 1 dentist, 2 nurses, 4 D-IV Nursing, 21 DIII Nursing, 2 DIII Dental Nursing, 26 DIII Midwifery, 5 D-IV Midwifery, 1 pharmacist, 3 pharmacist assistants, 11 S1 Public Health, 2 Sanitarians/Environmental Health, 3 D-III Nutrition, 1 S1 Nutrition, 1 Laboratory Technician, who are tasked with providing services at the Health Center.

After conducting an initial survey of all health workers at the Peulumat Health Center, among them there are still health workers who lack awareness of health workers in carrying out, implementing and paying attention to the impact of health workers' actions in carrying out hand hygiene in accordance with the specified SOP, so that it can be detrimental to themselves and patients. Compliance of health workers in carrying out hand hygiene both before and after carrying out service procedures is also a problem that must be considered, some of the health workers who still do not understand and know about the hand hygiene actions that have been determined in the Health Center SOP include health workers who have just entered the Health Center work area. In addition, there is also limited adequate hand hygiene facilities and infrastructure at the Health Center, such as the lack of clean water, the lack of sink facilities which only number 4 sinks, and the distance is too far, namely ≥ 6 meters from the officer's room, in addition there has never been a regulation on imposing sanctions on health workers who are not disciplined in implementing the hand hygiene SOP. This causes the attitude and actions of health workers who ignore hand hygiene.

2. LITERATURE REVIEW

Previous Research Review

Table 1. Based on the results of previous research, it can be explained as follows

No.	Researcher (Year)	Title	Findings
1.	Neila Fauzia, Rahmawati (2018)	The influence of individual factors on health worker compliance in implementing hand hygiene	There is an influence of individual factors on compliance in implementing Hand Hygiene (p value = 0.002) (25)
2.	Yuni Pundar, Maria and Angela (2019)	Analysis of Factors Affecting Nurses' Compliance in Carrying Out Hand Hygiene According to SPO in the Kelimutu and Cempaka Rooms of Prof. Dr. WZ Johannes Kupang Regional Hospital	Proving that Only the length of service factor has an influence on health workers' compliance in carrying out hand hygiene, where the P-value obtained was $0.033 < \alpha = 0.05$ (7).

3.	Elsa, Ridwan (2020)	Analysis of factors that affect hand washing compliance among health workers	There is a significant relationship between age and years of work and hand washing compliance at a p value <0.01 (4).
4.	Ria Anugrahwati and Nuraini Hakim (2019)	Nurses' Compliance in Carrying Out Hand Hygiene Before and After Performing Actions in the Inpatient Room of Cut Meutia Hospital, Langsa, Aceh.	There is a significant relationship between age and years of work and hand washing compliance at a p value <0.01 (10).
5.	Nurahmani, Asriwati and Anto (2019)	Nurses' compliance in carrying out hand hygiene before and after carrying out procedures	There is a relationship between knowledge and attitude with nurses' hand hygiene compliance at a p value <0.05 (24).
6.	Ratnasari . Dulakhir.(2016)	Factors Related to Inpatient Nurse Compliance in Implementing Hand Hygiene at Anna Medika Hospital, Bekasi City	There is a significant relationship between age and years of work and hand washing compliance at a p value <0.05 (33).
7.	Nadiya, Princess. A(2021)	Factors Related to Work Discipline of Nurses in the Inpatient Room of DR. Drs. M. Hatta Brain Hospital Bukittinggi	Statistical tests prove that motivation (p value 0.0001), leadership (p value 0.015), and non-financial incentives (p value 0.002) have a significant relationship with work discipline. While compliance (p value 1.000) has no relationship with work discipline. There is a significant relationship between motivation, leadership, and non-financial incentives with work discipline. And there is no relationship between compliance and work discipline. Suggestions for hospitals to be able to evaluate nurse performance (5).

3. METHODS

Types of research

The design of this study is an analytical survey with a cross-sectional design where the independent and dependent variables will be collected at the same time. This type of research is a study using a descriptive analytical design with the aim of analyzing factors that influence health workers to carry out hand hygiene at the Peulumat Aceh Selatan Health Center. This research will be conducted at the Peulumat Health Center located on Jalan Tengku Peulumat, Tengah Peulumat, East Labuhan Haji, South Aceh Regency. The time of this research was carried out in August 2023. The population in this study were all health workers working at the Peulumat Health Center, totaling 80 people.

4. RESULTS

Respondent Characteristics

Respondent characteristics include age, gender, education, length of service and having attended training on hand hygiene, as follows:

a. Age

The frequency distribution of respondents' ages at the Peulumat Health Center can be seen in Table 1 as follows:

Table 2. Frequency Distribution of Respondents' Age at Peulumat Health Center, South Aceh

Age	Frequency (f)	Percentage (%)
20-30 years	36	45.0
31-45 years	44	55.0
Total	**80**	**100.0**

Based on Table 1, it can be seen that the majority of respondents were aged between 20 and 30 years, as many as 36 people (45%) and those aged between 31 and 45 years, as many as 44 people (55%).

b. Gender

The frequency distribution of respondents' gender at the Peulumat Health Center, South Aceh can be seen in table 4.2 below:

Table 3. Frequency Distribution of Respondents' Gender at Peulumat Health Center, South Aceh

Gender	Frequency (f)	Percentage (%)
Man	24	30.0
Woman	56	70.0
Total	**80**	**100.0**

Based on Table 2, it can be seen that the majority of respondents were female, 56 people (70%) and male, 24 people (30%).

c.   Level of education

The frequency distribution of respondents' education levels at the Peulumat Health Center, South Aceh can be seen in Table 3 as follows:

Table 4. Frequency Distribution of Respondents' Education Level at Peulumat Health Center, South Aceh

Level of education	Frequency (f)	Percentage (%)
D3	54	67.5
D4	5	6.2
S1/Profession	21	26.3
Total	**80**	**100.0**

Based on Table 3, it can be seen that the majority of respondents had a Diploma III education, as many as 54 people (67.5%), Diploma 4 education, as many as 5 people (6.2%) and S1/Professional education, as many as 21 people (26.3%).

d.   Have attended training

The frequency distribution of respondents who have attended training on hand hygiene at the Peulumat Health Center, South Aceh, is seen in Table 4 below:

Table 5. Frequency Distribution of Respondents Who Have Attended Training at the Peulumat Health Center, South Aceh

Have attended training	Frequency (f)	Percentage (%)
Once	47	58.8
Never	33	41.2
Total	**80**	**100.0**

Based on Table 4, it can be seen that the majority of respondents who had attended training on hand hygiene were 47 people (58.8%) and those who had never attended training were 33 people (41.2%).

Three vcandidate variables that can enter the multivariate stage are attitude variables, length of service, facilities*Hand Hygiene*. Selectionbivariate using simple logistic regression test. The results of the selection can be seen in the table below.

Table 6. Selection of Variables as Candidate Models in Multiple Logistic Regression Tests Based on Bivariate Analysis

Variables	p value	Information
Attitude	0.003	Candidate
Years of service	0.002	Candidate
Hand Hygiene Facilities	0,000	Candidate

Based on the 5 above, it can be seen that all variables are candidate models in the logistic regression test where the p value <0.25. The results of the logistic regression analysis can be seen in the following table:

Table 7. Results of the First Stage of Logistic Regression Analysis

Variables	B	Wald	P value	OR	9% CL	
					Min	Max
Attitude	2,967	21,536	0,000	19,425	5,549	67,997
Years of service	0.595	3,091	0.080	1,812	0.934	3,517
Availability of hand hygiene facilities	3,165	22,312	0.119	22,224	9,215	3,514

Table 8. Results of the Second Stage of Logistic Regression Analysis

Variables	B	Wald	P value	OR	9% CL	
					Min	Max
Attitude	2,967	21,536	0,000	19,425	5,549	67,997

From the multivariate analysis, it turns out that the variable that is significantly related to health worker compliance is one variable, namely the attitude variable, which is an internal factor of health workers with a P value of 0.00<0.05.This means that health workers who have a negative attitude towards hand hygiene will be less compliant in carrying out hand hygiene compared to health workers who have a good attitude towards hand hygiene.

From the results of the analysis of the two variables, it can be concluded that the factor that most influences health workers' compliance in carrying out hand hygiene is the attitude factor (internal) inPeulumat Health Center, South Aceh.

In this chapter we will discuss interpretation and discussion.related to the research and compare the results of this study with previous studies and theories that support or contradict the new findings. The discussion will begin with the interpretation and discussion of the results of the study on compliance with hand hygiene and other independent variables. In another section, the results of the bivariate analysis between the dependent and independent variables and the results of the multivariate analysis will be discussed. The final section of this chapter will discuss the implications of the study for health services, health education and health research as well as recommendations for future research.

5. DISCUSSION

The Influence of Attitudes on Health Workers' Compliance in Implementing Hand Hygiene

The results of the study showed that as many as 52 health workers (65%) respondents had a good attitude and as many as 38 health workers (35%) had a poor attitude. This shows that the positive attitude of health workers towards the implementation of hand hygiene greatly determines their compliance in implementing it.

The results of the study indicate that there is an influence between the attitude of health workers and the compliance of health workers in implementing hand hygiene at the Peulumat Health Center, South Aceh. In this study, it was found that most health workers have a good attitude in implementing hand hygiene, but there are still some who are not compliant in doing it and there are also some health workers who are still not compliant in carrying out hand hygiene and in health workers who have poor attitudes, there are also some health workers who are compliant in carrying out hand hygiene. According to research conducted by Umboh, et al. (2017), attitude is one of the factors that greatly influences behavior towards compliance in implementing hand hygiene.

The results of this study are in line with research conducted by Amalia, et al. (2016) which showed that there was a meaningful relationship between attitude and compliance in implementing hand hygiene. Attitudes can be followed by emotions that arise when carrying out a particular action and the environment in which the action is carried out. The influence of attitudes can be positive and negative. This shows that a person's attitude towards a situation can be described in the form of behavior displayed (30).

Attitude is a closed response to a given object. Attitude can be seen directly, but can only be interpreted from closed behavior. Changes in attitude can be influenced by information received and owned by a particular individual, views or assessments of an object and a person's experience (27).

The researcher's assumption is that the health workers who are respondents in this study have a positive and good attitude in implementing hand hygiene as has been determined. In addition, good knowledge of health workers will influence good attitudes for health workers, especially in implementing hand hygiene and make health workers more obedient in implementing it around their workplace and patient environment.

The Influence of Work Period Factors on Health Workers' Compliance in Carrying Out Hand Hygiene

The results of this study indicate that length of service has an influence on health workers' compliance in carrying out Hand Hygiene, this is proven by the P-value of 0.002 $<\alpha = 0.05$.

Work period or length of work is an individual experience that will determine growth in work and position. The longer a person works, the higher the level of achievement will be, high achievement is obtained from good behavior. A person who has worked for a long time has broader insight and has more experience in his role in shaping the behavior of health workers (11).

From the results of the study, 80 respondents were obtained, 41 people with a work period of <5 years and those who worked >5 years, from the results of this study, the most obedient in carrying out Hand Hygiene are health workers with a work period of >5 years. The researcher's assumption is that this is due to the many experiences that have been passed by health workers who teach the importance of compliance in carrying out Hand Hygiene will have a major impact on health workers. The level of compliance of health workers who have a work period of >5 years has certainly been exposed to information and is experienced in implementing the rules regarding the implementation of Hand Hygiene at the Peulumat Health Center compared to health workers with a work period of <5 years who are still new, still ignoring and not used to implementing regulations or procedures in implementing Hand Hygiene.

The Influence of Availability of Hand Hygiene Facilities on Compliance of Health Workers in Implementing Hand Hygiene

The results of the study showed that the availability of facilities to perform hand hygiene for health workers working in the Peulumat Health Center environment, most health workers stated that there were facilities to perform hand hygiene as many as 48 people (60%). The results of the analysis of the relationship between the availability of facilities and compliance of health workers in implementing hand hygiene showed that more respondents stated that the facilities supported and it was seen that their level of compliance in performing hand hygiene was also compliant.

The results of the study showed that the significance value using the chi square test showed a relationship between the availability of hand hygiene facilities and health worker compliance in implementing hand hygiene. In line with Notoatmodjo's theory that hand hygiene facilities (facilities and infrastructure) are anything that can be used to prevent

disease transmission. To increase compliance in implementing hand hygiene, a multidimensional technique is needed. The approach taken includes changing the system by providing alcohol-based handrub in addition to washbasins and antiseptic soap at every health worker point in hospitals and other medical places (27).

The results of this study are in line with Gea, et al. (2018) who stated that the availability of facilities can affect the compliance of Health Workers in carrying out hand hygiene. Thus, support from the health center is needed in providing proper and adequate hand hygiene facilities in order to create health workers who are compliant in carrying it out. The availability of facilities is needed to support the occurrence of compliant behavior.

Hand hygiene facilities are everything that can be used to prevent the risk of infection transmission. Facilities that need to be considered include sinks, smooth running water, antiseptic soap and handrub. Supporting hand hygiene facilities will encourage compliance of health workers in implementing hand hygiene so that health workers can work optimally, so the provision of facilities needed by health workers needs to be considered by hospital management (27).

The researcher's assumption that the availability of adequate facilities in carrying out hand hygiene in the Puskesmas environment is very much needed. This is what supports the compliance of officers in implementing it according to the rules, recommendations and provisions that have been set by the Puskesmas. The hand hygiene facilities available at the Peulumat Puskesmas are still lacking, but health workers at the Puskesmas have the initiative to carry out hand hygiene with the facilities provided by the Puskesmas as well as possible.

6. CONCLUSION

This study analyzes the factors that influence the compliance of health workers at the Peulumat Health Center, South Aceh. The results of the study can be concluded as follows:

a. There is an influence of the attitude and compliance of health workers in implementing hand hygiene ($P = 0.003$; $\alpha \leq 0.05$).

b. There is an influence of length of service and compliance of health workers in implementing hand hygiene ($P = 0.002$; $\alpha \leq 0.05$).

c. There is an influence of the availability of hand hygiene facilities and compliance of health workers in implementing hand hygiene ($P = 0.000$; $\alpha \leq 0.05$).

d. The internal factor that most influences compliance with hand hygiene is the attitude factor (P = 0.000; α ≤ 0.05).

As a suggestion from the results of this study are:

a. For Health Services

Researchers recommend that superiors in authority increase supervision of the implementation of hand hygiene and continuously motivate health workers through health education so that internalization of attitudes is formed which is manifested in the form of obedience in carrying out hand hygiene practices.

b. For Health Centers

The results of this study can be used as a basis for research by conducting research replications in other health service areas in Indonesia, such as in hospitals or in community service areas by involving data collectors outside the researcher or using video to reduce potential bias and byincrease the number of samples.

c. For the Faculty of Public Health Helvita

The results of this study are expected to be a basic material as input and reference in the development of science and to increase research, especially for the Masters of Public Health study program, Health Administration and Policy (AKK) Study Interest, Faculty of Public Health, Helvetia Health Institute, in order to continue to improve compliance in implementing hand hygiene in health service facilities.

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