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# AISCH 2022

## The 3<sup>rd</sup> AI Insyirah International Scientific Conference on Health

### SCOPING REVIEW: RISK FACTORS FOR TUBERCULOSIS EXPOSURE IN HOSPITAL WORKERS

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#### ABSTRACT

*Health workers and workers in hospitals are the backbone of health services in hospitals. Hospitals are labor-intensive, technology-intensive, with a high level of human involvement, ongoing activities every day, and there are potential biological hazards, one of which is the Tuberculosis (TB) bacterium. For this reason, hospitals are workplaces with high occupational health and safety (K3) risks. This scoping review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guidelines. The scoping review framework was developed using PEO (Population, Exposure and Outcome). The population in question is the hospital workforce, the exposure is tuberculosis, and the outcome is the protection of the workforce from TB. This framework is the basis for researchers to determine keywords when conducting a literature search. A search on 2 databases, namely Pubmed and Science Direct, obtained 100 articles. After screening and eligibility criteria, there were 12 articles included for review. Workers who are at risk of exposure to TB include nurses, doctors, other health workers, and non-health workers. Causal factors, Behaviours, Attitudes, Knowledge, Policies, Infrastructure, and monitoring and evaluation. Tuberculosis is a significant occupational health problem among health workers. In reducing TB exposure in health care facilities, it is necessary to build an infection control system to ensure the health of health workers and reduce TB transmission in health care facilities. Existing policies do not clearly regulate work-related TB to health workers, legal sanctions, continuous PPI monitoring in health care facilities, compensation and reporting of TB cases to health workers. Health facility management and health workers are required to carry out PPI according to standards, carry out TB screening tests and prioritize safety culture at work.*

*Keywords: Tuberculosis, Labor, Hospital*

#### INTRODUCTION

Tuberculosis (TB) remains a global public health threat affecting millions of people each year. With the increasing incidence of drug resistance and the HIV pandemic, TB control efforts are becoming more challenging and this has resulted in greater attention being paid to TB infection control. Institutional settings, including health care facilities, have been identified as being at high risk of TB transmission. Studies have reported nosocomial transmission of TB with high TB infection among health care workers in many countries especially in low and middle income countries. This increased risk of TB transmission in health facilities places health workers and other patients at high risk of infection (WHO TB Report, 2016).

Tuberculosis is a disease that is still a big work and has not been completed (Burke, 2018). Indonesia is a country with the second highest tuberculosis burden in the world after India (WHO, Global TB Report 2022). Most of the cases occurred in the productive age range which is the working age range. The number of tuberculosis sufferers in Indonesia is estimated to be around 969 thousand people with a ratio of 351/100,000, but only around 540 thousand have been identified by the Ministry of Health. It is difficult to determine the precise proportion of

how many workers are infected with Tuberculosis, but this is not accompanied by good data collection and outreach capabilities. Therefore, TB control needs to get special attention from all stakeholders.

The implementation of TB control has not met expectations because the number of cases is still high, as previously mentioned. This situation is exacerbated by the health care system which has been shaken a lot by the COVID-19 pandemic. The phenomenon that occurs is that the labor force in the hospital increases the duration at work which also increases the risk of TB transmission. In addition, declining TB services in the community have led to a high risk of neglected TB cases during the pandemic, which will result in an increase in cases in the future. This means that the potential for achieving TB Elimination 2030 is at stake. A special strategy is needed to protect hospital health workers from the phenomena of post-pandemic community pain. Moreover, TB is a disease that knows no region and social strata (MacDonald & Harper, 2020).

Prevention and control of TB and other diseases for health workers and workers in hospitals have not run optimally, structured and integrated with the national TB program. Health services are even at risk of transmission. Hospitals have a high risk of environmental hazards, especially biological hazards. Workers in hospitals are at high risk for Occupational Diseases (PAK), so hospitals are required to provide protection measures for health workers and other workers. Efforts to protect hospital workers against existing TB disease are in line with the national TB control program that uses Direct Observed Treatment Short-Course (DOTS). DOTS is a TB control strategy that is directly supervised by drug swallowing supervisors (PMO) who have been given directions from TB officers. The DOTS component does not only cover service aspects (management, diagnosis, treatment, monitoring and evaluation) but also aspects of the political commitment of relevant stakeholders.

Referring to Law No.1 of 1970 concerning Occupational Safety, Law No.36 of 2009 concerning Health and Government Regulation No.88 of 2019 concerning Occupational Health, workplace managers are required to carry out all forms of health efforts through prevention, improvement, treatment and recovery for workers. Hospitals as one of the workplace arrangements are required to implement an occupational safety and health program (K3RS) in order to provide health protection for health workers and other workers.

Health workers and workers in hospitals are the backbone of health services in hospitals. Hospitals are labor-intensive, technology-intensive, have a high level of human involvement, continuous activities every day, and are subject to potential biological hazards, one of which is the Tuberculosis (TB) bacterium. For this reason, hospitals are workplaces with high occupational health and safety (K3) risks.

In this context, it is necessary to protect hospital workers against the hazards and risks that exist in the workplace or what is known as Occupational Safety and Health (K3). In the Law of the Republic of Indonesia Number 36 of 2009 concerning Health article 164, occupational health efforts are aimed at protecting workers so that they live healthy lives and are free from health problems and bad influences caused by work. In addition, worker safety has also been regulated to be implemented as an obligation to grant rights to workers. Regardless of a country's commitment to protecting its people, the concern shows Indonesia's involvement as a "citizen" of the world who has contributed to overcoming this issue. There is still no comprehensive framework for assessing occupational health related to efforts to protect workers in hospitals against TB. Research Methods

## RESEARCH METHODS

### Protokol and Registration

This scoping review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guidelines. The scoping review framework was developed using PEO (Population, Exposure and Outcome). The population in question is hospital workers, their exposure is tuberculosis, and the outcome is the control of tuberculosis in hospital workers. This framework is the basis for researchers to determine keywords when conducting a literature search

#### Information Sources and Data Search Strategies

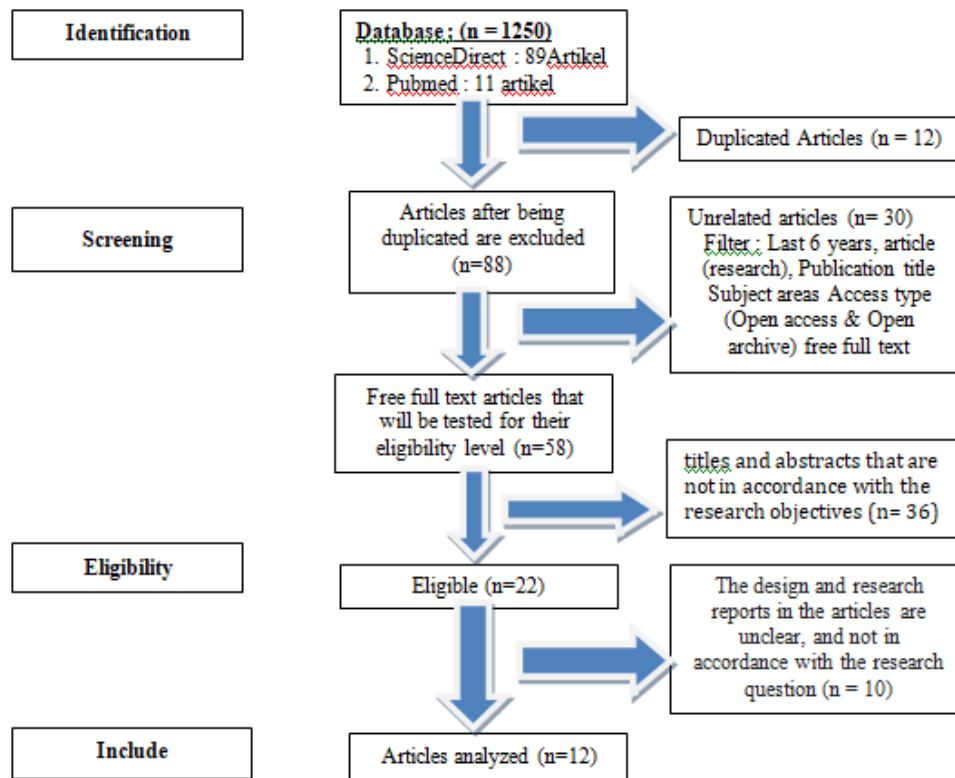
No	Database	Keyword and Query
1	Pubmed	(((((TB) OR Tuberculosis) OR Mycobacterium)) AND ((health personnel) OR hospital personnel)))”
2	Science Direct	tuberculosis and health worker and hospital

Search on the Pubmed database, during the initial screening using a filter by providing a checklist in the categories "Free full text", "Last 6 years", "Article", "Language". Whereas in the Science Direct database, the screening stage is carried out by providing a checklist on the categories "Last 5 years", "article", "Publication title", "Subject areas", "Access type", "free full text". The time period for the literature search was carried out from 14 December 2021 to 30 December 2021.

Kriteria	Inklusi	Ekklusi
Population	Hospital Workforce	Non-hospital workforce (community health centers and other health care facilities)
Exposure	Tuberculosis disease	Other diseases
Outcome	Control of tuberculosis in workers in hospitals	Control of tuberculosis in workers in hospitals
Year	2016-2021	Before 2016
Jenis Artikel	Research articles, review articles, meta analysis	Encyclopedia, book chapters,
Language	English, Indonesian	Apart from Indonesian and English
Type text	Free full text	Abstract, full text
Publication type	International Journal of Infectious Diseases, Indian Journal of Tuberculosis	The Lancet
Acces Type	Open access & Open archive	Close Acces

All selected articles that met the inclusion and exclusion criteria were then read and analyzed by the author. In particular, the title and abstract are discussed for confirmation its feasibility under review for the intended purpose. All studies considered and included in the analysis, either qualitative or quantitative methods were used in the articles. Electronic database searches were conducted from December 14 to December 30, 2021, and the review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) for Scoping Review (Tricco et.al, 2018). Additional studies were also carried out

conducted a search by snowball sampling of references in the complete article according to the inclusion and exclusion criteria.



Selection of Studies with ScR Prism Diagrams

#### Data Creation Process

The author independently searched electronic databases for 16 days, from December 14 2021 to December 30 2021. Initially, the first author searched each database using keywords that had been formulated. Then, the authors read the research title and abstract based on the search results obtained from writing keywords. The research title and abstract that matched the inclusion criteria, followed by reading the full article. In addition, the author also snowballed the references obtained from the article. who met the inclusion criteria for exploration starting from reading the research title, abstract, and the contents of the article in full. The complete article was then followed by data extraction. Data extraction includes author's name, year, article title, research location, method, and items to be extracted based on scoping review research questions. Data extraction is entered in the data extraction table. The results of data extraction are then analyzed and conclusions are made

## RESULTS AND DISCUSSIONS

Tuberculosis (TB) remains a global public health threat affecting millions of people each year. TB control efforts are becoming more challenging and this has resulted in greater attention being paid to TB infection control. Institutional settings, including health care facilities, have been identified as being at high risk of TB transmission. Studies have reported nosocomial transmission of TB with high TB infection among health care workers in many countries especially in low and middle income countries. This increased risk of TB transmission in health facilities places health workers and other patients at high risk of infection (WHO TB Report, 2016)

Based on the synthesized articles, it was found that the factors causing the hospital workforce to be exposed to infectious diseases were categorized according to type of work, workplace, behavior, attitudes, knowledge, policies, infrastructure, and monitoring and evaluation. This is also in line with research by Ria Mayasari, 2016 which states that workers in the Microbiology Laboratory are still at risk of being infected with tuberculosis germs, especially analysts.

In addition, according to Yihao Weng et al, 2016, environmental factors are considered the most important factors of TB infection. Therefore, ensuring adherence to TB prevention measures is important to reduce the risk of nosocomial TB infection among health care workers. Knowledge deficit and inadequate practice of health workers are the main obstacles that result in an increased risk of TB transmission in health facilities. Poor knowledge and practice can be attributed to a lack of TB policies and/or guidelines at both the national and institutional levels.

Close enough contact distance between health workers and patients facilitates the transmission of TB disease. The risk of getting TB in health workers is three times higher than in the general population and increases to six times with increased access to health care facilities, TB. So far, the implementation of a safety culture in the management of health care facilities and the behavior of health workers in perceiving TB infection has caused delays in the diagnosis and treatment of TB. There is no clear reporting data on the prevalence of active and latent TB cases among health workers, indicating a tendency to hide the high incidence of TB among health workers. If the government fails to protect health workers from the transmission of TB disease, it is certain that there will be a decrease in human resources serving health and will result in an increase in TB cases in Indonesia.

## **CONCLUSION**

Tuberculosis is a significant occupational health problem among health workers. Health workers are a population at risk for TB infection but there is no official data regarding TB cases in health workers. In reducing TB exposure in health care facilities, it is necessary to build an infection control system to ensure the health of health workers and reduce TB transmission in health care facilities. Existing policies do not clearly regulate work-related TB to health workers, legal sanctions, continuous PPI monitoring in health care facilities, compensation and reporting of TB cases to health workers. Recommendations need to strengthen policies and develop evidence-based strategies for reporting data on the prevalence and incidence of TB cases for health workers. Management of health facilities and health workers are required to carry out PPI according to standards, carry out TB and HIV screening tests and prioritize safety culture at work.

Overall knowledge and practice of health workers regarding TB infection control is unsatisfactory. Effective infection control measures including regular skills-based training and/or orientation for all categories of health workers can improve infection control practices in health facilities.

Training is important for strengthening the knowledge, attitudes, skills, and practices of occupational health and infection control of health workers, and workplace-based training programs such as these can have impressive results. However, the considerable guidance resources required for such programs and the substantial infrastructural support required for the implementation and sustainability of improvements in settings without prior experience in such endeavors should not be underestimated.

Being a clinical health professional, not having adequate disposable respirators and seeing/perceiving a coworker stigmatize a coworker with (suspected) TB were all significantly

associated with fear of work-acquired TB. It is recommended that campaigns to eliminate the stigma of TB, as well as appropriate TB infection control education and measures, are needed to reduce the fear of health workers contracting the disease in the workplace. Ultimately this should create a work environment that supports health, where health workers are not afraid to function and are free to seek treatment and support when needed.

The workplace-based capacity building Certificate Program can provide refresher knowledge needed by health workers in the OHS field and infection control officers. In addition, such programs are capable of effecting meaningful change in the workplace through the agency of empowered participants who lead workplace interventions. Such improvements at the personal and organizational levels contribute to improving the health and well-being of healthcare workers through increased recognition, job satisfaction, morale and safety in their workplaces. By improving occupational health practices, such programs can also help reduce nosocomial infections, and improve HIV and TB care, leading to a healthier and more resilient health workforce. On the basis of the foregoing, based on the conclusions of the results obtained, there is no regulation related to the management of occupational health, especially infectious diseases, in this case tuberculosis in hospital workers.

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# AISCH 2022

## The 3<sup>rd</sup> AI Insyirah International Scientific Conference on Health

### AN OVERVIEW OF MEDICATION ADHERENCE IN PROLANIS PATIENTS IN PEKANBARU

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#### ABSTRACT

*Hypertension and type 2 diabetes mellitus are long-term diseases that are major health problems around the world, especially in Indonesia. They can lead to complications and even death. To reduce complications and deaths from these two diseases, people need to take their medicines as prescribed. Medication adherence is how many of the drugs a doctor gives a patient that the patient takes regularly for a certain amount of time. The Indonesian government is setting up a Chronic Disease Management Program (Prolanis) and a Referral Back Program (PRB) run by the Health Social Security Administration (BPJS) to make it easier for Prolanis patients to get the drug. These programs are meant to lower the risk of complications for people with hypertension and type 2 diabetes mellitus. The goal of this study was to find out the adherence of medication from Prolanis patients in Pekanbaru. This study was a quantitative observational analysis with a cross-sectional analytical design and a cluster sampling sample of 108 people. A questionnaire was used to get the information. In this study, 77 respondents (71.3%) were obedient in taking medications, and 31 respondents (28.7%) were not obedience.*

*Keywords: medication adherence, Prolanis patients, Pekanbaru*

#### INTRODUCTION

Chronic diseases are defined broadly as conditions that last 1 year or more and require ongoing medical attention or limit activities of daily living or both [1]. The most common effect of this syndrome is death; however, it can also lead to hospitalization, a disability that lasts for an extended period of time, a decrease in quality of life, and other unfavorable results. Conditions such as high blood pressure and diabetes mellitus type 2 are included in the category of chronic diseases [2]. The condition is referred to as hypertension in the medical field. More colloquially, high blood pressure defines a state in which the pressure within the blood vessels is persistently elevated. In the meantime, diabetes mellitus type 2 is a chronic disorder characterized by high blood sugar levels created by impaired insulin release in the pancreas gland. This condition has been around for quite some time. This illness has the potential to result in consequences such as blindness and failure of the kidneys [3].

According to a survey that Riskesdas carried out in 2018, the prevalence of hypertension in the population older than 18 years old is currently 34.11 percent. The province of South Kalimantan in Indonesia has the highest incidence of hypertension, at 44.13%, while the province of Riau Province ranks 23 with a prevalence of 29.14% of the total population. Regarding the entire population, Riau Province has the highest rate of hypertension [4]. While Riau Province ranks 15th with a prevalence of 1.9%, the District Capital of Jakarta (DKI) has the most significant prevalence of type 2 diabetes mellitus in Indonesia at the age of more than 15 years, with a prevalence of 3.4% [5]. The city region of Pekanbaru, which is the capital city of Riau Province, experienced the same thing at the same time. A significant number of persons in this area suffer

from hypertension and type 2 diabetes mellitus, and they visit the Puskesmas. With 35,090 visits a year due to hypertension and 19,093 visits a year attributed to type 2 diabetes mellitus; it is clear that these conditions are a significant public health burden [6].

According to epidemiological research that Kemenkes RI released, hypertension and type 2 diabetes mellitus are acknowledged as being among the most harmful diseases that are prevalent in today's society [5]. The complications that may result from hypertension have the ability to have an effect on the organs of the body, which increases the likelihood that diseases may develop that affect the heart, brain, kidneys, and other organs. Diabetes can lead to several consequences, including retinopathy, encephalopathy, coronary heart disease, renal failure, and stroke. Similarly, diabetes mellitus type 2 can, over time, lead to complications that, if ignored, can cause damage to the heart, blood vessels, eyes, kidneys, and nerves. Diabetes can also cause blindness [7]. Hypoglycemia and diabetic ketoacidosis are both acute complications that can arise due to type 2 diabetes. Meanwhile, diabetes mellitus type 2 can lead to chronic complications such as heart disease, foot ulcers, ischemic stroke, and hemorrhagic stroke [8].

The Chronic Disease Management Program or Prolanis is one of the efforts that the government is working on to minimize the risk that patients with chronic diseases may have additional health problems and urge them to adhere to the treatment regimens prescribed to them. The Health and Social Security Administering Body (BPJS Kesehatan), another one of the government's projects, is in charge of administering this program. Patients who are afflicted with chronic diseases are considered candidates for participation in the Prolanis program, which is run by the Health and Social Security Administration in partnership with medical establishments. This program's objective is to offer patients with the highest possible quality of life by way of the delivery of medical care that is not only efficient but also pleasant for the patient. This initiative will give priority enrollment to any and all BPJS Kesehatan participants who are affected with hypertension and type 2 diabetes mellitus [9]. Referral Services (PRB) program is run by the Health and Social Security Administration. Its purpose is to instill patient discipline regarding treating their illness and consuming their prescribed medication. This program focuses on patients suffering from chronic conditions which can keep up with their current level of health and require treatment over the long term. Patients will have an easier time gaining access to medical services, which will result in an improvement to health care (in terms of promotion, prevention, healing, and rehabilitation) and will make it simpler for patients to take their medications as advised on their prescriptions [10]. The number of Prolanis patients that participated in PRB in the Pekanbaru City Region had the most significant number of participants out of all twelve regencies/cities in Riau Province, with 10,114 patients, according to the information that was collected from BPJS Kesehatan at Riau Province in February 2020. The findings of the study serve as the foundation for this research material.

Patients are expected to comply with their treatment plans and keep a regular treatment schedule because those who suffer from chronic diseases often require long-term care. As a result, patients are expected to remain compliant. Medication adherence is critical for the management of chronic diseases, as well as for the prevention, diagnosis, treatment, and management of chronic diseases [11]. It has been discovered that following a regular medication schedule is significant in minimizing the risk of complications from chronic diseases and cutting down on the cost of medical care [12]. Patients who do not comply with their treatment plan run the risk of experiencing deteriorating health, more extended periods spent recovering, and higher overall medical costs. The key reason that a considerable proportion of patients in Indonesia still do not take their prescribed drugs consistently is that, as stated in the findings published that they believe that they have fully recovered. This condition was found in 59.8% of patients

diagnosed with hypertension, and it was discovered in 50.4% of patients diagnosed with type 2 diabetes mellitus [4].

According to the information gathered, there has not been any previous research carried out on medication adherence in prolans patients in the city of Pekanbaru. Because of this, the researcher decided to conduct a study in the city of Pekanbaru to learn more about the characteristics of medication adherence among prolans patients.

## RESEARCH METHODS

In this particular research study, a descriptive observational study design with a cross-sectional approach was utilized. The population for this research consisted of all Prolans patients who were active participants in the PRB in Pekanbaru up through February 2020. According to statistics collected from the Pekanbaru City Health BPJS, the number of Prolans patients who took part in PRB in Pekanbaru 10,114 patients in February 2020. These patients were scattered among 12 sub-districts, including Sukajadi, Pekanbaru City, Sail, Lima Puluh, Senapelan, Rumbai, Bukit Raya, Tampan, Marpoyan Damai, Tenayan Raya, Payung Sekaki and Rumbai Pesisir. After using the Slovin formula on the data obtained from Prolans patients who took part in PRB testing in the Pekanbaru City Region, a total of 108 people were included in the study's sample population. This was the result of applying the Slovin formula to the data. After that, the sample was selected through the utilization of a cluster sampling strategy that was based on 12 community health center (Puskesmas) locations. This was done in order to ensure that the most accurate results were obtained. Because of this, we were able to collect data from nine different individuals at each community health center. In this particular study, primary data are utilized to determine whether or not Prolans patients comply with the prescribed dosage and the frequency with which they consume the drug. In order to retrieve data that is used to gauge a patient's level of adherence to taking their medication, an observation sheet is used. After that, the data that was obtained from the observation sheet is placed into the appropriate spot in the formula for drug adherence, and the outcomes are computed. The formula that is utilized in the process of calculating a patient's level of adherence to their prescribed medication is the formula that was produced from the research that was carried out by Vik et al., [13] and it is presented in the following form:

$$\text{Medication Adherence} = \frac{\text{Number of medications that have been taken}}{\text{Number of drugs that should have been taken}} \times 100\%$$

If the results reveal the number 80% or more, then the subject falls into the obedient category; otherwise, it indicates non-compliance.

This research was conducted from February 2022 to March 2022. Before making observations to determine patient compliance with medication, the researchers first explained to the patient about the research conducted and asked for his consent to become a respondent by signing the consent form. The researcher then observed the patient's medication to determine the patient's adherence to the medication.

## RESULTS AND DISCUSSIONS

### Respondent Characteristics

Table 1. displays the characteristics of prolans patients based on gender, age, education level, occupational status, duration of suffering from hypertension and/or diabetes mellitus (duration of chronic diseases), and closest family members.

Characteristics	F	%
Age (Year)		
36-45	9	8,3
46-55	25	23,2
56-65	39	36,1
>65	35	32,4
Gender		
Male	27	25
Female	81	75
Education		
Low	41	38
High	67	62
Occupational status		
Working	40	37
Not Working	68	63
Duration of chronic diseases		
≥5 Years	70	64,8
<5 Years	38	35,2
Closest family members		
Spouse	59	54,6
Children	43	39,8
Grandchildren	3	2,8
Others	3	2,8
Total	108	100

According to table 1, most respondents (36.1%) are between the ages of 56 and 65. Respondents were female with a total of 81 (75%). Meanwhile, the majority of respondents had high education level with 67 respondents (62%). In terms of occupational status, the majority of respondents (63%) did not work. Furthermore, there were 70 responders (64.8%) who had suffered from hypertension or diabetes mellitus for at least 5 years. With 59 respondents (54.6%), the husband/wife or spouse are the respondents' closest family members.

### Medication adherence of Prolanis Patient in Pekanbaru City

Based on the research's findings, the adherence to medicine for Prolanis patients in the Pekanbaru can be defined as follows:

Table 2. Medication Adherence

Medication Adherence of Prolanis Patients	F	%
Obedience		
Yes	77	71,3
No	31	28,7
Total	108	100

According to Table 2, the majority of Prolanis patients were obedient to taking medication, with 77 respondents (71.3%), whereas 31 respondents (28.7%) were not. The high incidence of medication adherence in Prolanis patients in Pekanbaru may be attributed to the disease's protracted duration. Based on the characteristics of long-term hypertension or diabetes mellitus, there were 70 respondents (64.8%) who had suffered from hypertension or diabetes mellitus for five years or more, and 38 respondents (35.2%) who had suffered from hypertension or type 2

diabetes mellitus for five years or less. The longer Prolanis patients suffer from the disease and learn about it, the better their understanding of the sickness will be [14]. This is consistent with studies about the association between long-term diabetes mellitus and medication adherence, which suggests that the patient's degree of knowledge can be achieved through treatment experience. As a result of their knowledge and experience with the condition, patients pay more attention to their daily activities to reduce the danger of the disease worsening—patients with long-term illnesses whose experience will assist them in adhering to their therapy [15].

The patient's recent educational history may also affect their ability to adhere to their drug regimen in this study. According to the information gathered about the characteristics of the education level of Prolanis patients in Pekanbaru, there are 67 respondents with a high level of education (representing 62% of the total). In comparison, 41 respondents representing 38% of the total, have a low level of education. According to research carried out before, it is stated that the patient's recent educational history has a dominant influence on patient compliance in taking medication. Education level affects a person's thoughts and actions, that with education a person can increase his intelligence to make better decisions in his actions [16]. According to the findings of another study, a patient's adherence was significantly affected by the amount of education he received most recently. Patients with greater levels of education tend to be more compliant when taking their prescribed medications [17].

Occupational status may also have an impact on Prolanis patients' medication adherence. Based on the occupational characteristics of the Prolanis patients in this study, it was discovered that the majority of the Prolanis patients, as many as 68 (63%), did not work. This is consistent with previous research, which found that busy work or lifestyle has a relationship with patient adherence to treatment, with busyness being one of the reasons patients do not take medication [18]. Another study found that working and being busy with work affects medication adherence, whereas not working has more time to take daily medication and is more likely to stick to medicine [19].

The fact that the majority of respondents in this study were between the ages of 56 and 65, with a total of 39 respondents accounting for 36.1% of the sample, could be the reason why 28,7% prolanis patients in Pekanbaru do not comply with taking their medicine. According to the findings of a study carried out by Nurhidayati in 2018, it has been found that the adult age group has a treatment adherence rate that is relatively greater than the elderly group. The elderly group is the least likely to comply with treatment since this is also tied to access to health services [20]. The majority of elderly people are physically unable to come to health services, which is why this age group has the lowest compliance rate [21].

Gender traits, in addition to age, may influence drug non-adherence. The results revealed more female respondents than male respondents, with 81 (75%). According to other research, there is a significant association between gender and medication adherence in type 2 diabetes mellitus patients, with female patients being more likely than male patients to be non-compliant. Female respondents have a hectic schedule; thus, they forget or take their medication late [22]. Meanwhile, male respondents are more concerned about their sickness; thus, they are more careful in exercising, managing meal patterns, and taking their medication regularly [23]. According to previous studies, there is a significant association between the male being more obedient to treatment than women [24].

## CONCLUSION

Referring to the results and discussion of medication adherence in prolanis patients in Pekanbaru, it was concluded that most of the prolanis patients were obedient in taking medications for their chronic diseases

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## **THE EFFECT OF PAINAGE JUICE (ANANAS COMOSUS L. MERR) ON PERINEUM WOUND HEALING IN POST PARTUM MOTHERS**

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### **ABSTRACT**

*The impact of good perineal care can avoid infection, complications and postpartum maternal death. According to data from the World Health Organization (WHO) in 2019 there were 3.4 million cases of perineal tears in childbirth. The purpose of this study was to determine the effect of giving pineapple juice (AnanasComosus L. Merr) on the healing of perineal wounds in post partum mothers in KualuNenas Village, the working area of the Tambang Health Center, Kampar Regency. This type of research is a pre-experimental design with One Group pretest and posttest. The population in this study were all post partum mothers who experienced second degree perineal injuries in KualuNenas Village with a sample of 21 postpartum mothers. The sampling technique used was total sampling. The research instrument used an observation sheet. Data analysis in this research is univariate and bivariate analysis. The results showed that the average degree of perineal wound healing before being given pineapple juice was 2.33 cm, and after being given pineapple juice was 1.38 cm. There is an effect of giving pineapple juice on perineal wound healing in post partum mothers with ap value of 0.000. It is hoped that postpartum mothers can apply this therapy to reduce the degree of perineal wound during the puerperium it can reduce the risk of infection during the puerperium. There is an effect of giving pineapple juice on perinealwound healing in post partum mothers with ap value of 0.000. It is hoped that postpartum mothers can apply this therapy to reduce the degree of perineal wound during the puerperium it can reduce the risk of infection during the puerperium. There is an effect of giving pineapple juice on perineal wound healing in post partum mothers with ap value of 0.000. It is hoped that postpartum mothers can apply this therapy to reduce the degree of perineal wound during the puerperium it can reduce the risk of infection during the puerperium.*

*Keywords: Pineapple Juice, Perineal Wound*

### **INTRODUCTION**

Childbirth is the process of expelling the products of conception (fetus and placenta) that are already months old and can live outside the womb through the birth canal or through other routes, with or without assistance (own strength). This process begins with true labor contractions, which is characterized by progressive cervical changes and ends with the delivery of the placenta [1]. In childbirth, there will be an injury to the birth canal or what is called a perineal wound. There are two types of perineal wounds, namely perineal rupture and episiotomy. Perineal rupture is an injury to the perineum caused by natural tissue damage due to

the pressure of the fetal head or shoulder during the delivery process. The shape of the rupture is usually irregular so that the torn tissue is difficult to suture [2].

The maternal mortality rate during the puerperium after delivery is estimated at 60% and 50% of postpartum deaths occur within 24 hours after delivery, one of the complications that often occurs is perineal rupture (perineal rupture) which occurs in almost all primigravida deliveries and is not uncommon in subsequent deliveries. which can cause bleeding and infection resulting in maternal morbidity and mortality [3]. The causes of the birth canal tear are large fetal head, deflection presentation, primipara, breech position, wrong delivery leadership, and vacuum extraction, forceps extraction, and embryotomy. Complications that occur in perineal rupture are weakening of the pelvic diaphragm and predispose to uterine prolapse and fistulas in the future and one of the efforts that can be made to reduce the frequency of complications in perineal rupture is with aseptic and antiseptic techniques in treating perineal wounds [4].

The impact of perineal care that is carried out properly can avoid infection, complications and postpartum maternal death. The condition of the perineum that is exposed to lochia and moist will greatly support the proliferation of bacteria that can cause infection in the perineum. The appearance of infection in the perineum can spread to the bladder tract or the birth canal which can result in the emergence of complications of bladder infection or infection in the birth canal. Handling complications for a long time can cause death in postpartum mothers [5]. According to data from the World Health Organization (WHO) in 2018, there were 2.7 million cases of perineal rupture in women giving birth, while in 2019 there were 3.4 million cases of perineal tears in women giving birth and this figure is estimated to reach 6.3 million in 2050. Along with the increasing number of midwives who do not know good midwifery care. In America, 26 million women give birth who experience perineal rupture, 40% of whom have perineal rupture [6]. In Asia, perineal rupture is also quite a problem in society, 50% of the incidence of perineal rupture in the world occurs in Asia. The prevalence of maternity mothers who experience perineal rupture in Indonesia with the incidence of suture wound infection is 5% and bleeding is 7% and postpartum maternal mortality is 8%.

The incidence of maternity mothers who experienced perineal tears in 2018 in Indonesia in the 25-30 year age group was 24%, and at the age of 32-39 years it was 62%. In Indonesia, it was found that one in five maternity mothers who experienced a perineal rupture would die with a proportion of 21.74%. In 2019, 75% of perineal lacerations were experienced by women who gave birth vaginally. In 2019 found that out of a total of 1951 spontaneous vaginal births, 57% of mothers received perineal sutures (28% due to episiotomy and 29% due to spontaneous tears) [7]. Data from the Riau Provincial Health Office [8] 35.63% of the causes of postpartum hemorrhage are birth canal injuries, either by episiotomy or spontaneous tearing (Health Department, 2018). Based on the Pekanbaru Regency/City health profile report in 2020, it was found that in ArifinAchmad Hospital Pekanbaru, there were 113 (40.21%) spontaneous perineal

ruptures that occurred in 281 deliveries, while those who did not experience perineal rupture were recorded as 168 (59.79%) [9].

At the Mining Health Center in 2018 there were 32 cases of perineal rupture, in 2019 it decreased to 26 people, while in 2020 it increased again to 41 people (Puskesmas Tambang, 2018, 2019, 2020) [10]. The perineal tear, either naturally or by episiotomy, results in impaired function of the pelvic floor muscles, which can reduce the quality of life of the mother after giving birth. Mother becomes unable to control urination (BAK) and defecation (BAB) because some nerves or even muscles are cut off. Stretching and tearing the perineum during labor can weaken the pelvic floor muscles. Trauma to the perineum also causes discomfort and pain during sexual activity [11].

Treatment of perineal wounds in mothers after childbirth is useful for reducing discomfort, maintaining cleanliness, preventing infection and accelerating healing of perineal sutures. One solution for postpartum mothers to accelerate the healing of perineal wounds in addition to using medical drugs is traditional medicine, which is obtained from the natural herbal world, namely the application of pineapple juice to help accelerate the healing of perineal wounds [12]. Pineapple juice in post partum mothers who experience perineal rupture is a natural and simple alternative to accelerate wound healing other than using drugs. Pineapple contains the enzyme Bromelain which acts as an anti-inflammatory. Bromelain in pineapple can reduce the average number of days to relieve post-surgery pain and wounds that cause inflammation [13].

The ability of pineapple juice in accelerating the healing of perineal wounds is due to the content of the enzyme bromelain in pineapple juice. This enzyme plays a role in the inflammatory phase of the wound healing process. This phase lasts from the occurrence of the injury until the fifth day. The potential of bromelain as an anti-pain, anti-edema, debridement (removing skin debris) due to burns, accelerates wound healing, and increases antibiotic absorption, is very useful in postoperative healing [14]. Pineapple fruit also has the enzyme Bromelain which acts as an anti-inflammatory. The bromelain in pineapple can reduce the average number of days to relieve post-surgery pain and sores that cause inflammation. Research on women who had an episiotomy showed that the bromelain contained in pineapple was effective in reducing swelling, bruising, and pain, in women who had an episiotomy [15].

Research conducted by Endang (2019) in his research showed that the average value of pretest wound healing was 2.05 and on the posttest of 0.24. This indicates the healing of perineal wounds after administration of pineapple juice with a significant value of  $P\text{-Value} = 0.001 < 0.05$ . In the working area of the Mining Health Center, there are many pineapples belonging to the community, precisely in the village of KualuNenas. In this village there has been a growing business of selling pineapples as one of the community businesses engaged in the home industry sector which in recent years has experienced quite rapid development. Besides being cheap, the fruit is also sweet. The preliminary survey conducted on March 29, 2021 in KualuNenas Village,

the working area of the Mining Health Center, there were 101 postpartum mothers in 2020 and from January to March 2021 the number of postpartum mothers was 21. From interviews conducted with 5 postpartum mothers, it was found that they did not know that pineapple juice could accelerate the healing process of perineal wounds, they only consumed drugs obtained from midwives to accelerate the wound healing process [16].Based on the background of the problem above, the researcher is interested in conducting research on "the effect of giving pineapple juice (*AnanasComosus* L. Merr) on perineal wound healing in post partum mothers in KualuNenas Village, the working area of the Tambang Health Center, Kampar Regency [17].

## RESEARCH METHODS

This type of research is a pre-experimental research with a One Group pretest and posttest design. This research was conducted in KualuNenas Village, the working area of the Tambang Health Center in 2021. The sample was 21 post partummothers.The sampling technique used purposive sampling method.The research instrument used an observation sheet. The data analysis used in this study was univariate and bivariate

## RESULTS AND DISCUSSION

Table 1 Frequency Distribution Characteristics of RespondentsBased on Mother's Age in KualuNenas Village, Mining Health Center Working Area

Mother's Age	F	%
17-25 years old	9	42.8
26-35 years old	12	57.2
Amount	21	100

Based on table 1, most of the respondents aged 26-35 years were 57.2%.

Table 2 Frequency Distribution Characteristics of Respondents Based on Mother's Education in KualuNenas Village, Mining Health Center Working Area

Education	F	%
Low Education (SD, SMP)	7	33.3
Intermediate (high school)	14	66.7
Amount	21	100

Based on table 2 most of the respondents have secondary education, namely 14 (66.7%).

Table 3 Frequency Distribution Characteristics of Respondents Based on Mother's Education in KualuNenas Village, Mining Health Center Working Area

Work	F	%
Working	4	19.0
Doesn't work	17	81.0
Amount	21	100

Based on table 3 most of the jobs are domestic workers, namely 17 (81%).

Table 4 Distribution Degree of Perineal Wound Before Giving Pineapple Juice in Kualu Nenas Village Working Area of Mining Health Center

<b>Variable</b>	<b>Mean (cm)</b>	<b>Min-Max</b>
Degree of Perineal Wound before giving pineapple juice	2.33	2-3

Based on table 4, it can be seen that the degree of perineal injury before pineapple juice was given was 2.33 cm with a standard deficiency of 0.48

Table 5 Distribution of Degrees of Perineal Wounds After Giving Pineapple Juice in Kualu Nenas Village Working Area of Mining Health Center

<b>Variable</b>	<b>Mean (cm)</b>	<b>Min-Max</b>
Degree of Perineal Wound after being given pineapple juice	1.38	1-2

Based on table 5 it can be seen that the degree of perineal wound after pineapple juice is given is 1.38 cm with a standard deficiency of 0.498

Table 6 Giving Effect Pineapple Juice on Perineal Wound Healing in the Working Area of the Mining Health Center in 2022

<b>Variable</b>	<b>Mean Rank</b>	<b>Z</b>	<b>P value</b>
Degree of perineal injury before	9.50		

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The degree of perineal injury after	-4.066	0.000
	0.00	

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Based on table 6 , it can be seen that the Z value is -4.066 with a value of 0.000 (< 0.05), which means that there is an effect of giving pineapple juice on perineal wound healing in post partum mothers in Kualu Nenas Village, Tambang Health Center Work Area in 2021.

## DISCUSSION

Based on the results of research on the effect of giving pineapple juice on perineal wound healing in postpartum mothers in Kualu Nenas Village, Tambang Health Center Work Area in 2021 the results obtained that the data is normally distributed because  $> 0.05$ . Judging from the facts encountered and compared with existing theories, a discussion was made according to the research variables as follows:

1. The effect of giving pineapple juice on perineal wound healing in post partum mothers in Kualu Nenas Village, Tambang Health Center Working Area in 2021
2. After doing bivariate analysis, the results obtained that there is an effect of giving pineapple juice on perineal wound healing in postpartum mothers in Kualu Nenas Village, Tambang Health Center Work Area in 2021 with a p value of 0.000

Postpartum mothers should eat a lot of foods that contain protein, lots of fluids, vegetables and fruits and there is no limit to the intake of fluids. Fruits contain various vitamins and minerals, which play a role in facilitating the functioning of the body's organs, especially accelerating uterine involution. The ability of pineapple juice in accelerating the healing of perineal wounds is due to the content of the enzyme bromelain in pineapple juice. This enzyme plays a role in the inflammatory phase of the wound healing process. This phase lasts from the occurrence of the injury until the fifth day. The potential of bromelain as an anti-pain, anti-edema, debridement (removing skin debris) due to burns, accelerates wound healing (Astuty, 2017)

Bromelain enzymes have the ability to break down proteins into amino acids. Bromelain is efficacious in helping food digestion, anti-inflammatory, removing dead skin cells and skin diseases such as itching, eczema and scabies (Mayasari, 2018). Pineapple juice also contains pectin, vitamin C, and the enzyme bromelain which is efficacious for reducing pain and improving blood circulation and efficacious for the wound healing process. This means that consuming pineapple juice can accelerate the healing of perineal wounds (Endang, 2019).

Perineal rupture is a rupture that occurs in the perineum during childbirth, because the perineum not only plays a role or becomes an important part of the labor process, but is also needed to

control defecation and urination, maintain normal peristaltic activity (by maintaining intra-abdominal pressure) and function. healthy sex (Depkes RI, 2019).

Perineal rupture is a rupture that occurs in the perineum during labor, because the perineum not only plays a role or becomes an important part of the labor process, but is also needed to control bowel movements and urination. Good nutritional status will be able to avoid germ attacks so that infection does not occur during the puerperium in wound healing. Pineapple juice contains pectin, vitamin C, and bromelain enzymes which are efficacious in reducing pain and improving blood circulation and are efficacious for the wound healing process (Lucy, 2019).

The results of this study are in accordance with Damayanti's research (2019) with the title of applying pineapple juice to the acceleration of perineal wounds in postpartum mothers at PBM Sri Rejeki, it was found that there is an effect of giving pineapple juice and honey to accelerate the healing of perineal wounds in postpartum mothers with p value 0.003

This research is also in accordance with research Yulansari (2019) found that the Effect of Pineapple Juice on Reduction in TFU and Acceleration of Perinium Wound Healing in Post Partum Mothers at 5 Bpm Klaten Regency with a p value of 0.000. This study is in accordance with Luci's research (2019), it was found that there was a relationship between perineal wound healing after administration of pineapple juice at PBM Asnawati with a significant value of P-Value = 0.001 < 0.05. According to the researchers' assumptions, pineapple juice contains pectin, vitamin C, and the enzyme bromelain which are efficacious to accelerate the wound healing process. This means that consuming pineapple juice can accelerate the healing of perineal wounds.

## **SUGGESTION**

### **For Post Partum Mothers**

It is hoped that postpartum mothers can apply this therapy to reduce the degree of perineal wound during the puerperium so that it can reduce the risk of infection during the puerperium.

### **For Mining Health Center**

It is expected to provide information to the public that there are no dietary restrictions or abstinence for postpartum mothers. As well as providing regular health education about perineal wound healing counseling and teaching how to treat and recognize danger signs in the event of infection in the perineal wound.

### **Share STikes Al Insyirah Pekanbaru**

This research is expected to provide an input for theory and can be used as a source of reference and reading material in increasing student knowledge, especially the midwifery department about the effect of giving pineapple juice in perineal wound healing.



For Further Researchers

For further research, it is recommended to examine different variables about other fruits that can heal perineal wounds quickly.

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## **FACTORS CAUSING DEPRESSION FOR PREGNANT WOMEN IN THE ERA OF THE COVID-19 PANDEMIC: SCOPING REVIEW**

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### **ABSTRACT**

*Background: The COVID-19 pandemic has forced the country to implement mass quarantine, social isolation occurs, job loss, increased parenting responsibilities, fear of illness, and restrictions on family gatherings, religious celebrations, births, and funerals. The experience of isolation plus rumors in the mass media. All of that causes fear, including in pregnant women. Depression in pregnant women has become a significant public health problem with a prevalence of 26.0% and during the 29.6% COVID-19 pandemic, there was an increase of 3.4%. The prevalence of depression in pregnant women was higher at 32 weeks of gestation (13.5%) compared to 8 weeks postpartum (9.1%). Objective: To discover the factors that cause depression in pregnant women in the era of the covid-19 pandemic. Method: Scoping review adapting Arksey and O'Malley framework. Search articles using three databases (PubMed, EBSCO, and ProQuest). Keywords used (Factor) AND (Depression)) AND (Pregnancy)) AND (Covid-9)). Review selection and characterization were carried out using a Critical Appraisal assessment using the Joanna Briggs Institute (JBI) tool. Results: 6 articles out of 1,111 were selected based on inclusion and exclusion criteria. Factors that cause depression in pregnant women in the era of the covid-19 pandemic are described in 1 theme, namely, factors that cause depression in pregnant women in the era of the covid-19 pandemic. Conclusion: Factors causing depression in pregnant women in the era of the covid-19 pandemic, namely, concerns about the transmission of covid to mothers and babies, concerns about covid-19, light exercise, and limited health services.*

*Keywords: Factors, depression, pregnant women, and covid-19*

### **INTRODUCTION**

Since December 2019 the Severe Acute Respiratory Syndrome Corona Virus 2 (SARS-CoV-2) pandemic has spread, along with an increase in the prevalence of mental health disorders in Indonesia[1], with the covid-19 pandemic, more and more countries are in mass quarantine[2]. The COVID-19 pandemic has led to job loss, social isolation and unemployment, increased childcare and homeschooling responsibilities and fears of illness.[3]. Covid-19 can cause stress, including financial pressure, increased depression and disrupted fetal development[4]. Isolation and rumors spreading on social media have disrupted mental health[2]. Social life is also affected

such as family gatherings, religious celebrations, births and funerals[2]. All of these contribute to improving mental health[3]

In pregnant women, depression is a mood disorder characterized by feelings of sadness, emptiness, loss, anger, or irritable mood accompanied by somatic and cognitive changes.[5]. The prevalence of depression in pregnant women from low to lower middle income countries is estimated at 15.6%.[6].Depression in pregnant women has become a major public health problem with a prevalence of 25.3%.The prevalence of pregnant women with depressive disorders can occur in the first trimester of pregnancy (4%), second trimester (12.8%) and third trimester (12.0%). The prevalence of depression in pregnant women is higher at 32 weeks of gestation (13.5%) compared to 8 weeks postpartum (9.1%)[7].

Based on two studies in China and in Canada comparing mental health outcomes in pregnant women who were recruited before and after *coronavirusdisease-19*(covid-19). The Chinese study recruited a total of 4,124 pregnant women from 10 different provinces to assess impact *coronavirusdisease-19*(covid-19) on the prevalence of depression and anxiety and associated risk factors. Pregnant women assessed after the pandemic *coronavirusdisease-19* (covid-19) had a higher prevalence of depressive symptoms (29.6 vs. 26.0%) and a 3.4% increase.

## **METHOD**

The framework used in this scoping review adopts from Arksey and O'Malley[8]. Stage (1) identify scoping review questions, (2) identify relevant articles, (3) select articles, (4) chart data, (5) compile, summarize and report results[9].

### *Identifying Research Questions*

Researchers use the PEOS framework. What are the factors that cause depression in pregnant women during the Covid-19 pandemic?

### *Article Selection*

**Table 1. Article Selection**

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<b>Author/year/city/method/no.</b>	<b>Destination</b>	<b>Participant/ Number of Samples</b>
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[10]/2020/Iran/Cross-sectional/1	Knowing the predictor factors in pregnant women in Iran during the Covid-19 pandemic.	205 pregnant women at the Tabriz Iran health center in 2019
[11]/2020/Canada/sectional/3	Cross- Knowing the factors that cause depression in pregnant women in the era of the Covid-19 pandemic	Between 14 April-8 May 2020, 900 eligible women, 520 pregnant
[12]/2020/Canada/Cross-sectional/4	Knowing the factors that cause depression in pregnant women in the era of the Covid-19 pandemic	1987 pregnant women in trimesters I, II, III and primipara, multi, and nulliparous pregnant women
[13]/2021/United States of America/Cross-sectional/5	Knowing the predictors of depression in pregnant women in the United States at the start of the COVID-19 pandemic	524 pregnant women and postpartum women
[14]/2021/Israel/Cross-sectional/6	Knowing the factors that cause depression in pregnant women in the era of the Covid-19 pandemic	As many as 1,114 pregnant women and 256 non-pregnant women were recruited via social media in May 2020.
[15]/2021/United States of America/Cross-sectional/9	Knowing the factors that cause depression in pregnant women in the era of the Covid-19 pandemic	Of the 6,894 pregnant and postpartum women performed in 64 countries between 26 May 2020 and 13 June 2020.
[16]/2021/China/Cross-sectional/12	Knowing the risk factors for depression in pregnant women in the era of the Covid-19 pandemic	434 mothers in this study. Sample recruitment starts from September to December 2020

## RESULTS AND DISCUSSION

Factors causing the level of depression of pregnant women in the era of the Covid-19 pandemic  
Based on the identification and mapping that has been done, 7 articles were found that discussed the level of depression in pregnant women in the era of the Covid-19 pandemic, namely articles with numbers 10, 11, 12, 13, 14, 15, and 16. Factors that cause depression in pregnant women in the era of the covid-19 pandemic, namely:

### .Social support

Social support given to pregnant women can reduce symptoms of depression. Social support can be obtained from family, neighbours, spouse and colleagues. Depression scores were significantly higher in pregnant women with a high level of partner support compared to pregnant women who had less partner support [13, 15]. This is in line with research [17] [18] Partner support is the most important protective factor and can help reduce depressive symptoms in pregnant women in the era of the Covid-19 pandemic. The need for partner support to reduce depressive symptoms during covid-19. Partner support during pregnancy reduces symptoms of stress to depression and more than 90% of pregnant women report a sense of emotional security after partner support [19].

### Spouse education level

Pregnant women who have partners with non-university education are less likely to experience depression than pregnant women who have partners who have a university degree [1]. According to research Davenport et al., (2020) The level of education affects the depression level of pregnant women in the era of the Covid-19 pandemic because non-university education is lower than undergraduate.

### Mother's education

Pregnant women with education from junior high school to university are less likely to experience prenatal depression [12]. This is in line with research Tang et al., (2019) that pregnant women with education from junior high school to university are less likely to experience prenatal depression

### Couple job

Depression is more common in pregnant women whose partners have odd jobs than those who have regular jobs [5, 6]. This is in line with research Cuiyan et al., (2020) Partner's work greatly affects the level of depression of pregnant women in the era of the Covid-19 pandemic. Another recent study from the United States revealed that job depression and economic downturn increased significantly during the COVID-19 pandemic and stable income as a protective factor and improved the mental health of pregnant women. [4].

### Mother's job

Depression rates are also higher among working pregnant women, who have a higher risk of experiencing psychological distress than non-working pregnant women [12]. This is in line with research Nadholta et al., (2020) Depression in pregnant women is higher in pregnant women who work and have a higher risk of experiencing psychological pressure than pregnant women who do not work. This may be caused by pregnant women having to work in the era of the Covid-19 pandemic [23].

### Parity

Depression scores were significantly lower in pregnant women who had their first pregnancy compared to the second and third [1]. This is in line with research Preis et al., (2020) Depression is very common in primiparous women. High rates of pregnancy depression in mothers during first labour. Perhaps the reason for the low depression in primiparous mothers in the era of the Covid-19 pandemic in this study was the high relationship between mothers and the puskesmas, which helped to obtain sufficient and accurate information and reduced maternal depression. [25]

### Eat comfort food

Eating comfort foods can reduce symptoms of anxiety and depression. Pregnant women eat comfort food as a coping strategy and this was found to be associated with higher symptoms of depression and anxiety. During times of stress, pregnant women often prefer to eat highly palatable foods often referred to as "comfort foods" to relieve negative emotions such as anxiety or sadness [5]. This is in line with research Cummings et al., (2018) a recent study during covid-19 and the subsequent lockdown in Italy found that 52% of respondents reported they were eating more "comfort food" such as chocolate, ice cream, desserts and salty snacks. Given the concerns about weight gain and obesity in general, and the perinatal population in particular, this warrants further study [27].

### Marital satisfaction

Marital satisfaction with depression scores during covid-19 prevalence. Depression scores were lower in women who were satisfied and very satisfied with their lives compared to those who were moderately satisfied [1]. This is in line with research Odinka et al., (2018) showed that as depression severity increased between men and women, their marital satisfaction decreased. Low-risk pregnant women in the postpartum period also found a significant relationship between the severity of depression and anxiety and marital life satisfaction.

### Use of social media

Time spent watching COVID-19 related media content, whether through news outlets or social media, can be associated with the severity of mental health symptoms [5]. This is in line with research Jae et al., (2019) Pregnant women who spend more time per day paying attention to

COVID-19 information are more likely to experience symptoms of anxiety. Recent studies have shown that there is a COVID-19 pandemic leaving individuals with so much information that it is unclear whether the information is reliable or useful.

### High risk pregnancy

High-risk pregnancy is a well-known risk factor for maternal depression [6]. This is in line with research on pregnant women Okagbue et al., (2019) Pregnant women who have high-risk pregnancies are considered at risk of experiencing depression, especially during the Covid-19 pandemic. Pregnancy complications are well-known risk factors for postpartum and antenatal depression[31]. Mothers who have high-risk pregnancies are at risk of experiencing depression, especially during the Covid-19 pandemic. The increase in depression rates in early pregnancy is inconsistent with studies reporting higher rates of depression towards the end of pregnancy[30].

### Sleep pattern

Getting a good night's sleep can also reduce depression or mental health [4]. This is consistent with previous research findings that greater resilience to life challenges is significantly associated with better sleep quality in pregnant women[27]and that sleep disturbances are a key factor in mental disorders[32].

### Factors causing depression in pregnant women in the era of the Covid-19 pandemic

Based on the identification and mapping that has been done, 3 articles were found that discussed the level of depression in pregnant women in the era of the Covid-19 pandemic, namely articles with numbers 3, 4, and 9. Factors that cause depression in pregnant women in the era of the Covid-19 pandemic are:

#### Concerns about and transmission of covid-19 to mothers and babies [4,9]

Clinically elevated depressive symptoms increased by 1% for increased perception of threats to one's own life, endangering the baby and not getting the care needed [4]. A high percentage of respondents (86%) reported being somewhat or very worried about covid-19, with many of the most frequently reported concerns related to pregnancy and childbirth including the baby contracting covid-19 (59%), covid-19 causing changes to birth plans ( 41%) [9].

#### Worries about covid-19

Child related worries and missing medical appointments are consistently associated with increased post-traumatic stress, depression and anxiety [9]. This is in line with research Corbett et al., (2020) identified only one other study of pregnant or postpartum women reporting particular concerns. The majority of expectant mothers have concerns about the health of their relatives, children and unborn babies. In addition, it shows that the majority of pregnant women also have



concerns related to their birth plans, with particular concerns about not allowing support people during labor.

### Light exercise

Pregnant women who did at least 150 minutes of moderate exercise during the COVID-19 pandemic had significantly lower scores for anxiety or depression than mothers who did not do light exercise [3]. This is in line with research Davenport et al., (2019) suggesting that pregnant or postnatal women who were able to engage in regular physical activity during the COVID-19 pandemic may have improved mental health compared to those who were not and taking into account that certain barriers to physical activity may increase with respect to COVID-19, such as the closure of recreation centers in rooms and parks / green open spaces.

### Limited health services

The COVID-19 pandemic has also limited access to public services, including maternal and neonatal health services, such as pregnant women who don't want to go to other health care facilities for fear of infection, recommendations to postpone pregnancy checks and classes for pregnant women, and unpreparedness for services from in terms of manpower and infrastructure including Personal Protective Equipment (PPE)[35]. Care and management of pregnant women is an important service to identify pregnant women at high risk[36]. Providing access to prenatal health services by limiting the exposure of health workers and patients to COVID-19 is a challenge[37]. During the COVID-19 pandemic, pregnant women must continue to provide antenatal care and reduce and prevent mental health problems.

## CONCLUSION

The causative factors that affect the depression level of pregnant women in the era of the co-19 pandemic are social support, education level of partner, mother's education, partner's occupation, mother's occupation, parity, eating comfort food, marital satisfaction, use of social media, high-risk pregnancies and patterns of sleep. Factors causing depression in pregnant women in the era of the Covid-19 pandemic were fears of transmission of Covid-19 to the mother and fetus, concerns about Covid-19, light exercise and limited health services.

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## **THE LONG OF LABOR IN THE ACTIVE PHASE I IN THE BANGKINANG HOSPITAL KAMPAR DISTRICT AS A RESULT OF MATERNAL POSITIONING**

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### **ABSTRACT**

*In 2017, Indonesia had a maternal death rate of 305 per 100,000 live births. In 2017, the MMR in Kampar District was 73 per 100,000 live births, compared to 112 per 100,000 live births in Riau Province. The mother and fetus will suffer if the initial stage of labor lasts too long. This study was conducted at Bangkinang Hospital in the Kampar Regency to ascertain the impact of the mother's position on the duration of labor during the first active phase. This kind of study uses a post-test only control group and a true experiment research design in a quantitative manner. Between April and July 2019, the study was conducted at the Bangkinang Hospital. Mothers who gave birth between April to June 2019 at the Bangkinang Hospital made up the study's sample, which included 16 respondents standing and 16 respondents in an oblique maternity position. Purposive sampling was used as the sample technique. The dependent T test was used for computerized univariate and bivariate data analysis. The majority of respondents to this study experienced the first active phase of the rapid phase up to 56.3% of the time, and there was a relationship between the mother's position and the length of the active phase of the first stage of labor at Bangkinang Hospital in Kampar Regency ( $p = 0.003$ ), according to the study's findings. It is suggested that both parties consider using the standing maternity position as a backup option to quicken labor.*

*Keywords: Duration of Labor, Oblique Maternity Position, Standing Maternity Position*

### **INTRODUCTION**

Persalinan is a process that comes to a close with the submission of the judge's verdict. The current process begins with a set of sequential persalinan steps that are delayed by progressive changes to the services, and it ends with the placement of a placenta. Persalinan is a simple process or behavior that is normal, but it has the potential to become abnormal if it is not carried out in a proper manner [1]. Pregnancy, childbirth, and postpartum problems that are not treated adequately and promptly are the direct causes of mother death. Puerperal infections (10%) and prolonged labor (42%) are typically the causes of maternal mortality during the puerperium, Eclampsia (13%), and problems following childbirth (11%). According to data from the World Health Organization (WHO), 3,182 women died from pregnancy-related, childbirth-related, or puerperium-related causes in developing countries in 2017. In underdeveloped nations, maternal mortality and morbidity continue to be major health issues. According to the IDHS data, the

maternal death rate was 228 per 100,000 live births in 2007, 359 per 100,000 live births in 2012, and 305 per 100,000 live births in 2017 [2].

According to data from the Riau Provincial Health Office, the number of maternal deaths in the province of Riau tends to rise. In 2015, there were 108 women per 100,000 live births throughout pregnancy, childbirth, and the postpartum period. In 2016, there were 101 live births, and in 2017, there were 112 live births[3]. According to information from the Kampar District Health Office, there were 142 maternal deaths during pregnancy, childbirth, and the postpartum period in 2015, 115 per 100,000 live births in 2016, and 73 per 100,000 live births in 2017.

A full-term or almost full-term baby is expelled from the mother's body, followed by the placenta and fetal membranes, to complete the process of childbirth. The delivery process is divided into three categories: spontaneous delivery (if the birth occurs naturally through the birth canal with the mother's own strength), artificial delivery (if the birth is aided by outside forces, such as forceps/vacuum extraction, or sectio caesarean surgery is performed), and recommended delivery (labor that does not start on its own but only takes place after rupture of the membranes, administration of pitocin or prostaglandins). Power, passage, passenger, mother psychology, and the presence of birth attendants are all factors that might speed up or delay down delivery [4].

The birth process consists of four stages: stage I, also known as the dilation stage, during which the cervix ripens to a full 10 cm; stage II, also known as the expulsion stage; during which the placenta is born after being detached from the uterine wall during stage III, also known as the uri stage. After placenta delivery, Kala IV begins [5]. The opening of the uterine cervix, which in primigravidas lasts for roughly 13 hours and in multigravidas for roughly 7 hours, marks the end of the first stage. If the initial stage lasts more than 24 hours in primi and 18 hours in multi, it is referred to as being protracted. If the first stage of the active phase lasts longer than six hours, it is considered protracted [6]. Fetal variables, including as fetal attitude, fetal presentation, bottom, and position, are labor passengers. The little fontanel is one of the directions (indicators) of the lowest section of the fetus. Front left, rear left, left transverse, front right, rear right, and right transverse make up the little crown's position [7].

According to Pantiawati, I. (2016)'s research, the position of labor has an impact on how long the initial stage of labor lasts. The location of labor has an impact on how long the first stage of labor lasts, according to Surtiningsih's research from 2017. Additionally, Syaflindawati's (2015) research found that the location of the worker can influence how long the initial stage of labor lasts [8]. In a study conducted by Syaidah, E. (2011), it was noted that 4 respondents were tilted and 1 respondent was not. The active phase of the initial stage of labor for giving birth ladies can be shortened thanks to the tilted position[9]. In contrast to the tilted position, the squatting position was helpful in hastening the progression of the first stage of labor in the active phase, according to a study by Warna.H.S, (2014).

According to a preliminary survey conducted by researchers at Bangkinang Hospital on February 11, 2019 there were 56 spontaneous deliveries in 2016, 61 spontaneous deliveries in 2016, and 42 spontaneous deliveries in 2018, 111 deliveries with complications, 8 deliveries using a vacuum, and 50 deliveries with sectio secaria [10]. In 2016, there were 17 cases of labor with a prolonged first stage. In 2017, there were 18 cases, and in 2018, there were 10 occurrences [11]. It is known that there are disparities in the position of the mother at the time of delivery based on an assessment of the medical records of the mother who was in labor and whose first stage of labor was protracted[12]. The initial stage lasted 1-2 hours longer for moms in a tilted position than for mothers in a standing position. The mother and fetus will suffer if the initial stage of labor lasts too long[13]. The researcher is interested in researching "The Influence of Maternity Position on the Length of Active Phase I Labor at Bangkinang Hospital, Kampar Regency" in light of the aforementioned issues.

## METHOD

This kind of study uses a post-test only control group design and a proper experimental research methodology. Between April and July 2019, Bangkinang Hospital hosted the trial. Mothers who gave birth in April to June 2019 at Bangkinang Hospital made up the study's population. A total sample of 16 respondents—16 in a standing position and 16 in an oblique position—were included. Purposive sampling was used as the sample technique. Guidelines for observation, study-related documentation, stationery, and partograph sheets are examples of research instruments. The dependent T test was used for computerized univariate and bivariate data analysis.

## RESULTS

Table 1. Shows how long labor took at Bangkinang Hospital in Kampar Regency during the first stage of the active phase.

No	Labor Length	Amount	
		F	%
1	Fast ( $\leq 6$ jam)	19	59,4%
2	Slow ( $> 6$ jam)	13	40,6%
Total		32	100

According to table 1, the first stage of the active phase was fast for the majority of respondents—59.4%—and slow for the remainder—40.6%.



Table 2 Shows how long labor took in the experimental group at Bangkinang Hospital in Kampar Regency during the first stage of the active phase.

No	Lama Persalinan	Lying Sideway	
		F	%
1	Fast ( $\leq 6$ jam)	5	31,3%
2	Slow ( $> 6$ jam)	11	68,7%
Total		16	100

According to table 2, the first stage of the slow active phase was experienced by the majority of participants in the experimental group (laying on their side) as much as 68.7% and the rest as much as 31.3%.

The time it took for the control group's labor to reach the first stage of the active phase at Bangkinang Hospital in Kampar Regency

Table 3 Shows how long labor took in the control group at Bangkinang Hospital in Kampar Regency during the first stage of the active phase.

No	Labor Legth	Stand	
		F	%
1	Fast ( $\leq 6$ jam)	13	81,3%
2	Slow ( $> 6$ jam)	3	18,7%
Total		16	100

According to table 3, the majority of respondents in the control group (standing position) went through the active phase's first stage quickly (up to 81.3%), whereas the remainder went through it slowly (up to 18.7%). Mother's Position's Impact on Active Phase I Delivery Time at Bangkinang Hospital in Kampar Regency First, the normalcy test was run, followed by the bivariate analysis. The normality test is used to determine whether the variances of two or more distributions are equal, which means that it is used to determine whether the independent and

dependent variable's data are homogenous or not. When respondents with fewer than 50 respondents were subjected to the Shapiro-Wilk test for data normality, the results showed that the experimental and control groups had normally distributed data with p values > 0.05, or 0.138 and 0.087, respectively. The data is therefore presumed to be regularly distributed. According to the findings of the research, the mother's position has an impact on how long the first stage of labor lasts at Bangkinang Hospital in Kampar Regency when it is in the active phase:

Table 4. Position of the Mother Against Labor Length in Active Phase I at Bangkinang Hospital, Kampar Regency

Posisi Persalinan	Long Kala I Fase Actif				Total		p value
	Fast		Slow		n	%	
	F	%	F	%			
Stand	13	72,2	3	21,4	16	50	0,003
Lying Sideway	5	27,8	11	78,6	16	50	
Total	18	100	13	100	32	100	

Table 4 shows that the majority of respondents who were in the first stage of the rapid active phase were standing, with as much as 72.2% of them doing so. The majority of responders (78.6%) who had a sluggish first stage of the active phase were lying on their side. The duration of the first stage of labor in the active phase at Bangkinang Hospital, Kampar Regency, is influenced by the mother's position, according to the findings of an independent t-test, which yielded a p value of 0.003, which is a minor improvement over 0.05.

## DISCUSSION

According to the findings of the univariate analysis, the majority of respondents went through the first stage of the active phase, which was quick for 56.3% of them and sluggish for the remaining 43.8%. 50% of responses followed the direction of the side-lying delivery position, and 50% followed the standing position of labor. The length of labor during the active phase of the first stage at Bangkinang Hospital in Kampar Regency was influenced by the mother's position, according to the results of the bivariate analysis, which yielded a p value of 0.003, which is less than 0.05.

Another study that supports this one is Pantiawati.(2016) I's study on how the standing position during labor influences the length of the first stage of labor. The length of the first stage of labor

is influenced by the delivery position, according to Surtiningsih's research from 2017. Additionally, Syaflindawati's (2015) research found that the location of labor can impact how long the first stage of labor lasts. In a study by Syaidah.E. (2011), it was noted that 4 respondents adopted a sideways stance whereas 1 did not. The active phase of the initial stage of labor for giving birth ladies can be shortened thanks to the tilted position.

The baby's continuous descent with the need to push can be assisted by standing. An upright stance is part of the standing position anatomically. Due to the pelvic axis and the fetus's position being in the direction of gravity, this position is thought to be the most advantageous for giving birth. Standing up might make the baby's head smaller, the pelvis bigger, and the urge to push stronger (Prawirohardjo.S, 2012).

According to the duration of labor, the majority of respondents who were placed in a standing position had their active phase of labor develop more quickly. The standing position is thought to be more effective than the mirin position because the mother feels an immediate urge to push along with the contractions that take place, making the desire to push an unconscious reaction to pressure when the cervix has not fully opened and the thinning of the cervix is already palpable thin, soft, and stretchable. infant on the pelvic floor.

This is because the thinning of the cervix, which is very thin, soft, and stretched, is a sign of a standing position. In this position, the pelvic cavity can enlarge by 28% at the pelvic inlet and utilize gravity to descend the baby's head (lowest part). Standing up can make it easier to empty your bladder. The lower third of the fetus will slow down if the bladder is full (Sulistiyawati, 2009).

The woman may or may not experience an immediate urge to push (push) along with the contractions that take place once the cervix is extremely thin, soft, and stretched. Whether the desire comes on right away or after a little respite depends on the baby's position in the pelvis, velocity of descent, and amount. The urge to push will lessen or grow stronger with time or after shifting into an upright sitting or standing position. The mother's unconscious response to the baby's pressure on the pelvic floor is the impulse to push (Suwanti, 2015).

The mother must lie on her left side in the "left side position," with one leg raised and the other straight or piled on the lifted leg (like hugging a bolster). In addition to reducing strain on the inferior vena cava and preventing lacerations or rips in the delivery canal, lying on the left side can make women feel more at ease and lessen the risk of hypoxia by ensuring that the oxygen supply is not interrupted (Syaidah, 2011).

According to the researcher, mothers in an oblique position endure the initial stage of labor more so than mothers in a standing position. According to the findings of the study, respondents were placed in a slanted position, which had a lessening effect on the rate of birth. This is because the cervix is still thick despite its weakening. Take a few calm breaths until the urge to push passes if

the mother feels the need to push too soon while lying on her side. Meanwhile, when it is upright, it makes use of gravity's pulling power to its benefit. In order to prevent this, the mother is provided with a cushion that can be used to support the baby's head and torso while she is standing.

## CONCLUSION

- a. The first stage of the active phase, which was fast for 56.3% of respondents and slow for the remaining respondents (43.8%), was experienced by the majority of survey participants.
- b. The first stage of the slow active phase was experienced by the majority of participants in the experimental group (laying on their side) at a rate of 68.7%, and the rest at a rate of 31.3%.
- c. The initial stage of the active phase was mostly experienced by responders in the control group (standing position), with a quick portion of 81.3% and a sluggish portion of 18.7%.
- d. At Bangkinang Hospital in Kampar Regency, there is a relationship between the mother's position and the length

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**INSULIN USE COMPLIANCE IN TYPE 2 DIABETES MELLITUS PATIENTS:  
SYSTEMATIC REVIEW**

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**ABSTRACT**

*Objective: identify adherence to insulin use in Patients with Type 2 Diabetes Mellitus. Design: Systematic Review. Methods: Search for quantitative studies published in 2020-2022. Results: There are five studies included in this systematic review. Quantitative Studies show insulin use adherence in type 2 DM patients is indispensable for achieving the success of bored factor therapy being the most dominant cause as respondents' inability to undergo adherence to using insulin. There is a meaningful relationship between compliance and regulation of blood sugar levels which means that patients with high adherence will be related to the controlled blood sugar levels of patients with type 2 diabetes mellitus. Conclusion: Adherence of type 2 DM patients in insulin therapy can control glycemic levels.*

*Keyword: Diabetes Mellitus Type 2, Blood Glucose, Hypoglycemic Agents, Insulin*

**INTRODUCTION**

Diabetes is a condition of increasing sugar levels in the blood due to the body not being able to produce enough insulin hormone or use insulin effectively (Hafan Sutawardana et al., 2020). Diabetes Mellitus (DM) is a chronic and metabolic disease characterized by an increase in blood glucose levels that results in serious damage to the heart, blood vessels, eyes, kidneys, and nerves that increase over time. The most common is type 2 diabetes, usually experienced by adults when the body becomes resistant to insulin or does not make enough insulin in the body (WHO, 2022). Diabetes Mellitus is a chronically occurring and progressive clinical syndrome characterized by polyuri, polydipsy, and polyphagy accompanied by an increase in blood glucose or hyperglycemia (PERKENI., 2021).

Riskesdas data shows that Diabetes Mellitus type 2 in Indonesia was 4% from 2013 as much as 6.9% until 2018 as much as 10.9% (Basic Health Research (Riskesdas)., 2018). Diabetes Mellitus type 2 is a chronic multisystem disease, non-communicable but has reached epidemic proportions due to chronic exposure to hyperglycemia affecting the body's microvascular causing diabetic nephropathy, retinopathy, and neuropathy with a high impact on quality of life and life expectancy (Faselis et al., 2019). Type 2 DM also has macrovascular complications, namely coroner's heart disease, cardiomyopathy, arrhythmias, and sudden death, cerebrovascular disease and peripheral artery disease. Many clinical studies show other risk factors such as hypertension, obesity and dyslipidemia (Viigimaa et al., 2019). The management of type 2 DM which has an HbA1C test result of more than 9% is by insulin administration (PERKENI, 2021). One of the indicator parameters for the success of DM control is that the level of glycosylated hemoglobin (HbA1c) can be used as an indicator of blood control assessment in diabetic patients in the last 2-3 months (Krismayenti et al., 2022). Complications that occur in DM patients can be prevented by optimal glycemia

control, namely controlled blood glucose and HbA1c concentrations. Regularity of taking medications in DM patients is very important in preventing complications (Kandou et al., 2019). Adherence to treatment is a challenge in DM patients because DM is a chronic disease that is associated with a risk of comorbidity and requires lifestyle changes, especially after the start of insulin therapy (Hafan Sutawardana et al., 2020).

Insulin administration in type 2 DM patients can cause side effects such as hypoglycemia, obesity, lipodystrophy, osteoporosis, and allergic reactions to insulin, but this is rare. The insulin used to achieve the prandial blood glucose target is fast-acting insulin injected 5-10 minutes before meals or short-acting insulin injected 30 minutes before meals. Basal insulin administration can also be combined with oral antihyperglycemic drugs to lower prandial blood glucose such as short-acting insulin secretion-enhancing drugs (glinid group) or inhibitors of carbohydrate absorption from the intestinal lumen (acarbose) or metformin (biguanid group). In single or combination insulin therapy adjusted to the needs of the patient and individual responses assessed from the results of the examination of daily blood glucose levels (Zaim et al., 2021).

In clients, there is often a problem of non-compliance in carrying out the 5 pillars of diabetes mellitus management including education, physical exercise DM diet program that is in accordance with 3J, pharmacological therapy and sugar control (Chrisnawati, 2020). Adherence in taking the drug in people with diabetes mellitus is one of the successes of therapy by looking at the fact that 50% of patients with DM are compliant in treatment therapy. The factor that causes this to happen is discomfort in using the drug so that the patient stops and the condition is better than before (Zairina et al., 2022). The results of a study conducted on 1698 DM patients in 10 cities in Brazil obtained the results of 166 patients (9.8%) with high insulin therapy adherence, 717 patients (42.2%) with moderate insulin therapy adherence, 815 patients (48.0%) with high insulin therapy adherence (Hafan Sutawardana et al., 2020.).

Research (Rukminingsih et al., 2021) mentioned the error of administering insulin doses, where more than 52% of the reported events had or received the wrong dose and type of insulin so that it could cause hyperglycemia. So based on a systematic review of insulin use compliance in diabetes mellitus patients, it is found that it is not in accordance with the recommendations of diabetes mellitus treatment therapy, it is hoped that this systematic review can be used as an evidence-based intervention so that it can contribute to clinical nursing practice. The systematic purpose of this review was to evaluate adherence to insulin use in dm type 2 patients in controlling blood glucose levels.

## **METHODS**

### **1. Study Protocol**

Systematic reviews were conducted by looking for studies published between 2020 and 2022. This systematic review includes research articles, *Journal Galenika Journal of Pharmacy*, *Journal of Nursing Care & Biomolecular*, *Journal of Silampari Nursing*, *Journal of Health Research and Syntax Literate: An Indonesian scientific journal*.

### **2. Inclusion and Exclusion Criteria**

Inclusion and exclusion criteria using the questionnaire format Morisky Medication Adherence Scale (MMAS-8) Defilia Anogra Riani., et al. 2017 which is often used to measure the level of patient compliance. The inclusion criteria for study respondents were diagnosed with type 2 DM, patients who used insulin, were  $\geq 30$  years old, could communicate well, and were willing to become research respondents. The exclusion criteria

in this study were type 2 DM patients using oral tablets, had physical disorders, physical limitations, and mental disorders.

Table 1. Inclusion and Exclusion Criteria

<b>Criterion</b>	<b>Inclusion</b>	<b>Exclusion</b>
Population	People with Type 2 DM > 30 years and use insulin	Non DM Tipe 2
Interventions/Phenomena of interest	Insulin Compliance	Oral methods of therapy
Checklists	Standard practices, alternative interventions and no comparisons	No restrictions
Result	Results for insulin use compliance	No restrictions
Study Designs and Types of Publications	Published with quantitative, descriptive-correlational studies with a cross-sectional approach	Qualitative studies, case studies and a single expert opinion
Year of Publication	2020-2022	Not from 2020-2022
Language	Indonesian	Not in English

### 3. Search Strategy

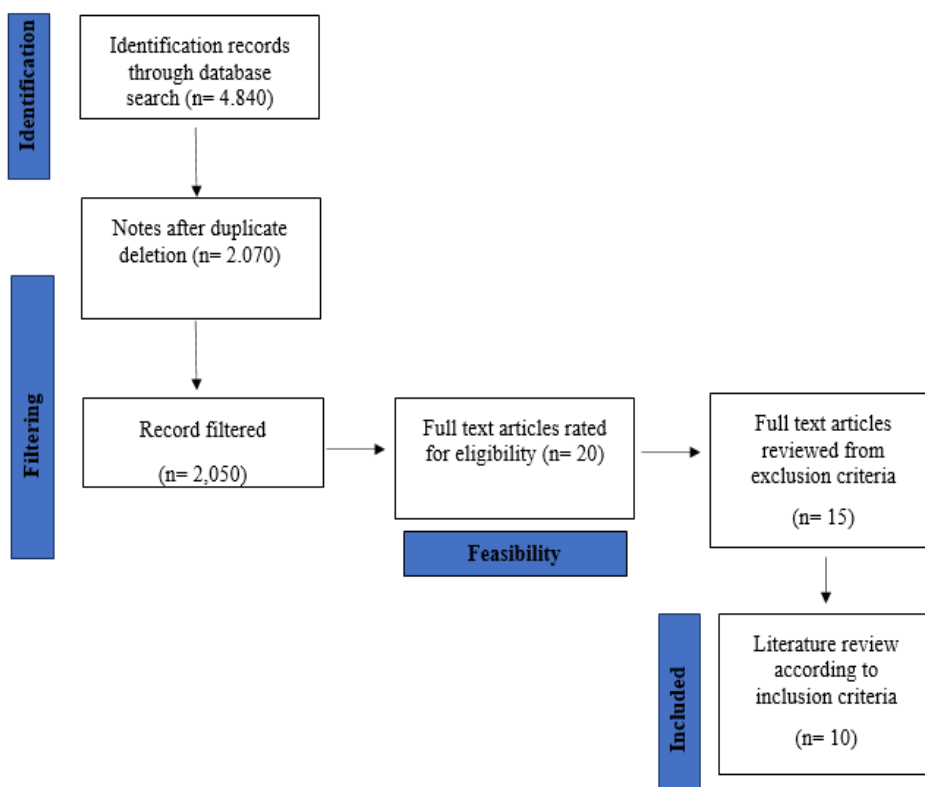
In the first stage, an electronic bibliographic database (google scholar and science direct) is used to determine the right keywords between the title and the abstract to identify relevant articles in this database. In phase 2, a specific search for each database is performed using these keywords to identify relevant articles among the databases. In the last phase, full-text filtering for literature is carried out through a manual search of all reference lists of studies in order to identify additional relevant articles. We are looking for articles published between 2020 and 2022.

### 4. Study Screening and Selection

Using a literature search, 4840 studies were initially identified. After duplicates were removed, 2070 studies were screened. Researchers independently screened all identified research titles and abstracts for review, and 2050 studies were issued based on exclusion criteria and established from the journal, 20 underwent a full text review and 15 were issued. The reviewer described the results of the screening and selection process and reached a consensus on the feasibility of the study resulting in the remaining 10 studies meeting the inclusion criteria.



Figure 1. Shows prisma flowchart that represents the process of searching for study selection.



## RESULTS

### 1. Yield Size

Except for three systematic reviews, seven studies measured insulin adherence outcomes in people with Type 2 DM with insulin effectiveness against blood sugar control. Two studies used the guttman scale, one study used observational descriptive using retrospective data, one case study while three studies used the likert scale, the seven studies measured adherence and effectiveness and knowledge of insulin use in Type 2 DM patients.

### 2. Characteristics of the Included Studies

Studies classified characteristics of the intervention: insulin adherence (type, dose, time).

### 3. Types of Insulin

One study compared the effects of human and analog insulin administration, statistically there was no meaningful difference between the average difference in early and late HbA1c in patients who received human insulin and analog insulin ( $P=0.785$ ). One study said as much as 68.42% were appropriate in the use of insulin type. The selection of the type of insulin is declared appropriate if it meets the requirements / retriCTION of the national formulary, namely if the GDPP  $\geq 200$  mg / dL is given rapid acting insulin. When GDP  $\geq 126$  mg/dL is given long acting insulin. Meanwhile, if gdp  $\geq 126$  mg / dL and GDPP  $\geq 200$  mg / dL, then a combination insulin (mix insulin) is given (Kemenkes RI, 2018). The combination of rapid acting with long acting and intermediate acting. The combination of insulin can provide a better decrease in blood glucose levels because it can meet the needs of basal insulin and prendial insulin, control blood glucose fluctuations, the incidence of hypoglycemia and increase body weight more controlled (Rukminingsih et al., 2021).

The advantage of insulin analogues for people with type 2 diabetes is that it reduces the risk of hypoglycemia and gives them more flexibility when taking it, however, in cost comparison, human insulin is more economical than insulin analog. In the study (Jamaluddin et al., 2022) said on insulin drugs Most were ineffective as many as 14 people (77.8%), in combination drugs Most were ineffective as many as 9 people (52.9%). Comparison of the effectiveness of the drug in outpatients with dm type 2 at Al-Ihsan Hospital, based on the results of testing with independent t-tests obtained results, there was no difference because  $p=0.21 > 0.05$ . For diabetes mellitus therapy, data were obtained that respondents received the most mixed insulin therapy (novorapid flexpen® and Levemir flexpen®). The large use of mixed insulin can occur due to time efficiency factors, where mixed insulin has a combination of fast-acting insulin and intermediate work duration can provide basal and prendial insulin (mealtime) in one injection. Time efficiency factor can increase the effectiveness of Type 2 DM treatment (Vonna & Marlinda, 2020). (Hardianto et al., 2021) said based on the length of action insulin can be divided into 5, namely: (1) Insulin analogues that work fast (give an effect starting from 4-20 minutes and peaks between 20-30 minutes) such as Aspart (Novorapid TM, FiaspTM), Lispro (HumalogTM, LiprologTM, AdmelogTM), and Glulisine (ApidraTM), (2) Human insulin that works in a short period of time (effects ranging from 30 minutes and peaks of 2-4 hours) such as insulin (ActrapidTM, Humalin STM, and Insuman RapidTM), (3) Human insulin that works in the medium term with the addition of NPH (peak onset between 4-6 hours and effect 14-16 hours) such as Insulin Isophan (InsulatardTM, BasalTM Insuman, NovolinNTM, and Humulin NTM), (4) Insulin analogues that work in the long term (effect 24-36 hours) such as Glargine (LantusTM, AbasaglarTM) and Detemir (LevemirTM), as well as (5) Insulin analogues that work in a very long period of time (effect 30-90 minutes and lasts up to 42 hours) like Degludec (Tresiba TM).

#### a. Insulin Dosage

One study (Zaim et al., 2021) intervened algorithm insulin analog, can be used for insulin dosing based on monitoring of increased blood glucose levels in people with type 2 diabetes mellitus. Providing comprehensive education about monitoring blood glucose levels, diet and prevention for the occurrence of hypoglycemia in administering insulin. Research (Hafan Sutawardana et al., 2020) said that the dose in insulin administration is often not appropriate, namely the basis for the non-compliance of DM patients to inject insulin, namely forgetting the time of insulin, skipping the dose of insulin and not injecting insulin When it is felt that their body is in good condition. In the study (Jamaluddin et al., 2022a) said that the dosage, frequency, and accuracy of drug use are a limitation of the study. Meanwhile, research (Vonna et al., 2021) said that there were 87 patients with Type 2 DM who injected insulin according to the recommended dosage. (Intan, N., Dahlia, D., & Kurnia, D. et al., 2022) said insulin is available in three forms, namely short acting, intermediate acting, or long acting, generally NIDDM patients need at least a dose 2 times a day, usually given before breakfast or before dinner. On another schedule, insulin is given three injections a day, short and intermediate acting at bedtime. Blood sugar monitoring requires the full responsibility of the patient or his family, to monitor the proper blood sugar of insulin administration. The use of insulin therapy is the greatest risk for the occurrence of hypoglycemia if it is not accompanied by proper diet management.

#### b. Insulin Administration Time

One study (Hafan Sutawardana et al., 2020) said the main cause of low adherence to insulin therapy by patients was due to forgetting. Patients often forget to inject insulin at a predetermined time so that it can affect the effectiveness of insulin use in controlling blood glucose levels. In the study conducted (Vonna et al., 2021) the lowest level of knowledge

related to how to store insulin pen needles (21,6%) and the highest related to the timing of insulin injections carried out before (97,7%).

<b>No</b>	<b>Title</b>	<b>Author</b>	<b>Journal Name</b>	<b>Design</b>	<b>Participants</b>	<b>Intervention</b>	<b>Size of Results</b>	<b>Key Findings</b>
1	Analysis Effectiveness Insulin Analog and Human that Used in Sufferers Diabetes Mellitus Type 2 at a Cost BPJS in RS Islam Sukapura	Zaim, M., Purwastyasti, P., & Nafrialdi, N. (2021).	Muhammadiyah Journal of Geriatric	Research Observational in a Retrospective with Test statistics that used i.e differential test mann-whitney and chi test-square	Diabetic patients mellitus yang get human insulin and insulin analogues in RS. Islam Sukapura	Education a thorough monitoring blood glucose levels, diet, and prevention for the occurrence of hypoglycemia in give insulin.	None the differences that meaningful statistics or effectiveness clinic human insulin Than insulin analog	Insulin is a type-2 diabetes mellitus drug mainly used in patients who are already unresponsive to oral medications . Known 2 groups of insulin are insulin analog and human insulin. The incidence of hypoglycemia is smaller in Diabetes mellitus patients who are given insulin analog and human insulin

2	Hubungan Self Compassion dengan kepatuhan Terapi Insulin pada pasien Diabetes Mellitus Type 2 di RSUD Dr. Soebandi Jember	Hafan Sutawardana, J., Nursyafiqoh Putri, W., Widayati, N. (2020).	Journall of Nursing Care & Biomolecular	This study used a descriptive research design-correlational with a cross-sectional approach. A total of 84 respondents were obtained using consecutive sampling. Data collection was carried out using the Self Compassion Scale (SCS) and Morisky Medication Adherence Scale (MMAS-8) questionnaires. Data analysis used the Spearman correlation test with a significance level of 0.05.	Diabetic Patients Mellitus Type 2 At Dr. Hospital Soebandi Jember	Reviewing holistic regarding psychological aspects patients who Related selfcompassion so that it can giving upbringing nursing optimal, so that may improve adherence therapy insulin dm patients type 2.	Research results show that there is the relationship between selfcompassion with adherence therapy insulin on type 2 DM patients at RSD dr. Soebandi Jember.	selfcompassion and insulin therapy adherence shows that selfcompassion has a role in compliance with insulin therapy in type 2 DM patients. In this case individuals who have selfcompassion the high will comply with the treatment that is being carried out, namely adherence to the insulin therapy that is being undergone.
3	Insulin Use in Dm Type 2 patients JKN participants in Outpatient Pharmacy Installations	Rukminingsih, F., Catur, V. (2021)	Scientific Journal of Ibn Sina	This study is an observational descriptive study using retrospective sampling data using purposive sampling techniques	JKN Participant Patients with type 2 DM at the Outpatient Pharmacy Installation of St. Elisabeth Hospital Semarang who only received insulin therapy in January 2020, aged 26-65 years, and had the results of the GDP, GDPP and HbA1C	Adjusting the insulin dose is calculated based on the total daily insulin requirement (IHT) which is 0.2-0.5 units for each kilogram of body weight. The total prenodial insulin requirement (IPT) is 60% of IHT. Meanwhile, the need for total basal insulin (IBT) is 40% of IHT.	The suitability of insulin use in dm type 2 patients JKN participants at St. Elisabeth Hospital Semarang based on insulin type was 68.42% and most patients (80.70%) got an inappropriate insulin dose	Diabetes Mellitus (DM) type 2 is a chronic and progressive clinical syndrome characterized by polyuria, polydipsy and polyphagy accompanied by increased blood glucose or hyperglycemia. Management of dm

					examinations (examination results of the last 6 months).			type 2 in patients with HbA1C value >9% is by administration of insulin or combination of insulin with drugs
4	Adherence to Treatment of Type 2 Diabetes Mellitus Patients at Puskesmas East Jakarta	Saibi, Y., Romadhon, R., & Nasir, N. M. (2020).	Galenika Journal of Pharmacy	This study was designed with a cross-sectional design which was carried out from April 2019 to June 2019 with a total of 175 respondents of type 2 diabetes mellitus. Data collection was carried out by structured interview techniques using the MMAS-8 compliance questionnaire. The data was processed using statistical software and analyzed using frequency distribution analysis and chi square test.	Type 2 Diabetes Mellitus Patients at Puskesmas East Jakarta	To improve the patient's ability to follow the rules of treatment, it is necessary to make various efforts on the patient. Among the efforts that can be made to achieve this goal include: contacting patients or visiting homes as a form of follow-up after the administration of drugs to them by pharmacists; providing education to patients related to how to use drugs correctly and also education related to the disease they are suffering from.	The most common level of compliance with type 2 DM patients in the Puskesmas, Makassar District, East Jakarta, is compliance with the moderate category. The boredom factor is the most dominant cause as the responder's non-compliance. There is a meaningful relationship between adherence and blood sugar control which means that patients with high adherence will be associated with controlling their blood sugar levels.	The level of adherence to taking non-compliant category drugs can increase blood sugar levels to be uncontrolled in patients, while those who have high compliance will be able to keep blood sugar levels in the body controlled so that the patient's quality of life is maintained properly. Adherence is not the only determinant of therapeutic success. There are other factors that determine, including the accuracy of drug selection (rationality of drugs) and non-

								pharmacological therapies that must be adhered to by patients such as physical activity and diet.
5	Diabetes Mellitus Treatment: General Objectives and Management of Clinical Practice	Simó,R.(2022)	Review Article	Review Article	Type 2 Diabetes Mellitus Patients	Combined treatment with oral antidiabetics Regulates the type of insulin and the path of its administration Treatment of DM in special situations	Concept of Type 2 DM and clinical practice management	Diabetes Mellitus is associated with a marked increase in the incidence of cardiovascular. The strategy of treatment of diabetes should be based on its pathophysiological knowledge. Thus, insulin is essential for the treatment of type 1 diabetes because there are defects in insulin secretion. However, the treatment of type 2 diabetes patients is more complex because there are defects in insulin secretion and insulin action. Therefore, the selection of

								treatment will depend on the stage of the disease and the individual characteristics of the patient
6	Overview of Insulin and Metformin Use in Gestational Diabetes-Literature Review	Kara & Agargin, 2021	Syntax Literate: Jurnal Ilmiah Indonesia	The method used is literature review using primary data in the form of scientific articles or journals, searches are carried out through the Google Scholar, Elsevier, or PubMed databases with a period of publication years of the last 5 years.	People with Gestational Diabetes Mellitus	Metformin can control blood sugar levels without weight gain. Risks such as macrosomia and neonatal hypoglycemics in metformin use also occur less so that metformin is more widely used in the management of DMG therapy	The results of the review of the use of insulin and metformin showed no difference in effectiveness between insulin or metformin therapy in lowering the blood sugar levels of DMG patients. Metformin can control blood sugar levels without weight gain. Risks such as macrosomia and neonatal hypoglycemics in metformin use also occur less so that metformin is more widely used in the management of DMG therapy	Gestational Diabetes Mellitus (DMG) is a glucose intolerance disorder during pregnancy. Pharmacological therapies that are generally given are insulin and oral hypoglycemic drugs such as metformin. Metformin is often used on the treatment of DMG today. Metformin can cross the placenta barrier, but no evidence has been found of disability in the fetus or complications in infants.
7	Comparison of Insulin Effectiveness, Oral Antidiabetic Drugs and Combinations to Blood	Jamaluddin & Nalapraya, 2022	Bandung Conference Series: Medical Science	The research method used is observational analysis with a cross-sectional approach. Bivariate analysis using the	Type 2 DM Patients	Continue the treatment recommended by the doctor to avoid complications, control blood sugar levels by living a healthy life.	In this study, there was no difference in the effectiveness of the use of insulin, oral antidiabetic drugs and a combination of the two in	Diabetes mellitus (DM) is one of the non-communicable diseases and there is an increase every year. There are

	Sugar Levels in Outpatients with DM Type 2 Al-Ihsan Hospital			one way anova test. In the subject were as many as 97 patients. The data results obtained the use of OAD 63.9%, insulin 18.6% and a combination of 17.5%. The effectiveness of OAD 54.8% insulin 22.2% and combination 47.1%			dm type 2 patients at Al-Ihsan Hospital Bandung	two types of DM treatment, namely insulin therapy and oral antidiabetic drugs (OAD).
8	Evaluation of Knowledge and Skills of Diabetic patients	Vonna & Marlinda, 2020	SEL Journal of Health Research	This research is observational with cross-sectional methods. The study was conducted through interviews and observations in type 2 DM patients who received insulin pen therapy. The number of samples that met the inclusion criteria was 88 samples.	Patients with Diabetes Mellitus type 2 in insulin use	Edukasi penggunaan insulin	Berdasarkan hasil penelitian yang dilakukan, maka dapat disimpulkan bahwa responder umumnya memiliki tingkat pengetahuan yang baik namun sebagian besar responder masih salah dalam menginjeksi insulin pen (97,7%)	Diabetes mellitus (DM) is a disease with a high prevalence rate in Indonesia with the number of people with DM in Indonesia from 8.4 million in 2000 to around 21.3 million in 2030. Insulin is one of the most widely used treatments in Type 2 DM patients, therefore the correct use of insulin pen is very important to achieve blood glucose control



							targets, the knowledge and skills of type 2 DM patients are carried out to evaluate the success of treatment of type 2 DM patients in insulin use.	
9	Nursing Care of acute phase Type 2 Diabetes Mellitus patients with Roy's Adaptation model approach: A Case Study	Astuti, 2022	Silampari Journal of Nursing	This type of research is a case study	Diabetes Mellitus Type 2, Acute Phase	The importance of complying with therapeutic management, diet, adherence to control, and understanding in recognizing the initial symptoms of disease recurrence, as well as understanding when the patient should immediately come to the Health Service Collaboration of insulin administration , on the second day of treatment. Hypoglycemia management and hyperglycemia management	The implementation of blood sugar management nursing interventions which includes maintaining blood sugar within the normal range by providing dietary education and understanding and compliance with therapeutic management . Diabetes mellitus can be prevented by controlling blood sugar levels and carrying out a balanced and healthy lifestyle, starting from food to exercise, monitoring the effects of therapy, such as hypoglycemia after insulin	This study describes nursing care in diabetes mellitus patients in the acute phase, using the application of the roy application theory model

							correction, monitoring blood sugar values, HbA1C, monitoring signs of hypoglycemia and hyperglycemia, monitoring ECG changes, and monitoring signs of metabolic emergencies.	
10	Insulin: Production, Types, Analysis, and Routes of Administration	Hardianto, 2021	Indonesian Journal of Biotechnology & Biosciences	This study aims to explain the production, types, analysis, and routes of insulin administration	Aimed at people with Diabetes Mellitus	Produces large amounts of insulin and low production costs	Produces large amounts of insulin and low production costs and explanations regarding the different types of insulin and the routes of insulin administration	Human insulin and analog insulin are generally given by subcutaneous injection, subcutaneous injection using an insulin pen is more widely used compared to conventional injection, in addition to being more convenient, the dosage is more accurate, the pain is less due to the needles used are smaller, also easy to use, and resistant to storage at room temperature. In addition to being administered

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subcutaneous, insulin can be administered through the nasal (nasal), oral, and transdermal. The selection of an appropriate insulin delivery route and monitoring blood sugar levels will lower the risk of hypoglycemia, improve compliance, comfort and lower the risk of DM complications.

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## DISCUSSION

Adherence to Insulin Use in Blood Sugar Level Control in Type 2 DM Patients Research conducted by (Rukminingsih et al., 2021) said that a high level of adherence to treatment will be related to whether or not the patient's blood sugar levels are controlled. The results of this study are also in line with research conducted at the Dinoyo Malang Health Center which shows that there is a meaningful relationship between blood sugar levels and compliance levels. Based on the results of the study, it can be understood that the level of adherence to the use of insulin in the less compliant category can increase blood sugar levels to be uncontrolled in patients, while those who have high strength will be able to keep blood sugar levels in the body controlled so that the patient's quality of life is maintained properly.

Adherence is not the only determinant of therapeutic success. DM patients who have controlled blood glucose must continue to undergo. This is because the blood glucose levels that have been controlled are the result of the work of drugs taken by patients, it is possible that if the drug is stopped, blood glucose levels can rise again. In addition, continuing the treatment recommended by the doctor has the use of avoiding the occurrence of DM-related complications. Poor glycemic control usually occurs in patients who do not follow a diet regimen, do not exercise, do not comply with the treatment given, and do not monitor blood glucose levels regularly. Diabetes becomes worse glycemic control among patients who increase the duration of the disease, low knowledge, increased body mass index, hypercholesterol, hypertriglycerides, and increased LDL (Jamaluddin et al., 2022).

In addition to adherence, skills in the use of insulin also provide success in therapy in people with Type 2 DM. In the study (Vonna et al., 2021) the results of the evaluation of the skills of dm type 2 patients in the use of insulin pen at ZA Hospital showed that most respondents were still wrong in injecting insulin pen (97.7%). The skill most ignored by respondents was in terms of hygiene (aseptic technique). Good skills in using insulin injections are important to control the patient's normal blood glucose and avoid the incidence of hypoglycemia due to incorrect insulin use.

## LIMITATIONS

The systematics of this review has limitations. First, it does not assess the risk of whistleblower bias and cannot contact the authors of the included studies about the "unclear" criteria in the journal or related research. Therefore, it is impossible to consider whether the authors report all the results of the study or related methods of intervention. Second, searches in this review could not search by assigning keywords to DM type 2 patients with insulin use compliance.

## CONCLUSION

The systematics of this review evaluates insulin use compliance in patients Type 2 Diabetes Mellitus is evidence-based for controlling blood sugar levels. As a result, found the following:

1. Adherence to the use of insulin is effective in controlling blood sugar levels.
2. Insulin therapy is complicated and individualized, a large part of the patient still has not reached the target and there is a potential for drug-related problems in this group of patients. So it is necessary concerns from a solid interprofessional Health Cooperation.

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**AISCH 2022**

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**THE RELATIONSHIP OF SPIRITUALITY WITH COPING MECHANISM OF TYPE  
2 DIABETES MELLITUS PATIENTS IN BOJONGSARI VILLAGE, SUKABUMI  
REGENCY, INDONESIA**

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**ABSTRACT**

*Objective: To determine the relationship between spirituality and the coping mechanisms of type 2 diabetes mellitus patients. Method: This type of research is correlational with a cross-sectional approach. The population is type 2 DM patients with a sample of 54 patients with a total sampling. The spirituality instrument uses the Daily Spiritual Experience Scale (DSES) and the coping mechanism uses The Brief Copie. Statistical analysis using chi-square. Results: The results showed that most of the respondents had moderate spirituality and adaptive coping mechanisms. The results of the chi-square test obtained a P-value of 0.008, which means that H<sub>0</sub> is rejected, so there is a relationship between spirituality and coping mechanisms in type 2 DM patients. Conclusion: There is a relationship between spirituality and coping mechanisms. It is expected to maintain good spirituality in order to improve coping mechanisms in solving problems.*

*Keywords: Coping Mechanisms; Diabetes Mellitus Type 2; Spirituality.*

**INTRODUCTION**

Epidemiological transitions result in changes in disease patterns from communicable diseases to non-communicable diseases. Non-communicable diseases are ranked 7th among the top 10 causes of death in the world (WHO 2019). Non-communicable diseases, often known as Non-communicable Diseases (NCD), are responsible for up to 70% of all fatalities worldwide, with the majority occurring in low- and middle-income nations (WHO 2016).

Type 2 diabetes is one of the noncommunicable illnesses with a significant prevalence. Diabetes mellitus, or diabetes, is a disorder in which blood sugar levels are elevated (hyperglycemia) as a result of abnormal insulin action (American Diabetes Association, 2017).

The occurrence of diabetes, particularly type 2 if untreated, might result in complications. In addition to its effects on health, diabetes mellitus leads in unfavorable psychological responses that can lead to emotional problems such as tension, worry, and even depression. Disease is a source of stress that can result in numerous changes to a patient's lifestyle, including behavioral and psychological alterations (Karlina et al. 2021).

Type 2 DM patients require coping mechanisms to channel the stressors they experience. Coping mechanisms are changes that can be made by a person in attitudes, thoughts, and feelings in response to the stressor they are facing (Dewi, et al 2020).

The factors that influence coping mechanisms include personal abilities or beliefs, social support, and material assets, where spirituality has a positive effect on health and well-being and encourages individuals with chronic illnesses to take personal responsibility for their health and well-being. Patients utilize their beliefs and religion to embrace the reality of their sickness in order to manage it with patience, tolerance, and confidence for a prosperous future (Khotimah, et al 2021).

Spirituality is viewed as an adaptive job and the selection of coping mechanisms for adjusting to chronic disease-induced changes. Individual coping techniques for lowering stress and making treatment decisions in which spirituality plays a significant role. According to a study, a person's ability to deal with a situation increases proportionally to the significance of spirituality in their life (Al-Mira, 2021).

## MATERIALS AND METHODS

This study used a correlational methodology. Correlational research studies the relationship between variables and tries to expose the correlative relationship between one variable and another, allowing researchers to identify, explain, quantify, and evaluate the relationship between variables. This study has a cross-sectional design that highlights the time of independent and dependent variable measurement or observation (Notoatmodjo 2018; Putri 2019).

The population in this study were all patients with type 2 diabetes mellitus in Bojongsari Village, Sukabumi Regency. Six respondents were taken for the preliminary survey, resulting in a total population of 54 using total sampling. The data collection method used a questionnaire with spirituality instruments using the Daily Spiritual Experience Scale (DSES) and coping mechanisms using The Brief Cope. The technique of analyzing data on univariate uses the quartile and median formulas, and bivariate analysis uses Chi-squared analysis.

## RESULTS

Table 1 Characteristics of respondent in Bojongsari Village

Characteristics	F	%	
Age	17-25	2	3,7
	26-35	11	20,4
	36-45	12	22,2
	46-59	28	51,2
	≥60	1	1,8
Gender	Men	37	68,5
	Women	17	31,5
Education	SD	28	51,9
	SMP	14	25,8
	SMA	9	16,7
	PT	3	5,6
Profession	Work	34	63,0
	Doesn't work	20	37,0

Merried Status	Married	42	77,8
	No merried	8	14,8
	Divorce	4	7,4
Religion	Islam	54	100
Long suffered	<1 years old	40	74,1
	≥1 years old	14	25,9

The characteristics of the respondents in this study were mostly aged 46-59 years, namely 28 people (51.9%), male sex as many as 37 people (68.5%), education respondents, namely elementary school as many as 28 people (51.9%), respondents worked as many as 34 people (63.3%), and married status, namely 42 people (77.8%). All respondents were Muslim, with a total of 54 people (100%). Most of the respondents had long suffered from DM <1 year (74.1%) (Table 1).

Table 2 An Overview of Spirituality and coping mechanism in the village Bojongsari

Variable	F	%
Spirituality :		
Tall	10	18,5
Currently	32	56,3
Low	12	22,2
Coping Mechanism :		
Adaptive	30	55,6
Maladaptive	24	44,4

The results of the univariate analysis showed that most of the respondents had moderate spirituality, as many as 32 people (59.3%) and a small proportion had high spirituality, as many as 10 people (18.5%). Most of the respondents have adaptive coping mechanisms, as many as 30 people (55.6%), and a small proportion have maladaptive coping mechanisms, as many as 24 people (44.4%) (Table 2).

Tabel Analysis of the Relationship between Spirituality and Coping Mechanisms Patients with Type 2 Diabetes Mellitus in Bojongsari Village, Working Area of the Jampangkulon Health Center, Sukabumi Regency

Spirituality	Coping Mechanism				Total	<i>P-value</i>	Chi-square	
	Adaptive		Maladaptive					
	F	%	F	%				
Low	2	16,7	10	83,3	12	100	0.008	9,686
Currently	22	68,8	10	31,2	32	100		
Tall	6	60,0	40	40,0	10	100		
Amount					54	100		



The results of the bivariate analysis show that respondents who have moderate spirituality mostly have adaptive coping mechanisms, namely 22 people (68.8%), and a small proportion have low spirituality, namely 2 people (16.7%). Respondents who have maladaptive coping mechanisms mostly have low spirituality of 10 people (83.3%) and moderate, namely 10 people (31.2%) and a small proportion have high spirituality, namely 4 people (40%). The results of the analysis using the chi square obtained a p-value = 0.008, which shows that there is a relationship between spirituality and coping mechanisms for diabetes mellitus patients in Bojongsari Village, Jampangkulon Public Health Center, Sukabumi Regency (Table 3).

## **DISCUSSION**

### **An Overview of Spirituality in Bojongsari Village**

Spirituality is a sense of connection with God, other people, and the natural world. Spirituality can refer to something inherently connected to life (Potter & Perry, 2015 dalam Rohman, 2022).

One of the factors that influence spirituality is religion. Based on the research, it was concluded that 54 people (100%) were Muslim (table 1). One can detect the influence of religion on a person by observing their behavior, activities, emotions, and sentiments. Spirituality is an integral aspect of health that plays a role in regulating chronic disease and setting life goals. Patients utilize their beliefs and religion to embrace the reality of their sickness in order to manage it with patience, tolerance, and confidence for a bright future (Adyatma et al, 2019).

Type 2 DM respondents in Bojongsari Village have faith in God so that they leave all affairs only to God for every test that God gives. Some of those who answered always go to the recitation or ta'lim in Bojongsari Village at least once a week, especially the women.

Gender is another aspect that influences spirituality. According to table 1, the survey reveals that there are more men than women. Gender is a social construct or trait imposed by human civilization on individuals (Astuti, 2017).

At the time of data collection, however, female respondents in Bojongsari Village demonstrated a greater interest in spirituality by acknowledging spiritual experiences, seeking answers to spirituality, and believing in positive changes in religion, where religion is one of the fundamental human needs for coping with a variety of life issues such as stress, fear, anxiety, death, etc. Indicators of self-spiritual needs, such as the desire for life's meaning, hope, dignity, self-respect, and preparation for and acceptance of death.

### **An Overview of Coping Mechanisms in Bojongsari Village**

According to the results of the investigation, coping mechanisms are tactics employed by individuals to deal with life changes and hazards or dangers that cause physical and psychological harm. Anxiety is a pleasurable sensation of insecurity generated by fear, tension, and thoughts of insecurity that encompass the mind (Notoatmodjo 2018).

One of the factors that influences the coping mechanism is gender. Based on table 1, it shows that most of the respondents with diabetes mellitus are male and a small proportion are female. Gender is a difference that is not biological and not God's nature. (Astuti 2017). This is consistent with studies undertaken by (Widiyawati and Aripin 2017), It has been discovered that women tend to employ coping mechanisms targeted at altering their emotional responses to stressful situations, hence enhancing their ability to manage stressful conditions.

Even though there are fewer female respondents with type 2 DM in Bojongsari Village than male respondents, female respondents are better able to control the situation with adaptive coping mechanisms.

Education is another component that influences the coping technique. According to table 1, the majority of diabetic patients have an elementary education. According to Law No. 20 of 2003, education is the conscious and deliberate effort to create a learning environment and learning process so that students actively develop their potential to have religious and spiritual strength, self-control, personality, intelligence, noble character, and skills required by themselves, society, nation, and country (Mirnawati 2017). The majority of Type 2 DM respondents in Bojongsari Village have elementary school education, which is insufficient to know how to implement adaptive coping mechanisms, despite the fact that enthusiasm and direction from families and the environment can help respondents implement adaptive coping mechanisms. A Relationship between Spirituality and Coping Mechanisms in Bojongsari Village

Statistical testing utilizing the chi-square value yielded a p-value of 0.008, which is less than 0.05.  $H_0$  is rejected based on the rejection of the hypothesis, indicating that there is a relationship between spirituality and the coping mechanism of type 2 diabetes mellitus patients in Bojongsari Village, Jampangkulon Community Health Center, Sukabumi Regency. They think that, like other difficulties in life, illness is a test from God. They feel they must be patient in the face of this divinely ordained difficulty. Spirituality brings meaning to sickness and facilitates coping with the stress produced by a diagnosis of diabetes. When people with Type 2 DM become more spiritually oriented, they view spirituality as a potent tool for overcoming the disease. Spirituality improves a patient's concentration, strength, and vitality, allowing them to conquer their sickness (Heidarzadeh and Aghamohammadi 2017; R Dewi et al. 2022).

In line with Rohmin's research (2018), it shows a significant relationship between spirituality and coping mechanisms, where the higher the level of spirituality, the better the coping mechanism and is supported by research Dewi et al, (2020) showed that there was a relationship between spirituality and self-efficacy with coping mechanisms in type 2 diabetes mellitus patients. According to the preceding idea, there is a correlation between spirituality and coping mechanisms in patients with chronic diseases; if the spiritual quality is good, the coping mechanisms will be adaptive. The spiritual nature of a person's behavior plays a significant impact in enhancing adaptive coping mechanisms. Despite the fact that some responders have superior spiritual quality, their coping mechanisms are dysfunctional. The more your spiritual quality, the more effective your coping mechanisms.

## **CONCLUSION**

According to the findings of a study of patients with type 2 diabetes mellitus in the village of Bojongsari, the service area of the Jampangkulon Health Center in the Sukabumi Regency, the majority of respondents have moderate spirituality and adaptive coping mechanisms.

There is a relationship between spirituality and coping mechanisms in the village of Bojongsari, the working area of the Jampangkulon Public Health Center in Sukabumi Regency. With the chi-square test of spirituality, the p-value is 0.008.

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## **RISK FACTOR ANALYSIS OF DIABETIC ULCUS IN DIABETES MELLITUS PATIENTS**

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### **ABSTRACT**

*Diabetes Mellitus is a very dangerous disease, because it can cause many complications. One of the complications that often occurs in DM patients is the occurrence of Diabetic Ulcers. Diabetic ulcers themselves are a condition that is often experienced by people with DM which is characterized by the appearance of wounds accompanied by a discharge that smells bad from the feet. Diabetic ulcers can be prevented if the level of risk is detected early on. Therefore, it is important for DM sufferers to know the risk factors for their occurrence. Diabetic Ulcers. The purpose of this study was to identify the risk of developing Diabetic Ulcers in people with Diabetes Mellitus in the Pukesmas Binjai City area. This research is a type of quantitative research with a descriptive study design. The sample in this study were DM patients in the Binjai City Health Center area as many as 40 respondents, with a total sampling technique of sampling. The results showed that the majority of respondents had a moderate risk of developing diabetic ulcers with a total of 25 people (62.5%). For health services, efforts must be made to avoid the occurrence of Diabetic Ulcers, such as conducting health education about foot care.*

*Keywords: Risk Factor Analysis, Diabetes Mellitus, Diabetic Ulcer, Risk of Diabetic Ulcer*

### **INTRODUCTION**

Diabetes Mellitus (DM) is a very dangerous disease, because it can cause many complications. Complications due to DM significantly increase mortality morbidity, this is due to damage to body organs causing various diseases, such as blindness, kidney failure, nerve damage, heart disease, diabetic foot, and so on [1]. Diabetes Mellitus is at risk for complications including severe foot infections that cause gangrene and can even lead to amputation [2].

The long-term complications of diabetes mellitus that are as reliable as the body include organ damage and metabolic complications of retinopathy, nephropathy, and neuropathy. Retinopathy which is a function of vision; nephropathy with kidney damage; autonomic neuropathy that can cause gastrointestinal, genitourinary, cardiovascular, and sexual dysfunction; and peripheral neuropathy with risk of gangrene, amputation, and Charcot's joint [3]. According to Lubis (2016) the prevalence of Diabetic Ulcers in North Sumatra in the last 5 years starting from 2009 to 2013 there were 236 patients suffering from Diabetic Ulcers and there was an increase every year. This is related to diet, lack of exercise, irregular diet, irregular use of pharmacological drugs and lack of DM wound care. The risk factors for diabetic ulcers are walking barefoot, lack of knowledge of foot care, male sex is associated with smoking habits, suffering from diabetes for more than 10 years, and retinopathy [5].

Calluses on the feet and blood pressure above 130/80 mmHg are at high risk for diabetic ulcers. Foot care factors, motor neuropathy, peripheral arterial disease, controlling blood glucose levels, and visual disturbances are risk factors for diabetic ulcers [6]. Diabetics have a 15% risk of developing diabetic foot ulcers in their lifetime and a 70% risk of recurrence within 5 years [7].

If not handled properly, the expansion of gangrenous infection will result in disability and even death. About 20% of people with moderate or severe diabetes with foot gangrene have to have their feet amputated. Peripheral artery disease independently increases the risk of wound infection and non-healing amputation. The 10-year risk of death in diabetic patients with foot ulcers or gangrene is two times higher than in patients without gangrene [8].

There were 61.7% diabetic foot, 65% poor < DM for 10 years, 78.3% poor foot care and 51.7% poor glycemic control [9]. Factors affecting the occurrence of wounds in people with diabetes mellitus obtained from various literature review results found that factors of age, gender, duration of DM disease, neopathy, wound care, have a major effect on the occurrence of wounds in dm sufferers and other factors that must be considered are adherence to taking medications, wearing footwear, daily activities, smoking, and the habit of cutting nails. This should be a serious concern for dm sufferers [8].

## **RESEARCH METHODS**

The research using descriptive design, which is research conducted to determine the value of independent variables, either one or more variables (independent) without making comparisons, or linking with other variables [10]. This study used a survey method to analyze the risk level of Diabetic Ulcer in dm sufferers in the Binjai City Health Center area in 2022.

### **a. Location and time research**

This research was conducted in the working area of the Binjai City Health Center. The reason for choosing the location is because there is a problem to be taken and based on the observations of researchers at the Binjai City Health Center because the incidence of DM is quite high, namely in January 2021 there were recorded data on visits to DM sufferers, namely 129 people and experienced another increase in July, namely 310 people and decreased in December by 155 people. This research starts in September 2021 - May 2022 starting from research surveys, literature searches, title submissions, until the research is completed.

### **b. Population and sample**

Population is a generalized area consisting of objects / subjects that have a certain quantity and characteristics set by the researcher to be studied and then drawn conclusions (Sogiyono, 2019). [WU3] The population used in this study as a case subject was all type 2 DM sufferers in the Binjai City Health Center work area for the last 3 months totaling 40 respondents. Samples are part of the number and characteristics possessed by the population (Sugiyono, 2019). [WU4] The sample in this study amounted to 40 responden. The technique used is total sampling, which is a sampling technique where all members of the population are used as samples [10].

Table 1. Operational Definition

Variable	Operational Definition	Measuring Instruments	Measuring Scale	Measuring Results
The Risk of Diabetic Ulcer:	The possibility that causes the occurrence of Diabetic Ulcers in people with DM.	Questionnaire	Ordinal	a)Risk $\geq 10$ Years b)Not at risk <10 Years
a. Long suffering from DM disease ( $\geq 10$ years)	The length of time the patient suffers from DM disease. In patients with DM for $\geq 10$ years increases the risk of diabetic ulcers.			
b. Blood sugar control	Patient compliance in controlling blood sugar levels.	Questionnaire	Ordinal	a)Controlled b)Uncontrolled
c. Ages	High risk of diabetic ulcers.	Questionnaire	Interval	a)Risk ( $\geq 60$ years old) b)No Risk (<60 Years Old)
d. Obesity	Overweight as a result of excessive fat accumulation.	Questionnaire	Ordinal	a) Risk (30-39.9) b) No Risk (18.5-29.9)
e. Foot Care	An effort is made to keep the feet clean and avoid complications.	Questionnaire	Ordinal	a)Regularly b)Irregularly
f. Physical activity	Activity that increase energy expenditure and energy burning.	Questionnaire	Ordinal	a)Regularly b)Irregularly
g. Proper use of footwear	Improper use of footwear, shoes, or foot protection.	Questionnaire	Questionnaire	a)Risk b) Not at risk
h. Knowledge	Known information about Diabetic Ulcers	Questionnaire	Questionnaire	a) Less b) Quite-enough

### c. Data Collecting

The title should be clear, straightforward, concise, and To measure the data in this study using questionnaires from previous studies by giving an unequivocal answer "YES" or "NO", TRUE" or "WRONG in this research questionnaire used The answers are YES and NO with a value of YES: 1, NO: 0, then calculated the score of the questionnaire based on the criteria of the measuring method used to determine risk or not, controlled or not, Only then the number of risks is grouped again based on 4 levels, namely:Not Risky ( 0 ); Low ( 1 - 2 ); Medium ( 3 - 5 ); High ( 6-8 ). The purpose of the study using this scale is to make it easier to fill out the questionnaire.

### d. Data Analysis

The type of data analysis in this study is using the form of univariate data (descriptive analysis). After the data collection and processing process, the data can then be presented into a frequency distribution table which is then analyzed.

The measurement scale used is the Gutman scale, which uses the answer option "yes" given a score of "1, and the value of each answer "no" is given a score of "0", then the score from the questionnaire is calculated based on the criteria of the measuring method used and grouped again based on three levels of risk, namely mild, moderate, severe.

Based on the calculation of class intervals, the values are grouped into 4 categories, namely:

- a. The category is not at risk if the risk of Diabetic Ulcers occurs in the can be ( 0 )
- b. Low category if the total risk of Diabetic Ulcer is obtained (1 - 2)
- c. Moderate category if the total risk of Diabetic Ulcer is obtained (3 – 5)
- d. High category if the total risk of Diabetic Ulcer is obtained (6 – 8)

## RESULTS AND DISCUSSIONS

Table 2. Respondent Characteristic by Ages

<b>Ages (year)</b>	<b>F</b>	<b>%</b>
40 – 51	12	30
52 – 63	13	32,5
64 – 74	15	37,5
Amount	40	100
Education		
primary school	8	20%
Junior School	21	52,5%
Senior School	9	22,5%
High School	2	5%
Amount	40	20%
Work		
Self employed	12	30
Farmer	9	22,5
Housewives	18	45
Civil		
government employee	1	2,5
Amount	40	100
Gender		
Man	12	30
Woman	28	70
Amount	40	100

From the characteristics of the respondents it can be seen that:

- a. The majority of respondents by Age were 64-74 years old as many as 15 people (37.5%).
- b. The majority of respondents based on education were junior high schools As many as 21 people (52.5%).
- c. The majority of respondents based on employment were working as IRT as many as 18 people (45%).
- d. The majority of respondents' genders were female as many as 28 people (70%).

Questionnaire measurement results based on risk factors for diabetic ulcers in dm sufferers

Table 3 Respondent Characteristic by Education

<b>Risk Factor</b>	<b>F</b>	<b>%</b>
a. Long suffering from DM disease ( $\geq 10$ years)		
Risk $\geq 10$ Years	18	45
Not at risk $<10$ Years	22	55
b. Blood sugar control		
Controlled	23	57,5
Uncontrolled	17	42,5
Amount	40	100
c. Ages		
Risk ( $\geq 60$ years old)	18	45
Not at risk ( $<60$ years old)	22	55
	40	100
d. Obesity		
Risk	21	52,5
Not at risk	19	47,5
	40	100
e. Foot Care		
Routin	17	42,5
Not routin	23	57,5
Amount	40	100
f. Physical Activity		
Risk	20	50
Not at risk	20	50
	40	100
g. Proper use of footwear		
Risks (not using proper footwear)	24	60
No risk (using proper footwear)	16	40
Amount	40	100
h. Knowledge		
Less	15	37,5
Quite –enough	25	62,5



The results of the study based on risk factors for the occurrence of Diabetic Ulcers in patients with DM Based on the table it is known that the majority are not at risk as many as 22 people (55%), whose blood sugar control is 23 people (57.5%), who are not at risk as many as 22 people (55%), at risk of 21 people (52.5%), irregular in foot care, namely 23 people (57.5), based on the lack of physical activity in the Binjai City Puskesmas area in 2022 it is known that the number is the same, namely those who are at risk as many as 20 people (50%), and those who are not at risk as many as 20 people (50%), at risk as many as 24 people (60%), based on insufficient knowledge about DM and Diabetic Ulcers in the Binjai City Health Center area in 2022, it is known that the majority are not at risk as many as 25 people (62.5%) and the majority of Diabetic Ulcers are at a moderate level with a total of 25 people (62.5%).

## **DISCUSSION**

### **a. Long Suffering from DM**

Disease Based on the results of the study, it can be seen that the level of risk of Diabetic Ulcers in DM sufferers based on the length of time they suffer from DM disease in the Binjai City Health Center area in 2022 is known to be the majority of not at risk as many as 22 people (55%). This is supported by research conducted by [11] that long periods of DM are associated with decreased muscle strength, impaired range of motion, ulceration of the skin of the legs and increased pain in the legs. This is also supported by Boyko's research which found that Diabetic Ulcer patients experienced DM on average for 11.4 years.

### **b. Blood Sugar Control**

From table 4.6 based on the results of the study, it can be concluded that the level of risk of Diabetic Ulcers in DM sufferers based on blood sugar control in the Binjai City Health Center area in 2022, the majority of which are controlled by blood sugar are 23 people (57.5%), and the uncontrolled minority is 17 people (42.5%). This is because DM sufferers in the Binjai City Health Center area still pay attention and maintain their blood sugar so that it remains controlled by maintaining a diet, diet, and regular blood sugar checks. Poorly controlled blood sugar levels can accelerate the development of diabetic retinopathy, nephropathy and neuropathy in DM patients with insulin dependence [12].

### **c. Age of DM Sufferers**

From table 4.7 based on the results of the study, it can be concluded that the level of risk of Diabetic Ulcers in DM sufferers based on the age of DM sufferers in the Binjai City Health Center area in 2022 is known to be the majority who are not at risk as many as 22 people (55%), and the minority at risk as many as 18 people (45%). The age of DM sufferers in the Binjai City Health Center area is mostly less than 60 years old. If the age of the dm sufferer  $\geq 60$ , it will increase the risk for diabetic ulcers. The incidence of Diabetic Ulcers is related to the age of  $\geq 60$  years because in old age, body functions are physiologically decreased due to aging processes such as secretion or decreased insulin resistance so that the ability of body functions to control high blood glucose is not optimal.

### **d. Weight Loss (Obesity)**

From the results of the study, it can be concluded that the level of risk of Diabetic Ulcers in DM sufferers based on body weight calculated from the results of BMI calculations in the Binjai City Puskesmas area in 2022 is known to be the majority at risk, namely 21 people (52.5%), and minorities who are not at risk as many as 19 people (47.5%). This is because the weight of DM sufferers at the Binjai City Health Center is calculated based on the results of the majority of BMI at 30-39.9 is included in the Obesity category. In people with obesity,

insulin resistance will occur more often. Hyperinsulinemia is a condition that indicates that when insulin levels exceed  $10 \mu\text{U} / \text{ml}$ , it can cause atherosclerosis which has an impact on vasculopathy, resulting in moderate/large blood circulation disorders in the limbs that cause the limbs to have Diabetic Ulcers more easily [4].

#### e. Irregular Foot Care

Based on the results of the study, it can be concluded that the level of risk of Diabetic Ulcers in DM sufferers based on irregular foot care in the Binjai City Puskesmas area in 2022 is known to be the majority irregular in foot care, namely as many as 23 people (57.5%) this happens because DM sufferers in the Binjai City Puskesmas area are less regular in treating their foot conditions such as checking the condition of the feet, maintaining foot hygiene and moisture, nail care and other measures in foot care that can reduce the risk of Diabetic Ulcers occurring. This is in line with research conducted by Hastuti that irregular foot care is a risk factor for diabetic ulcers. So that foot care measures need to be maintained and even improved to prevent the occurrence of Diabetic Ulcers. Foot care practices should be done daily regularly [13].

#### f. Physical Activity

From table 4.10 based on the results of the study, it can be concluded that the level of risk of Diabetic Ulcers in DM sufferers based on lack of physical activity in the Binjai City Puskesmas area in 2022 is known to be the same number, namely those who are at risk as many as 20 people (50%), and those who are not at risk as many as 20 people (50%). By exercising or doing physical activity can lower the risk of diabetic ulcers. Exercise that is done regularly, can stimulate cell sensitivity to insulin as well as reduction of central fat and changes in muscle tissue (Kriska, 2007[WU6] ). Exercise is very useful for improving blood circulation, losing weight and improving sensitivity to insulin, so it will improve blood glucose levels. Controlled blood glucose levels can prevent the risk of DM complications such as Diabetic Ulcers [9].

#### g. Improper Use of Footwear

From table 4.11 based on the results of the study, it can be concluded that the level of risk of Diabetic Ulcers in DM sufferers based on improper use of footwear in the Binjai City Health Center area in 2022 is known to be the majority at risk as many as 24 people (60%), and those who are not at risk as many as 16 people (40%). This happens because there are still many DM sufferers in the Binjai City Puskesmas area who are not right in using footwear such as inappropriate sizes, hard materials, not wearing socks, causing blisters on the feet and increasing the risk of Diabetic Ulcers. The incidence of Diabetic Ulcers can be lowered with the correct use of footwear, because by using proper footwear, the pressure on the plantar of the foot can be reduced and prevent and protect the foot from being punctured by sharp objects (Suryati et al., 2019).

#### h. Lack of Knowledge

Based on the results of the study, it can be concluded that the level of risk of Diabetic Ulcers in patients with DM based on insufficient knowledge about DM and Diabetic Ulcers in the Binjai City Health Center area in 2022 is known to be the majority not at risk as many as 25 people (62.5%). Patients with DM in the Binjai City Health Center area mostly already know about DM and Diabetic Ulcer, so the risk for Diabetic Ulcer can be reduced.

Lack of knowledge causes sufferers not to try to prevent the occurrence of Diabetic Ulcers, so they rarely control blood sugar levels and do not adhere to the DM diet. In addition, the

patient does not take immediate treatment if he experiences a wound which ultimately results in the occurrence of Diabetic Ulcer. High knowledge about the treatment of patients with Diabetic Ulcer, has a high probability of carrying out prevention thereby reducing the risk of Diabetic Ulcer (Suryati et al., 2019).

## **CONCLUSION**

From the characteristics of the respondents it can be seen that:

- a. The majority of respondents by age are 64-74 years as many as 15 people (37.5%).
- b. The majority of respondents based on education were junior high schools. There were 21 people (52.5%).
- c. The majority of respondents based on work worked as IRT as many as 18 people (45%).
- d. The majority of the respondent's gender is female as many as 28 people (70%).

Based on the risk factors for the occurrence of Diabetic Ulcers in DM sufferers

- a. Based on the length of suffering from DM in the Binjai Kota Health Center area in 2022, it is known that the majority are not at risk of 22 people (55%).
- b. Based on blood sugar control in the Binjai Kota Health Center area in 2022, the majority of those with controlled blood sugar are 23 people (57.5%).
- c. Based on the age of DM sufferers in the Binjai Kota Health Center area in 2022, it is known that the majority are not at risk of 22 people (55%).
- d. Based on body weight calculated from the results of BMI calculations in the Binjai City Health Center area in 2022, it is known that the majority are at risk, namely 21 people (52.5%)
- e. Based on irregular foot care in the Binjai Kota Health Center area in 2022, it is known that the majority are irregular in foot care, namely 23 people (57.5%).
- f. Based on the lack of physical activity in the Binjai Kota Health Center area in 2022, it is known that the same number is at risk, namely 20 people (50%), and as many as 20 people (50%) who are not at risk.
- g. Based on the use of improper footwear in the Binjai Kota Health Center area in 2022, it is known that the majority are at risk of 24 people (60%).
- h. Based on insufficient knowledge about DM and Diabetic Ulcers in the Binjai City Health Center area in 2022 it is known that the majority are not at risk of 25 people (62.5%).

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**PERCEPTIONS OF NURSING STUDENTS REGARDING PSYCHOSOCIAL  
ADAPTATION DURING CLINICAL PRACTICE IN HOSPITAL**

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**ABSTRACT**

*Nursing students have go through several clinical practice stages. When they go to first clinical practice, students will face a situation that is different from learning situation on campus and must adapt to the clinical practice environment both psychologically and socially. The aims is to explore Perceptions of Nursing Students' about Psychosocial Adaptation Process during Clinical Practice in Hospitals. This study uses a qualitative design with a phenomenological approach using a semi-structured interview method. Participants were determined through a purposive sampling method, namely 8 students from UAB. The instrument in this study was the researcher and using voice recorder. The interview were analyzed using Creswell method. Research results obtained three themes namely Adaptive Responses of Participants Including Feelings of Enthusiasm and happy, Maladaptive Responses of Participants Including Feelings of Nervousness and Fear, Self Adaptation Process which includes Experiences, The Coping Strategies, Participants' Expectations. Students experience several psychological responses such as feelings of enthusiasm, fear and nervousness, students also experience several challenges. Through this challenge students try to adapt using coping strategies through internal and external support such as family, friends, hospital staff and clinical supervisors so students experience increased knowledge and experience, students hope for development potential for further clinical practice.*

*Keywords: Perception; Psychosocial Adaptation; Clinical Practices.*

**INTRODUCTION**

In nursing learning process apart from the learning process on campus there is also a process that must be followed by nursing students, namely clinical practice. This clinical practice learning is one of the methods to produce professional students. This clinical practice is also an opportunity given to students to apply the knowledge and skills they have learned to real situations and directly to patients (Lindasari et al., 2020).

However, when they enter clinical practice students will face many new situations and some complicated problems (Zhang et al., 2021). Students will also experience pleasant experiences (such as gaining new knowledge or successfully performing actions on patients) as well as unpleasant experiences that makes students feel afraid, anxious and stressed (Bazrafkan & Kalyani, 2018). Based on research conducted by Caminati et al (2021) on 16 nursing students in the Italian burns unit, it was found that when they first started practicing, students felt enthusiastic and curious, but over time the initial enthusiasm turned into stress to frustration because students felt they were not able to reduce the suffering and pain of patients. The students said that this clinical practice was a golden opportunity for them to grow personally and professionally. In Indonesia itself, Amar et al (2019) conducted research on nursing

students who underwent basic clinical practice and obtained the results that students understood the true role of nurses, students also felt anxious at the beginning and were also enthusiastic. Students also expressed the difficulty of time management and the difference between implementation patient with nursing care.

Kaur et al. (2020) also examined the perceptions of nursing students regarding the experience of dealing with stress during clinical practice using the semi-structured interview method with 10 students. The results show that stress can be overcome by students learning about themselves, knowing themselves, social support, and relationships with clinical instructors. Students' cognitive and behavioral strategies including reflexology and valuing relationships help them understand stress and decide how to reduce its effects. Based on a preliminary study conducted by researchers on 6 second-level nursing students at Awal Bros Batam University. It was found that students felt enthusiastic, nervous, and anxious while practicing at the hospital. Various kinds of triggers for these students, among others, because it was the first time they went to practice at the hospital and the situation in the hospital environment was very different from the campus.

The feelings felt by students have an impact on their level of confidence when dealing with patients. Students said they became nervous when they were about to take action on patients. The students said they were dealing with problems such as stress, anxiety and nervousness by calming down first, asking senior nurses or asking senior nurses to accompany and supervise them when performing procedures on patients. Based on the phenomenon above, the researcher is interested in exploring the Perceptions of Nursing Students regarding the Process of Psychosocial Adaptation during Clinical Practice in Hospitals.

Researchers took nursing students as research subjects because nursing students have different themes for each clinical practice. For example, there is basic clinical practice, maternity clinical practice, mental and community clinical practice, medical surgical clinical practice, emergency clinical practice so that nursing students face a different adaptation process each time they enter a new clinical practice.

## **RESEARCH METHODS**

The type of research used is qualitative research with a phenomenological approach. The data collection technique uses semi-structured interviews. The participants in this study were Awal Bros Batam University students who had undergone clinical practice which were taken by purposive sampling. The inclusion criteria in this study were: Nursing Students who have completed Clinical Practice, Nursing Study Program Students level II and III at Awal Bros University Batam. The exclusion criteria in this study were: Nursing students who did not take part in clinical practice, Nursing students at level I and students who, in the research process, resigned, for example, sick or on leave.

This research was conducted from April 12 to August 16 2022 at Awal Bros University Batam. The data collection tool was through in-depth interviews using a voice recorder. The data collection was carried out as follows:

- 1) Preparation Stage:
  - a. Determine the topic taken and the phenomenon.
  - b. Identify the research location and the criteria for the individuals selected in the study.
  - c. Determine the types of data taken such as interviews, observations, documentation and audio-visual materials.
  - d. Manage other data collection strategies outside of observation and interviews.

## 2) Licensing Stage:

- a. The researcher submitted the title to the supervisor on April 12, 2022 and was approved.
- b. The researcher submitted an application for a preliminary study letter to the secretary of the Awal Bros Batam University study program.
- c. After the application letter came out, the researcher submitted a letter to Awal Bros Batam University to get a research permit reply letter.

## 3) Research Implementation:

- a. The Awal Bros Batam University gave a letter of reply.
- b. The researcher coordinated with the prospective respondent and explained the purpose and benefits of the research conducted and the interview process with the prospective respondent and asked the prospective respondent for their time.
- c. Furthermore, the researcher conducted interviews with several female students who were willing to be respondents.
- d. Researchers compiled a thesis based on the results of interviews.

## DATA ANALYSIS

The process of data analysis in qualitative research generally takes place simultaneously with the process of collecting data and writing findings. This effort includes mapping and sorting data and rearranging it. The following describes the steps for data analysis:

- a. The researcher transcribes the interview data into a tabular form which contains the researcher's questions, the participants' answers, the researcher's observations of the participants and the main ideas of the participants' answers.
- b. The researcher reads the entire transcript and selects the main ideas/key words from the participants' answers.
- c. Researchers code or categorize the main ideas of the participants.
- d. The researcher makes a theme based on the categories that have been found and gets three themes.
- e. The researcher presents the three themes found in the qualitative report and explains the categories in each theme and the relationships between the themes.
- f. The researcher makes an interpretation or discussion of the qualitative research data obtained.

## RESULTS AND DISCUSSIONS

This research was conducted at Awal Bros University in Batam. The following are the characteristics of the respondents:

Table 1. Demographic Data on the Distribution of Characteristics of Participants at Awal Bros University, Batam.

Code	Age	Level/Semester	Stase	Hospital and Room
P1	21	3/6	3	1. Rs.Graha Hermine Ranap Bidan 2. Rs.Graha Hermine Ranap Bidan 3. Yayasan Al-Fateh Nongsa
P2	21	3/6	3	1. Rs.Graha Hermine Ranap Dewasa 2. Rs.Graha Hermine Ranap Bidan 3. Yayasan Al-Fateh Nongsa
P3	21	3/6	3	1. Rs.Graha Hermine Ranap Bidan 2. Rs.Graha Hermine Ranap Bidan

					3. Yayasan Al-Fateh Nongsa
P4	20	2/4	1		Rs.Graha Hermine Ranap Bidan
P5	20	2/4	1		Rs.Graha Hermine Ranap Bidan
P6	20	2/4	1		Rs.Graha Hermine Ranap Dewasa
P7	20	2/4	1		Rs.Graha Hermine Ranap Bidan
P8	21	3/6	3		1. Rs.Graha Hermine Ranap Dewasa 2. Rs.Graha Hermine Ranap Bidan 3. Yayasan Al-Fateh Nongsa

Based on the table above, the data obtained is that most of the respondents are aged 20-21 years. Based on the table above, data were obtained from four respondents who were at level III who had undergone three clinical practices where the first and second clinical practices were at the hospital and the third clinical practice was at the Al-Fateh Foundation. Meanwhile, four other people who are at level II have only done clinical practice once and are housed in the hospital.

The results obtained 3 themes namely;

**Theme 1: Participants' Adaptive Psychological Responses Include Feelings of Enthusiasm and Happiness.**

In this study, two adaptive responses were found, namely enthusiasm and pleasure.

**The first category: Enthusiasm.**

"I felt enthusiastic because I want to take part in the action" P1

"The first time was excited and enthusiastic too." P2

"Because it was the first time I went down, I was enthusiastic to be able to feel the working atmosphere and then meet patients directly" P4

**Second category: Happy.**

"What is usually only done on campus, we can do it there, so it's more fun, right?" P3

"I'm glad" P5

"I'm happy sis... when we're in the hospital, we go straight to the patient and if the patient is satisfied with our service, there's a pleasure in itself, sis."

"If you're happy, I'm happy sis, because you can interact directly with people." P7

"It's nice when I take the patient home and the patient says thank you sis." P8



## **Theme 2: Participants' Maladaptive Psychological Responses include Feelings of Nervousness and Fear**

Another response experienced by participants is a maladaptive response or response that is negative or contrary to social and cultural norms so that it makes participants feel difficult.

**First category: Nervousness.** The first time they went to clinical practice, almost all participants felt nervous because it was the first time they went to clinical practice which was supported by data from participants as follows:

"The first time you went to practice at the hospital..you must be nervous sis" (P1)

"At first I was nervous because I didn't know the procedure" (P3)

"My heart was pounding and I had a little doubt." (P5)

"When I first felt a little panicked" (P6)

"I felt nervous sis." (P7)

**The second category** concerns the feelings of fear felt by the participants shown in the following statements;

"I'm afraid I can't continue to be afraid of being scolded like that." (P2)

"Fear of wrong action" (P4)

"I'm afraid because... I've never been in the field before, I'm afraid of taking the wrong action for the patient and giving the wrong dose of medicine" (P7)

"Not afraid but more worried, afraid of what's wrong." (P8)

## **Theme 3: Self-Adaptation Process Including Experience, Coping Mechanisms and Expectations of Participants**

When in a new environment, apart from producing adaptive and maladaptive responses, there is also an adaptation process. The adaptation process is inseparable from individual experiences, coping mechanisms, and participants' expectations.

**The first category is Experience.** Where experiences are good or pleasant experiences and less pleasant experiences.

"I can directly see a normal birth, I can see the curettage directly that the person who miscarried." P1

"At first, I was close to a friend, who at first wasn't close...Getting new knowledge and directly holding the patient makes me happy like that" P2

"It's a good experience to be closer to friends and continue to be called sis by patients." P3

"If it's best to directly hold the patient, sis, but it's not accompanied like that" P4

"Getting new knowledge from senior nurses there is like learning how to communicate with patients and experience working as a nurse." P5

"As for the best experience, I learned how to manage infusions using an infusion pump, at campus I wasn't taught a lot of actions." P6

"The best experience is getting knowledge and getting experience, and it's always fun to know how to jump right in" P7

"What if the first PKK is the best, how about it...it's crowded, it's like there's more work, so it's effective, so it's time to move." P8

As for the unpleasant experience according to the participants are some of the following;

"The experience was not good, the senior nurse did not trust me" P1

"Bad experience... being scolded by the patient's family" P2

"When I went down to midwifery, I didn't study at all, so I was shocked and overwhelmed" P5

"The bad thing is that the first time you put the medicine into the infusion, it's a little shaking...spurting as soon as the medicine comes out...a little reprimanded...in front of the patient" P6

"What's not good... it's so hard to get knowledge from his older brother. In fact, we are the ones who are scolded" P7

"...Sad because when we checked two patients died" P8

**The second category is coping mechanisms.** The coping mechanisms in question are the way individuals deal with challenges during clinical practice.

"I build trust by doing the job as well as possible." P1

"Trying to be brave even though I'm shaking" P2

"It's like, just do it, just do it, if you can do it, if your brothers and sisters can do it, why can't we do that? Then, if you are reprimanded, keep quiet and introspect again, don't do that again next time." P3

"Believe in yourself, you can do it and it's not as scary as you imagine" P4

"First, let's pray. Continue to be confident." P5

In addition to coping strategies there are also sources of coping support such as from friends, family, nursing staff and clinical supervisors, as follows;

"That's probably from a group of friends sis. ...the supervisors in the clinic mingle more with the students" P1

"From friends and family too sis, the clinical supervisor is good" P2

"The first... obviously from family... from friends and sometimes if you are a good nurse you are taught" P3

"From our parents, Sis... we were taught by the older nurse, the point is that what we don't know is what she explained... for example, we were hanging out with the clinic, we didn't know, so we asked her sister, so we had a discussion like that" P4

"That's from the family too sis... friends,..if it's from the clinic, the older sister is also good to teach" P5

"Parents sis, for example there is something I can't ask my friend. Sometimes I also ask sister nurses who are apprentices there who are new to training...in the field they always tell me that, this deck will take action later, you do it okay" P6

"From my father, from my parents...the clinic wants to help." P7

"From myself hehe. If it's from the family, it's like saying enthusiasm." P8

**The third category is participants' expectations.** It was found that participants hoped to develop their own potential as follows;

"Feel confident sis, get more lessons" P1

"From my point of view, I have confidence in myself...more action, I want to try it, if not wound care, hecing" P2

"Hopefully what has been applied can be applied .... You can do a lot of actions so you know insight." P3

"There are many actions, there are many cases so you know" P4

"More nimble, more questions to his brother. more communication with patients." P5

"Can be even better, can be more skilled, can be more agile." P6

"More confident and dare to ask" P7

"More like you can provide better service" P8

## **INTERPRETATION AND DISCUSSION RESULTS**

In this section, the researcher will describe the discussion of the results of the research on the Perceptions of Nursing Students regarding the Process of Psychosocial Adaptation during Clinical Practice in Hospitals.

### **Theme 1: Participants' Adaptive Psychological Responses Include Enthusiastic and Happy Feelings.**

The results of the study found that three participants felt enthusiastic and four others felt happy. The following is the expression data from the participants; Participant 1 expressed enthusiasm because he was going to take action, participant 2 felt nervous and enthusiastic at the same time, and participant 4 felt enthusiastic because of clinical practice for the first time and meeting patients face to face. Meanwhile, the feelings of pleasure experienced by students

are as follows; Participant 3 who felt happy because he was able to take action at the hospital, Participant 5 also said he was happy with clinical practice. Meanwhile, participant 6 said he felt happy because he interacted directly with patients and when the patient was satisfied with health services, it became his own pleasure, participants 7 and 8 feel happy because it interacts directly with humans.

Based on the theme and two categories, namely enthusiastic and happy feelings, both responses arise from perceptions and how individuals interpret the situation experienced (Fatimah Azzahra, 2017). Students generally experience a period of adaptation from the campus environment to the lecture environment related to the lecture schedule, including assignments, lectures, tutorials, and laboratory skills. Individuals who have positive (adaptive) and effective coping mechanisms are able to reduce or eliminate stress (Sumoked, 2019). This is in line with research by Amar et al (2019) which was listed in the preliminary study where the research aimed at exploring the experiences of Tanjungpura University nursing students in the Clinical Practice course I on 5 participants also found a positive influence from enthusiasm and feelings of joy from students.

## **Theme 2: Participants' Maladaptive Psychological Responses include Feelings of Nervousness and Fear**

The results of the study found that five participants felt nervous the first time they carried out clinical practice. The following is the interview data; Like participants 1 and 6 who said they felt nervous because it was the first time they went into clinical practice, participant 3 said they felt nervous because they did not understand procedures at the hospital, and participants 5 and 7 who felt nervous when they went into clinical practice. Another feeling experienced by the participants was fear. Following is data from four participants; Participant 2 revealed that they were afraid of being scolded when they could not take action, Participants 4 and 7 revealed that they were afraid if they took the wrong action on a patient such as giving the wrong dose of medicine, and the the last of the 8 participants who revealed that they felt worried and afraid of wrong actions.

In dealing with a new situation, it is certainly inseparable from the response, maladaptive responses also commonly arise when adapting to a new environment (Karimi et al., 2017). Ineffective maladaptive/negative responses can worsen the participant's condition and can cause potential illness (Rafiki, 2017). Students who take clinical practice are influenced by different levels of practice from the world of lectures, and there are processes that do not occur in regular lectures, such as phenomena that trigger fear. People who are in unfamiliar situations, or environments, are more likely to experience fear than when they are in their normal environment. The maladaptive feelings experienced by students can also be caused by a lack of practice in the learning process before starting clinical nursing practice (Sumoked, 2019). Another aspect of fear is being emotionally incompetent, not being able to cope with completely new situations, and being very emotionally involved. Students think they cannot handle such worries (Caminati et al., 2021). This is in line with research conducted by Fekonja in 2019 regarding Self-reflection during the first clinical practice: Experiences of nursing students where students express various emotions and emotional reactions from negative to positive: fear, anxiety, discomfort, tears, anxiety, terror, and joy. Students often feel in new situations that cause fear, nervousness and anxiety.

However, after students complete the training and adapt, these feelings change and students experience professional growth. Student enthusiasm and curiosity for new opportunities

overcome feelings of fear, nervousness and anxiety about student incompetence (Caminati et al., 2021).

### **Theme 3: Self-Adaptation Process Including Experience, Coping Mechanisms and Participants' Expectations**

In adapting, apart from psychological responses, there are also conflicts and coping mechanisms. Through this research, several aspects that emerged in the adaptation process were found, namely experience, coping mechanisms and participants' expectations. The following will explain per category; The first category is experience. The experience itself consists of good experiences and bad or unpleasant experiences. From the results of the study it was found that participants had good experiences such as participant 1 who was able to witness directly the process of giving birth normally and also the curettage process in miscarriage patients, participants 2 and 3 who become closer to friends and get new knowledge and experience. Participant 4 who was trusted by nursing staff to take action on patients without being accompanied, Participant 5 who got the opportunity to experience the world of work as a nurse, and participants 6, 7 and 8 who could take many actions so they got new knowledge and experience.

The feeling of being trusted by senior nurses and patients has an important role in the process of increasing students' knowledge and social experience. Labe & Nursing (2017) suggests that when a relationship of mutual trust is established, students feel happy and excited about undergoing clinical practice. A sense of acceptance and trust from patients also increase students' positive feelings. Arpanantikul & Pratoomwan (2017) also stated that good clinical practice experience can encourage nursing students to continue their studies and make them feel special and proud to represent nurses in the future. For unpleasant experiences and conflicts/obstacles found from research results; Participant 1 who felt that the nursing staff and patient's family lacked trust, participant 2 who was still hesitant to ask the nursing staff to teach and had been scolded by the patient's family, participants 3, 7 and 8 who complained about the senior nursing staff being ignorant and having difficulty getting knowledge from them, participants 4, 5 and 6 who had difficulty finding journals to work on reports during clinical practice and participant 8 who lost 2 patients during clinical practice.

In the field of health clinical practice is mandatory because through clinical practice students have the opportunity to apply the knowledge they have learned and gain experience. However, the experience gained may have challenges because students are still beginners so they are limited in knowledge, competence and experience (Arpanantikul, 2017). Through this experience students can experience negative emotions such as sadness, guilt, fear, anger, and shame. Health students must learn to manage their own emotions and those of their patients. Therefore, negative experiences or obstacles tend to be painful and can interfere with learning (Weurlander et al., 2018). The second category is coping mechanisms. Coping mechanisms are how we deal with stress and anxiety by deceiving ourselves. People usually deal with anxiety using problem-focused coping mechanisms, cognitive-focused coping mechanisms, and emotion-focused coping mechanisms (Sumoked et al., 2019). When undergoing clinical practice students are faced with several challenges, these can hinder the clinical practice process if they are not handled properly. Students must try to find solutions and support for any unpleasant situations. In this study, participants found coping strategies that included internal support and external.

The following is the research data; participant 1 coped by trying to do the best possible task so that the nursing staff and patient's family believed in the ability of participant 1, participant

2 tried to be brave, participant 3 tried to do the best he could and did self-introspection when reprimanded, as well as participants 4 and 5 who tried to be confident during clinical practice. The coping strategy through internal support in question is that participants learn to recognize their strengths and limitations and overcome them. This is in line with previous research by Gurpeet Kaur where participants in Gurpeet Kaur's research conducted positive self-talk to increase self-confidence and stress management abilities. Other participants shared knowing and accepting situations when they needed help successfully handling stressful situations. His experience and time in the clinical field taught him to trust himself (Kaur et al., 2020). Another study was conducted by Demir & Ercan in 2017 and found the theme of personal development where through clinical practice participants experienced changes in several ways. For example; participants felt more patient and their sense of tolerance towards others increased in everyday life.

The results of the study found that external support came from family, friends, nursing staff and clinical supervisors. Like participant 1 who received support from group friends and clinical supervisors, participant 2 who received support from family and also clinical supervisors, participant 3 who received support from family, people closest, friends and senior nurses who want to teach, participants 4, 5 and 6 who receive support from family, nursing apprentice staff and clinical supervisors. Participant 7 who receives support from fathers and clinical supervisors and finally participant 8 who receives support from family. Meanwhile, coping strategies include external support, proving that in overcoming challenges, a support system is needed that helps reduce anxiety and fear and enhances students' clinical experiences (Ahmed, 2019). Appropriate social support, such as family, friends and relatives, has been found to help counter the negative effects of stress. Coping systems by seeking support from family, friends and the environment are very common. (Labrague et al., 2018). Other external support revealed by other participants came from senior nurses who taught and accompanied students so that feelings of nervousness were reduced and also from clinical supervisors who directed participants, invited participants to discuss and nurtured participants. This was a good thing because clinical supervisors were a potential source of stress and main coping (Kaur et al., 2020). So if the clinical supervisor is nurturing, then this has a positive impact on the clinical learning atmosphere.

In research by Gurpeet Kaur in 2020 it was also stated that the term good clinical supervisor is "Luck" but bad clinical supervisors can "destroy" student clinical practice. Furthermore, it is also stated that clinical supervisors who are skilled and have extensive knowledge really help students deal with stress during clinical practice. This is because the clinical learning process involves clinical supervisors, patients and students. The roles of the three must be clear so that there is a harmonious relationship in carrying out a clinical learning process which is so complex and requires good management of clinical guidance. This guidance can assist students in obtaining a clear picture and obtaining education that is in accordance with their needs, talents, interests and abilities so that they can determine effective and efficient ways of completing the chosen field of education in order to achieve the expected results (Kereh & Rochmawati, 2022). Another study by Pertiwi & Ermayani in 2017 obtained the result that there was a relationship between the motivation of clinical supervisors and the readiness of students to practice clinical practice at the hospital. Giving motivation meant communicating in a relaxed manner, providing feedback to students, being open to discussion, providing a comfortable environment and the right support. Ultimately, clinical advisers must be available to students at all times, assess their stress levels, and work on competencies to prepare them for the clinical environment. CIs must also communicate with other medical staff to welcome, support, and foster relationships during a student's clinical

education. Clear targets must be determined from the start between all parties involved to avoid unnecessary conflicts (D'emeh & Yacoub, 2021).

This is in line with Kaur's research (2020) that an environment that supports intellectually and emotionally helps students deal with pressure during clinical practice. Support from family, friends, fellow nurses and non-nurses plays an important role in efforts to deal with stress and find solutions. The third category is hope. Participants for further clinical practice which includes the process of developing self-potential. The results of the study found the following partial data; Participants 1, 2, and 7 hoped to be more confident and get more action. Participants 3 and 4 hoped to do more many actions and being able to apply the material that has been studied, participants 5 and 6 hope to be more agile, skilled and communicate more with patients. And finally participant 8 hopes to be able to provide even better health services. Another hope is for friends that they are not selfish and want to share in taking action because they both want to gain knowledge. Participants also hope that nurses will care more about providing services to patients because participants see that nursing staff are just carrying out their duties and don't care enough for them. patients, while for patients is not to be prejudiced against students. Zakiah Amar (2019) found two things, namely expectations for student readiness and expectations for supervisors. Amar said that students can prepare themselves by studying groups and discussing with friends, studying soup, watching videos of action processes and preparing mentally and physically.

Students need to prepare themselves emotionally and behaviorally in order to be able to deal with difficult situations in a practice environment where there are quite a number of patients who refuse active student participation and question student competence. To dispel these doubts, students should prepare themselves before meeting their patients.

## **CONCLUSION**

Based on the research results, there were three themes that had been analyzed by researchers regarding the Perceptions of Nursing Students at Awal Bros University regarding Psychosocial Adaptation during Clinical Practice in Hospitals with a total of 8 participants, the following partial conclusions were obtained;

- a. The first theme is the Participant's Adaptive Psychological Responses Including Feelings of Enthusiasm and Happiness.
- b. The second theme is Participants' Maladaptive Psychological Responses including Feelings of Nervousness and Fear.
- c. The third theme is the process of self-adaptation which includes experiences of coping mechanisms and expectations of participants.

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**EFFECT OF PREVENTIVE MODUL TO IMPROVE KNOWLEDGE AND  
ATTITUDE TOWARD STUNTING PREVENTION AMONG MOTHERS :  
LITERATURE REVIEW**

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**ABSTRACT**

*Background: Accelerating the reduction of stunting in toddlers is a priority program of the Government. Educational efforts for mothers with toddlers and promotion of stunting health include nutrition/nutrition education for toddlers, children, and the whole family and clean and healthy living behaviors that must be carried out by families and all members of the community in order to create a healthy environment for children to live in. Purpose: To examine and synthesize research evidence on the effectiveness of education to increase knowledge and attitudes towards stunting prevention in mothers with toddlers. Methods: Protocol and evaluation from the literature review using the PRISMA checklist. A literature search was conducted from June to September 2022. The literature search used four databases with high and medium-quality criteria, namely Pubmed, Scient Direct, Scopus, and Garuda portal with 414 articles found. From the selection results, the number of articles discussed was 16 articles. Results: The results found 16 articles that discussed stunting education, where the results of changes in stunting prevention knowledge were very visible for the better. The results obtained from the discovery of 16 articles that discussed stunting prevention education resulted in a change in attitude toward stunting prevention being positive. Conclusion: The results of changes in stunting prevention knowledge seem to be getting better and stunting prevention education is positive. where the results of changes in stunting prevention knowledge change are very visible for the better. The results obtained from the discovery of 16 articles that discussed stunting prevention education resulted in a change in attitude toward stunting prevention being positive. Conclusion: The results of changes in stunting prevention knowledge seem to be getting better and stunting prevention education is positive. where the results of changes in stunting prevention knowledge change are very visible for the better. The results obtained from the discovery of 16 articles that discussed stunting prevention education resulted in a change in attitude toward stunting prevention being positive. Conclusion: The results of changes in stunting prevention knowledge seem to be getting better and stunting prevention education is positive.*

*Keywords* :Education, Knowledge, Attitude, Stunting

**INTRODUCTION**

Stunting is the most common form of malnutrition (PE / micronutrients), which affects babies before birth and early after birth, related to the size of the mother, nutrition during pregnancy, and fetal growth. 1 According to Sudiman in Ngaisyah, stunting in children under five is one of the indicators of chronic nutritional status that can provide an overview of disturbances in overall socio-economic conditions in the past and in the early 2 years of a child's life can have an impact that is difficult to repair. One of the socio-economic factors that influence stunting is the economic status of parents and family food security.<sup>1</sup>

Globally, based on data from the World Health Organization in 2020, as many as 149 million toddlers worldwide suffer from stunting which have an impact on other health problems. WHO data also shows that more than half of toddlers who suffer from stunting live in Asia

and Africa. However, the Asian continent only has a few countries with a stunting prevalence above 30%, including India, Nepal, Laos, and Indonesia. Indonesia has a very high stunting rate and progress is off track (not yet close to the target).<sup>2</sup>

Stunting in toddlers in developing countries can be caused by genetic factors and factor Inadequate environment for optimal child development. Indonesia has a stunting rate of 30.8% in 2018 and 27.7% in 2019. Despite the decline, Indonesia is ranked 108th out of 132 countries with the highest prevalence of stunting in the world. In various indicators, the prevention of stunting in Indonesia is also still experiencing challenges including cases of Low Birth Weight (LBW) which are still increasing (5.7% in 2013 and 6.25% in 2018), the proportion of complete basic immunization is still showing a decrease (59, 2% in 2013 and 57.9% in 2018), mothers and toddlers with energy-deficient conditions who have not yet received Supplementary Feeding (PMT) are still quite high (74.8% and 59%), and anemia in pregnant women is increasing (37.1% in 2013 and 48.9 in 2018).

Accelerating the reduction of stunting in toddlers is a priority program for the Government as set out in the 2020-2024 RPJMN. The national target for 2024 is for the prevalence of stunting to drop to 14%. The Deputy President of the Republic of Indonesia as Chair of the Steering Committee for the Acceleration of Stunting Reduction (TP2S) at the Center is tasked with providing directions regarding the establishment of policies for the implementation of the Acceleration of Stunting Reduction; as well as providing considerations, suggestions and recommendations in solving obstacles and obstacles to the implementation of the Accelerated Stunting Reduction in an effective, convergent and integrated manner by involving cross-sectors at the central and regional levels. (Ministry of Health, 2020)

Knowledge is a very important domain for the formation of one's actions. How to provide knowledge can be done by providing education, this can be done by providing education for mothers who have toddlers which aims to prevent cases of stunting. Educational efforts for mothers with toddlers and promotion of stunting health include nutrition/nutrition education for toddlers, children and the whole family and clean and healthy living behaviors that must be carried out by families and all members of the community in order to create a healthy environment for children to live in.<sup>3 4</sup>

## **RESEARCH METHODS**

A comprehensive summary in the form of a literature review on the effectiveness of the e-module to increase knowledge and attitudes towards stunting prevention in mothers with toddlers. Protocol and evaluation from literature review using PRISMA checklist. A literature search was conducted from June to September 2022. The literature search used four databases with high and medium quality criteria, namely Pubmed, Scient Direct, Scopus, and Garuda portal.

From the PubMed database, 49 articles were found, from science directive 346 articles were found, Google Scholar found 4 articles and Google Scholar 15 articles. In total, from the three databases, 414 articles were found. Out of a total of 414 articles that entered the stage 1 screening process, 253 articles were excluded, so only 365 articles were screened. From the stage 2 screening process by looking at the full text, out of 112 articles only 48 articles were filtered. And after a more thorough process by looking at the inclusion and exclusion criteria, only 16 articles were found that were eligible and included in the literature for this review.

## RESEARCH RESULT

Table 1 Results of the Revier Literature Search Based on Stunting Education on Changes in Knowledge and Attitudes

No	Author, Year	Educational Method	Results of Educational Methods		Conclusion Results
			Knowledge (%)	Attitude (%)	
1	Agritubella, et al, 2020 <sup>5</sup>	Media posters	Knowledge before education 65.3 Knowledge after education 79.00	No research done	There is a difference in the mean of the two groups with a p- value of 0.035, which means that there is an increase in the knowledge of pregnant women after being given education on the 1000 HPK Diet Pattern in preventing stunting.
2	Astarani, et al, 2020 <sup>6</sup>	Education with stunting counseling	before and after health counseling were in the good category, namely as many as 23 respondents (46.9%) to 46 respondents (93.9%) or an increase of 23 respondents (46.9%).	No research done	There is an influence of health education about stunting on the knowledge of parents of pre-school children at Setia Bakti Kediri Kindergarten.
3	Fitriami, et al, 2022 <sup>7</sup>	Android Application Based Education	Knowledge before being given android-based education 24.1% knowledge after being given android-based education 46.3%	The majority of education is negative as many as 33 people (59.3%), the frequency distribution of attitudes after being given education is mostly negative as many as 33 people (59.3%)	Stunting education using the Android application has proven to be effective but for the future it is recommended to use more than two stunting education media.
4	Medinawati, et al. <sup>8</sup>	Media "Acenting Seni"	Knowledge before and after being given art acting media education experienced a significant increase	Attitudes before and after being given media accenting art education experienced a significant increase	The media "Acenting Seni" is able to increase the knowledge and attitudes of respondents regarding preventing stunting from an early age
5	Melati, et al, 2021. <sup>9</sup>	Whatsapp Group Education	Prior knowledge 56.9% increased knowledge after being given whatsapp group education by 84.6%	Attitude before being given 65.6% Attitude after being given education 77.8%	The use of WhatsApp groups has an influence on increasing pregnant women's knowledge by 56.6% and positive attitudes to prevent stunting.
6	Mulyani, et al	Stunting counseling education (in the form of leaflets)	Prior knowledge 63.3% Knowledge after 73.3%	Attitude before experiencing an increase of 63.3%	Nutrition education by giving leaflets to anticipate stunting in children shows a significant effect on increasing mothers' knowledge and attitudes in terms of monitoring children's growth to prevent stunting in Gurah village

7	Naulia, et al, 2021. <sup>11</sup>	Education on nutrition for toddlers	Prior knowledge 75.9% Knowledge after 88.9%		Attitude before 67.5% attitude before 77.5%	Nutrition education can increase knowledge and attitudes in fulfilling nutrition so that nutrition can be an alternative intervention to improve health behavior in preventing stunting. Further research needs to be further investigated regarding mother's behavior in fulfilling toddler nutrition after receiving nutrition education
8	Nuheriana, et al, 2021. <sup>12</sup>	Diet Counseling Education	Knowledge before education 57.1% Knowledge after education 100%		Attitude after education 63.3% Attitude before education 87.8	There is an effect of dietary counseling on changes in the knowledge of mothers who have stunted children
9	Nuraini, et al, 2019. <sup>3</sup>	Education through stunting prevention learning videos	Knowledge before education 77.4% Knowledge according to education 89.9%		No research done	Education using videos can increase knowledge about stunting
10	Nyamasege et al 2018. <sup>13</sup>	Counseling	Experiencing knowledge	increased	No research done	Experiencing a significant increase in knowledge after being given education about stunting
11	Rehana, et al, 2020 <sup>15</sup>	Counseling	Experience knowledge	increased		increasing mother's knowledge about the meaning of stunting, the causes of stunting, how to prevent and deal with it in children under five
12	Patata, et al, 2021. <sup>14</sup>	Counseling	Experience knowledge	increased	Experiencing improvement and change in attitude after counseling	there is a change in the knowledge and attitude of the prospective bride and groom after being given nutrition education, where on average the respondents have started to improve their diet to prepare for pregnancy from the nutrition education that was given before
13	Simanjuntak, et al, 2022. <sup>16</sup>	Electronic media education such as Instagram, Twitter, Facebook, and Tiktok	The average total knowledge index when the pre-test was carried out was 73.03 with a minimum value of 25 and a maximum of 100 all respondents who chose social media TikTok and Twitter had knowledge in the high category with an average index of 94.00 and 93.00 respectively.		The attitude before conducting electronic media education was that Twitter was included in the high category with an average attitude index of 96.67	The social media that produces the most changes in target knowledge is TikTok, while the most effective changes in target attitudes and behavior are through Instagram social media
14	Wahyurin, et al, 2018. <sup>18</sup>	brainstorming and audiovisual methods	Knowledge before education with results of medium scores (3-4) and after (4-10)		No research done	Providing education with brainstorming and audiovisual methods can increase mothers' knowledge about stunting
15	Waliulu, et al, 2018. <sup>19</sup>	Stunting prevention counseling methods	Respondents' knowledge before and after education obtained mean values of 65.50 and 87.50		Are not done	Education has an effect on knowledge and efforts to prevent stunting.

## DISCUSSION

Knowledge is a stimulus in which the change from not knowing to knowing is the result of knowing and this occurs after a person has sensed a certain object. Sensing that has gone through the five human senses, namely the senses of sight, hearing, smell, taste and touch. Most of human knowledge is obtained through the eyes and ears. In this case, according to L Bloom, knowledge is divided into several parts, such as: 1) The cognitive domain can be measured from knowledge, knowledge is the result of human sensing, or the result of knowing someone about objects through their senses (eyes, nose, ears, tongue and so on). 2) The affective domain can be measured by attitude. Attitude is the readiness or willingness to act. attitude is not yet a factor but is a predisposition to closed behavior or reaction. 3) The psychomotor domain can be measured from the skills of the psychomotor domain, which is an attitude that is not necessarily manifested in factors.

Prevention of stunting can be done with various or various efforts where most people may not understand the term called stunting. Stunting is a chronic malnutrition problem caused by a lack of nutritional intake for quite a long time, resulting in impaired growth in children, namely the child's height is lower or shorter (dwarf) than the standard age. The condition of a short child's body is often said to be a hereditary factor from both parents, so that many people just accept it without doing anything to prevent it. In fact, as we know, genetics is a determinant factor for health that has the least influence when compared to behavioral, environmental (social, economic, cultural, political) factors, and health services. In other words,

This is very evident in research conducted by Naulia, et al 2021 that nutrition education can increase knowledge and attitudes in fulfilling nutrition so that nutritional nutrition can be an alternative intervention to improve health behavior in preventing stunting. Efforts to prevent stunting can be carried out by providing education to the public, especially mothers, who have toddlers. In addition, other studies state that efforts to prevent stunting by providing electronic media education are very effective in this case where the results of the post-test show that all respondents who chose social media TikTok and Twitter have knowledge in the high category with an average index each reaching 94.00 and 93.00. The low knowledge category is still filled by respondents who choose social media Instagram (6.30) and Youtube (7.70). The average post-test knowledge index as a whole reaches 86.91 with a minimum value of 55 and a maximum of 100. If sorted based on the amount of the average knowledge index achieved during the post-test, social media TikTok ranks first, followed by Twitter, Facebook, Instagram, and finally Youtube.

Seeing the results of the research that the role of electronic media such as Facebook, Twitter, Instagram and Tiktok is seen in the industrial era 4.0 where almost all of them have electronic social media. It can be used as an educational event, especially for stunting prevention. In addition, electronic media is easier to reach and can be applied in the era of society, most of whom are used to using electronic media.

From the results of another study conducted by Melati, et al 2019 where the use of the WhatsApp group had an effect on increasing the knowledge of pregnant women by 56.6% and a positive attitude to prevent stunting. The role of education in preventing stunting is felt to be very important, because it is proven from the results of various research studies, changes in mother's knowledge about stunting prevention get better results and are very significant.

## **THE EFFECTIVENESS OF EDUCATION TO IMPROVE ATTITUDES**

The causes of stunting are very diverse and complex, but in general they are categorized into three factors, namely basic factors, underlying factors, and immediate factors (Udoh, et al. in Nurkomala, et al., 2018). Basic factors consist of economic, social, political factors. Underlying factors consist of family factors and health services, while immediate factors consist of diet and health factors. Family factors that are risk factors for stunting are parents' educational level, socioeconomic conditions, and the number of children in the family. Dirty environmental conditions also affect the occurrence of stunting, because it can cause disease and even infection and inhibit growth and development.

Attitude is a reaction or response that is still closed from someone to a stimulus or object. Manifestations of attitudes cannot be seen immediately, but can only be interpreted in advance from closed behavior, attitudes actually show the connotation of appropriate reactions to stimuli in everyday life.

In the research conducted by Kustiani and Misa (2018) an increase in the percentage of attitudes of mothers who have children 6-24 months after being given counseling using pictures and prepared food with shapes, types and quantities according to the needs of children based on age. The increase in attitudes that occurred in mothers was in line with the increase in mothers' knowledge about complementary feeding, where at the beginning of the study, very few mothers had good knowledge of 14.7%, and it increased to 82.4% after nutrition counseling was carried out. An increase in attitude goes hand in hand with an increase in knowledge, because knowledge underlies changes in human attitudes and behavior. In Azzahra's study, et al., there was a significant increase in mother's attitude after being given counseling about feeding children. Education during counseling apart from increasing the mother's knowledge, will also improve the mother's attitude. The reason is, during counseling the mother will be invited to solve problems together, and will cause a stimulus reaction in the form of emotion which will affect a change in attitude.

In addition to increasing understanding of attitudes through education based on research by Nuheriana, et al, 2021, states that there is an effect of dietary counseling on changing the knowledge of mothers who have stunted children. Besides that, the importance of education in changing attitudes, where a person's response is when he gets something good, and his knowledge increases, the attitude response will change in such a way.

Education in accelerating the reduction of stunting today is very important when seen from the results of various literature searches, almost as a whole there has been a significant change in attitude, especially in research conducted by Melati et al. .6% and a positive attitude to prevent stunting. In addition, exposure to electronic media will have a pretty good impact on changing the attitude of mothers in preventing stunting for toddlers.

## **CONCLUSION**

- a. The findings found 16 articles discussing stunting education, where the results of changes in stunting prevention knowledge changed very much for the better
- b. The results of the discovery of 16 articles discussing education on stunting prevention resulted in a positive attitude change in stunting prevention.

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# AISCH 2022

## The 3<sup>rd</sup> AI Insyirah International Scientific Conference on Health

### PAPAYA FRUIT FEEDING WITH INCREASED BREAST MILK PRODUCTION IN BREASTFEEDING MOTHERS IN BPM IW KAMPAR REGENCY

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#### ABSTRACT

Breast milk contains colostrum which is rich in antibodies because it contains protein for endurance and is useful for killing high amounts of germs so that exclusive breastfeeding can reduce the risk of death in babies. In breastfeeding mothers, there are often obstacles such as insufficient milk production, mothers do not understand the correct lactation management, mothers want to breastfeed again after the baby is given formula (lactation), the baby has already gotten, prelakteal feeding. Lactagogum is a drug that can increase or facilitate the production of milk. Papaya (*carica papaya L*) is one of the fruits that contains lactagogum and has a high nutritional content and is rich in health benefits. The research method used is an experimental method using a pre- and post-intervention design using one group, research design using one group before and after intervention design, or pre and post test design. In this design, the only experimental unit serves as an experimental group and at the same time a control group. The variables in this study consisted of free variables (papaya fruit consumption) and bound variables (increased breast milk production). The population in this study was all breastfeeding mothers aged < 6 months in BPM IW Kampar Regency which amounted to 25 people. The entire population in the study became a sample. Data analysis is carried out in stages, namely univariate analysis aims to obtain an overview of each variable, both dependent variables and independent variables. Meanwhile, bivariate analysis was carried out by testing the hypothesis between independent variables and dependent variables to see the difference between independent variables and dependent variables with statistical meaningfulness tests using the T test at a confidence level of 95%. Based on the results of breast milk production before the consumption of papaya fruit, the average frequency of breastfeeding was 5.4 times with a standard deviation of 0.79 and after consuming papaya fruit, the average frequency of breastfeeding increased to 9.67 times with a standard deviation of 0.68. The correlation between the two variables was 0.97 and the difference in the average value of the increase in breast milk production in mothers who did not consume and who consumed papaya fruit was 4.27 with a sig of 0.000. Because the sig < 0.05, it means that the average milk production before and after papaya fruit consumption is different. Thus it can be stated that the feeding of papaya fruit can affect the increase in breast milk production of nursing mothers.

Keywords : Papaya, Breast Milk Production, Breastfeeding Mothers

#### INTRODUCTION

In order to implement balanced nutrition efforts, each family must be able to recognize, prevent, and overcome the nutritional problems of each member of their family. This is in accordance with the Regulation of the Minister of Health Number 23 of 2014 concerning Efforts to Improve Nutrition. The efforts made to recognize, prevent, and overcome nutritional problems are by weighing weight regularly, giving breast milk only to babies from birth to 6 months of age. Breast milk contains colostrum which is rich in antibodies because it

contains protein for endurance and is useful for killing high amounts of germs so that exclusive breastfeeding can reduce the risk of death in babies. Yellowish colostrum produced on the first to the third day. The fourth to the tenth day of breast milk contains less immunoglobulin, protein, and lactose than colostrum but higher fat and calories with a whiter milk color. In addition to containing food substances, breast milk also contains certain enzymes that function as absorbent substances that will not interfere with other enzymes in the intestine. Formula milk does not contain these enzymes so that food absorption is completely dependent on enzymes found in the baby's intestines (Ministry of Health RI, 2020)

Regarding the understanding of the importance of breast milk for babies and breastfeeding mothers, it turns out that there are obstacles that are often faced in relation to breastfeeding either from mothers or babies. In breastfeeding mothers, there are often obstacles such as insufficient milk production, mothers do not understand the correct lactation management, mothers want to breastfeed again after the baby is given formula (lactation), babies have already received, *prelakteal feeding* (sugar water / dextrose administration, formula milk in the first days of birth) maternal abnormalities: mother's nipples are blistered, mother's nipples are injured, breast swelling and mothers work, while in babies there are often obstacles such as sick babies or baby abnormalities (Ningsih, 2020)

*Lactagogum* is a drug that can increase or facilitate the production of milk. Synthetic lactagogum is little known and relatively expensive. This led to the need to look for alternative lactagogum drugs. Efforts to increase breast milk production can be done by doing breast care early and regularly, improving breastfeeding techniques, or by consuming foods that can affect breast milk production. Papaya (*carica papaya L*) is one of the fruits that contains lactagogum and has a high nutritional content and is rich in health benefits. Lactagogum is a substance or drug that can increase or facilitate the production of breast milk. Lactagogum has an effect in stimulating the production of hormones oxytocin and prolactin such as alkaloids, polyphenols, steroids, flavonoids, which are effective in increasing the secretion and production of breast milk. Papaya is one of the fruits that contains lactagogum which can increase breast milk production (Murhatono, et al,2018).

The benefits of papaya fruit can be used to add appetite, a source of vitamin A (a source of antioxidants), facilitate BAB, canker sores and green papaya fruit / raw fruit can increase the production of breast milk, vitamin B complex (helps the body's work), potassium (prevent heart disease). In 100 kg papaya contains vitamin A 950 UI, vitamin C 60.9 mg, potassium 182 mg and folic acid 31 µg (Puspaningtyas, 2018).

Papaya as one of the fruits that contains *lactagogum* is a tropical fruit know as *Caricapapaya*. Papaya fruit is also one type of fruit that has a high nutritional content and is rich in health benefits. Papaya planting requires low temperatures to support growth so it is suitable for planting in the tropics. Therefore, it is natural that the population of papaya trees is very large and easy to find in our country. People can get papaya fruit for daily consumption easily. From this background, researchers are interested in knowing the effect of papaya fruit giving on breastfeeding mothers on the smooth production of breast milk.

## RESEARCH METHODS

The research method used is an experimental method using a design before and after intervention using one group, Research design using *one group before and after intervention design*, or *pre and post test design*. In this design, the only experimental unit serves as an experimental group and at the same time a control group. The variables in this study consisted of free variables (papaya fruit consumption) and bound variables (increased breast milk production). . The population in this study was all breastfeeding mothers of babies aged < 6 months in BPM IW Kampar Regency which amounted to 25 people. The entire population in the study became a sample. To determine whether or not the sample is suitable to represent the entire population, inclusion criteria are made, namely: willing to be a respondent, mothers who breastfeed babies aged < 6 months. The research was carried out at BPM IW Kampar Regency, the research time was in February 2022. Observations were made on breastfeeding mothers before the consumption of papaya fruit, it was seen the frequency of breastfeeding how many times the baby breastfeeds per day and the cranky / not fussy child observed for seven days. Furthermore, the consumption of papaya fruit is carried out, by consumption is consuming by steaming papaya fruit and steamed papaya was consumed by the mother for 3 times a day for fourteen days, The increase in breast milk production in breastfeeding mothers both before and after being given papaya fruit is seen from the frequency of breastfeeding, if the frequency of breastfeeding is more than 8x per day and the child is not fussy. The increase in breast milk production is not assessed by measuring the volume of breast milk. The data analysis carried out is to manage data in a form that is easier to read and interpret and can be tested statistically. Data analysis is carried out in stages, namely *univariate* analysis aims to obtain an overview of each variable, both dependent variables and independent variables. Meanwhile, *bivariate* analysis was carried out by testing the hypothesis between independent variables and dependent variables to see the difference between independent variables and dependent variables with statistical meaningfulness tests using the T test at a confidence level of 95%.

## RESEARCH RESULTS

Table 1 Frequency Distribution of Breast Milk Production Before and After Consuming Papaya Fruit

Increased Breast milk production (n = 25)		
Before Consuming		%
Increase	0	0
Decrease	25	100%
After Consuming		%
Increase	25	100
Decrease	0	0

From Table 1, it can be seen that all breastfeeding mothers who have not consumed papaya fruit have not experienced an increase in breast milk production, while after consuming papaya fruit, all breastfeeding mothers experience an increase in breast milk production.

Table 2 Distribution of The Relationship between Papaya Fruit Consumption and Increased Breast Milk Production

<b>Fruit Consumption Papaya</b>	n	Mean	SD	Korelasi	Sog
Before Consumption	25	5,400	0,79	0,697	0,000
After Consumption	25	9,6700	0,68		

Based on Table 2, it can be seen that breast milk production before the consumption of papaya fruit, the average frequency of breastfeeding is 5.4 times with a standard deviation of 0.79 and after consuming papaya fruit, the average frequency of breastfeeding has increased to 9.67 times with a standard deviation of 0.68. The correlation between the two variables was 0.97 and the difference in the average value of the increase in breast milk production in mothers who did not consume and who consumed papaya fruit was 4.27 with a sig of 0.000. Because the sig < 0.05, it means that the average milk production before and after papaya fruit consumption is different. Thus it can be stated that the feeding of papaya fruit can affect the increase in breast milk production of nursing mothers

## DISCUSSION

Based on the results of the study, the results were obtained that all breastfeeding mothers who had not consumed papaya fruit did not experience an increase in breast milk production, while after consuming papaya fruit, all breastfeeding mothers experienced an increase in breast milk production. Breast milk production before papaya fruit consumption the average frequency of breastfeeding is 5.4 times with a standard deviation of 0.79 and after consuming papaya fruit the average frequency of breastfeeding has increased to 9.67 times with a standard deviation of 0.68. The correlation between the two variables was 0.97 and the difference in the average value of the increase in breast milk production in mothers who did not consume and who consumed papaya fruit was 4.27 with a sig of 0.000. Because the sig < 0.05, it means that the average milk production before and after papaya fruit consumption is different. Thus it can be stated that the feeding of papaya fruit can affect the increase in breast milk production of nursing mothers.

Papaya (*Carica papaya L*) is one of the fruits that contains lactagogum and has a high nutritional content and is rich in health benefits. Lactagogum is a substance or drug that can increase or facilitate the production of breast milk. Lactagogum has an effect in stimulating the production of hormones oxytocin and prolactin such as alkaloids, polyphenols, steroids, flavonoids, which are effective in increasing the secretion and production of breast milk (Murhatono, et al,2018).

The use of young papaya fruit in the community has been widely found, such as good for eye health, good for digestion, used to make vegetables because of the content of protein and vitamins, and eaten to facilitate and increase breast milk production. The processing of young papaya fruit in the community is usually done by boiling, decomposing, steaming and dries. Papaya fruit is a food ingredient that has many benefits and is easily obtained by the community because it can be easily grown in the yard of the house. With the use of

papaya fruit which can increase breast milk production, it can help the success of the government program (Ministry of Health) in an effort to provide exclusive breastfeeding, namely breastfeeding only up to the age of 6 months of the baby and still being given breast milk until the age of 2 years old which is supplemented by complementary foods (MPASI).

## CONCLUSIONS AND SUGGESTIONS

The frequency of breastfeeding mothers before consuming papaya fruit is an average of 5.4 times and experiences an increase in breast milk production after consuming papaya fruit, which is the average breastfeeding to 9.67 times.

Papaya fruit is a type of food that contains *Lactogogum*, which is a nutrient that can increase and facilitate breast milk production, especially in mothers who experience problems in breast milk production.

It is hoped that the clinic will provide health education to breastfeeding mothers about giving papaya to increase breast milk production.

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## **STRESS SECOND-YEAR STUDENTS FACES OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE)**

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### **ABSTRACT**

*Objective: To see an overview of the stress of Second-Year Students facing the Objective Structured Clinical Examination (OSCE). Methods: This type of research is a descriptive quantitative research method. The sampling technique used in this study is probability sampling with the total sampling technique. This research was conducted on level 2 students in the 2nd semester of the Pekanbaru State STIKes Nursing Study Program. The number of samples is 126 students. The measuring tool used in this research is the Depression Anxiety Stress Scale (DASS 42) consisting of 14 statements related to stress. Questionnaires were distributed to respondents through an online form. Results: Nearly half, namely 34 (27%) level 2 students in semester 2 of the Nursing Study Program STIKes Payung Pekanbaru State who attended OSCE in semester 2 experienced severe category stress, and a small portion, namely 5 respondents (4%) were level 2 students semester 2 Study Program S1 Nursing STIKes Payung Pekanbaru State who took part in the OSCE semester 2 experienced mild anxiety.*

*Keywords: Stress, OSCE, Nursing Student, Academic*

### **INTRODUCTION**

High levels of stress is a nursing student (Aljohani et al., 2021). Stress is a reaction to any challenging event that requires individuals to react or adapt through physical, emotional, mental and psychological responses (Shrestha S & Ghimire S, 2019). Stress is a psychological factor that affects academic performance and welfare of nursing students (Parveen & Inayat, 2017). Research (Facioli et al., 2020) this research was conducted on nursing students in Hong Kong, the results showed the prevalence of students experiencing stress was 37.3%.

Several research results found that stress characteristics among nursing students occur uniquely. For first-year students, the source of stress comes from the academic program, whereas for second-year students, the source of stress comes from high clinical performance expectations and lack of time for personal life and in final year students, the source of stress comes from expectations after graduation and the transition to work environment. Supported by research (Mazalová et al., 2022), the results of the study revealed that the highest levels of stress were recorded in the first year, and stress tends to decrease during the first two years. In year three, changes occur in year three when students experience surprisingly higher levels of stress than year two due to lack of knowledge, workload, patient care, and clinical environment.

The main stress factors for nursing students consist of academic, clinical and environmental factors (Aljohani et al., 2021). According to (Parveen & Inayat, 2017), stress on nursing students occurs due to a higher academic load compared to other sources of stress, this is related to the amount of material, assignments, or courses needed by nursing students. In addition, lack of free time, fear of making mistakes in clinical areas, fear of failing in training, not having time for entertainment, feeling responsible for what happens to patients, not having enough money for entertainment, and fear of poor job prospects (Aljohani et al., 2021). Other sources come from exams, long hours of study assignments, grades, lack of timely feedback on student performance (Alghamdi et al., 2019).

One form of examination that is very popular among nursing students is the OSCE (Objective Structured Clinical Examination) Method. OSCE is a type of modern examination that is frequently used in the health sciences, first introduced by Harden in 1975, and has been widely used as an evaluation method for assessing clinical skills in simulated clinical settings (Ahmed Elbilgahy et al., 2020). In OSCE, each student is asked to demonstrate certain skills and behaviors. OSCE usually consists of a series of assessments that simulate real-life clinical situations (Ferreira et al., 2020).

Many studies have found student perceptions and opinions regarding OSCE. Among students' perceptions of OSCE, OSCE can be used as an objective, fair and valid examination format as well as a structured and organized exam format (Vincent et al., 2022). Research (Zamanzadeh et al., 2021), the results of the study found that students considered OSCE to be very stressful. Research (Eyüboğlu et al., 2021), research results reveal that for students, OSCE is a way of assessing learning that is fair, effective, and motivating, but they experience a lot of stress and anxiety.

Recent research (Alamri et al., 2022), the results of the study revealed the perceptions and attitudes of undergraduate nursing students towards OSCE, namely most did not consider the OSCE atmosphere pleasant (66.3%) and preferred the practical examination mode (40.6%), and 64.4% thought that the time limit on OSCE was inadequate and examinees considered OSCE to be a stressful exam, the examiners were not friendly, the OSCE station organization was still bad. Supported by research (Alkhateeb et al., 2022), the results of the study revealed the main weaknesses of OSCE identified by students including injustice, gender discrimination, OSCE duration, and examiner behavior.

At STIKes Payung Negeri Pekanbaru, OSCE is used as an aspect of assessment in the core nursing courses. This exam is carried out after students complete a written exam in each semester of lectures. Seeing how objective the assessment using the OSCE method is even though in terms of student perception, OSCE is still perceived as a negative thing, one of which can cause mental disorders in the form of stress, and stress that occurs among nursing students has unique characteristics, therefore researchers are interested in conducting research with title "Stress Second Student Year Facing Objective Structured Clinical Examination (OSCE)".



## RESEARCH METHODS

This type of research is a descriptive quantitative research method. The sampling technique (sampling technique) used in this study is probability sampling with the total sampling technique. This research was conducted on 2nd semester 4th grade students of the Pekanbaru State STIKes Nursing Study Program. The number of samples is 126 students.

The data collection technique used in the research was giving questionnaires to the research subjects. The questionnaire was then filled out by students through an online form. Before filling out the questionnaire, the research submitted informed consent in advance at the beginning of the online form page. If the research subject is willing, then they can continue filling out the questionnaire. Questionnaires were distributed by several class representatives and then forwarded to their class mates. For research subjects who had not filled out the questionnaire, they were reminded by class representatives. When they were contacted by class representatives but had not filled out the questionnaire, the researcher contacted the research subjects via email and WhatsApp.

Data were collected using a demographic information form and Depression Anxiety Stress Scale (DASS 42). developed by Lovibond and Lovibond (1995). This measuring tool is then modified and adjusted, so that it can describe the condition of the research subject. The DASS measurement questionnaire consists of 14 statements relating to a person's stress. The measuring instrument used in this study is a standardized measuring instrument, so validity and reliability testing is not carried out at the beginning. Validity and reliability testing was carried out after the data was Validity and reliability testing was carried out after the data was obtained. The data obtained from the results of distributing questionnaires using an online form, and those that are sent back and complete will be analyzed.

The results of the validity test on 3 of the 14 items of the DASS 42 questionnaire using the Pearson product moment. After the data was collected, it showed that the Pearson correlation value was positive, which was more than 0.532 for all stress, anxiety and depression items. Test the reliability of measuring instruments using Cronbach's alpha. The reliability test results obtained on 3 of the 14 items of the DASS 42 questionnaire showed stress = 0.951, anxiety = 0.943, and depression = 0.952. (Kachaturoff et al., 2020).

## RESULTS AND DISCUSSIONS

Tabel 1. Socio-Demographic Characteristics

Respondent	F	%
Age		
18-23	126	100
Gender		
Male	7	16
Female	119	84

Of the 126 respondent was used as shown in Table 1. Entirely of repondent were 18-23 years (100%), and female (77,6%).

Tabel 2. Stress Levels *Second-Year Students Faces OSCE*

Stress Levels	F	%
Normal	26	21
Mild	5	4
Moderate	33	26
Severe	28	22
Very severe	34	27
TOTAL	126	100

A total of 126 nursing undergraduate students completed the study questionnaire, 27% (n=34) had very severe stress, 26% (n=26) moderate stress and 22% (n=28) severe stress. In line with research studies (Zheng et al., 2022), the results of the study revealed that the stress levels of most nursing students were in the moderate stress category. Penelitian (Alamri et al., 2022), hasil penelitian mengungkapkan bahwa 33,1% peserta ujian menganggap OSCE lebih menegangkan daripada ujian praktek biasa, didukung oleh Penelitian (Bani-issa et al., 2019), hasil penelitian, 94% siswa setuju bahwa OSCE sangat menegangkan.

## CONCLUSION

The researchers' findings regarding the stress description of second year students participating in OSCE nursing are consistent with several previous studies. Students who undergo OSCE still experience stress even though they are already at level 2 of lectures. Therefore, it is necessary to carry out a simple intervention to reduce student stress before participating in the OSCE in order to obtain standard exam results.

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## **THE EFFECT OF EDUCATION LEVEL ON SELF CARE EMPOWERMENT OF DIABETES MELLITUS PATIENTS**

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### **ABSTRACT**

*According to the International Diabetes Federation (IDF) there has been an increase in the number of people with diabetes from 7.0 million in 2009 to 12.0 million in 2030. Diabetes mellitus if not managed properly can lead to various complications. The application of self care management is expected to prevent complications. Self care include managing diet, determining appropriate physical activity, monitoring blood sugar levels independently and obediently carrying out DM pharmacological therapy. A person's level of education is influential in responding to something that comes from outside. The purpose of this study was to determine the relationship of the level of education to self care of patients with diabetes mellitus. This study uses a descriptive analytic design with a cross sectional approach. The population in this study were all DM patients. The sample was taken partly from the patient population with purposive sampling technique. Data analysis to be carried out includes univariate and bivariate analysis. The results that there was a relationship between the level of education and self-care for DM patients with a p-value of 0.015 (p-value <0.05). It is hoped that the Puskesmas can improve health promotion about self-care for DM patients in order to prevent complications.*

*Keywords: Self Care, Diabetes Mellitus*

### **INTRODUCTION**

Diabetes mellitus is a chronic metabolic disease characterized by an increase in blood sugar levels above normal values or hyperglycemia which is influenced by abnormalities in carbohydrate, fat and protein metabolism due to damage to synthesis in pancreatic beta cells or insulin secretion, sensitivity or both (American Diabetes Association, 2018). . According to the International Diabetes Federation (IDF) there has been an increase in the number of people with diabetes from 7.0 million in 2009 to 12.0 million in 2030. WHO predicts an increase in the number of people with diabetes mellitus in Indonesia from 8.4 million in 2000 to around 21, 3 million by 2030, which represents a 2-3-fold increase in the number of people with diabetes. Based on a report from the Health Research and Development Agency of the Ministry of Health (RISKESDAS) in 2013, it was informed that the prevalence of DM diagnosed by doctors or symptoms in East Java had almost doubled from 1.1% in 2007 to 2.1% in 2013 [1].

DM if not managed properly can lead to various complications, such as cerebrovascular disease, coronary heart disease, leg blood vessel disease, eye, kidney and nerve disorders. People with diabetes are 2 times more likely to develop coronary heart disease and cerebrovascular disease, 5 times more likely to suffer from ulcers/gangrene, 7 times more

likely to develop terminal kidney failure, and 25 times more likely to develop blindness due to retinal damage than non-diabetic patients[2].

In reducing the possibility of complications, it is necessary to have self-management by people with DM with self-care management, the goal is to control glucose levels in the blood (PERKENI, 2019). This is done with the hope that if self care management activities are carried out properly, the risk of complications will be smaller [3]. There is one obstacle in preventing complications, namely the inability of people with diabetes to control blood glucose levels, of course this requires serious attention for health workers. The application of self care management is expected to prevent complications [4]. Ability to self care / self care including managing diet, determining appropriate physical activity, monitoring blood sugar levels independently and obediently carrying out DM pharmacological therapy [5].

According to Dorothea Orem, self care is a human need for self-care and conditions whose management is carried out continuously in an effort to maintain health and life, as well as healing from disease and overcoming complications caused. This theory aims to help clients perform self-care. Orem developed a definition of nursing that emphasized the client's need for self-care. Self care is needed by every individual, both women, men, and children. When self care is inadequate and cannot be maintained, it will result in illness and death. DM self care is an action or program that is the responsibility of DM sufferers and must be carried out throughout the life of the sufferer. 13 Wattana in his research states that effective DM self care can reduce DM patients risk the incidence of coronary heart complications, besides that self care can also control normal blood sugar levels, reduce the impact of problems due to DM, and reduce mortality and morbidity due to DM. Self care in DM patients aims to be able to control blood glucose levels optimally and prevent complications that arise. When individuals have contracted complications, it will have an impact on decreasing life expectancy and decreasing quality of life. Research conducted by Suantika (2015) on the relationship between diabetes self-care and the quality of life of type 2 DM patients stated that DM self-care affects the quality of life by 36%, which means that the higher the level of self-care, the higher the quality of life of type 2 DM respondents [6].

Human Resources (HR) is one of the important assets in the development of a nation, so the quality of human resources needs special attention. One important aspect that affects human resources is the level of public health, where health status plays an important role. Public health status can be influenced by four factors, namely: 1) the achievement of life expectancy, morbidity, disability, or death rates; 2) the achievement of participation in health services, the achievement of internal satisfaction, and external satisfaction; 3) participation in social life; and 4) living environment. In a community, these four supporting factors have a close relationship with each other, and cannot be separated from natural resources, population density, cultural systems, and environmental balance. HL. Blum in his concept describes that the health status of a person or a community is the result of the interaction of various factors, both internal factors and internal factors consisting of physical and psychological factors, while external factors consist of various factors, including social, community culture, physical environment, politics, economics, education etc [6].

Education and health are two things that are very closely related. Education is a tool used by an individual so that later he gains an understanding of health awareness. Most people judge that if a person gets a good education process and gets sufficient health knowledge then he will also have a good level of health awareness as well. That way, it is hoped that in the future

the person will apply a healthy lifestyle in his life and be able to pass it on to the people around him [7].

Putri's research (2017) mentions factors that can influence the behavior of Diabetes Mellitus treatment, namely age, gender, education level, length of suffering, social support, and behavior of health workers. Several demographic factors are referred to as determinants of the level of compliance or behavior of patients with diabetes mellitus, including gender and education level. A person's level of education is influential in responding to something that comes from outside. Someone who has a high level of education will give a more rational response and also in his motivation will have the potential than those with lower or moderate education [8]. The purpose of this study was to determine the relationship of the level of education to self care of patients with diabetes mellitus.

## RESEARCH METHODS

This study uses a descriptive analytic design with a cross sectional approach, namely research that aims to describe the status of the phenomenon or the relationship between phenomena at one time [9]. The population in this study were all DM patients. The sample was taken partly from the patient population with a purposive sampling technique, namely a sample selection method carried out on the basis of the researcher's considerations and with a specific purpose [10].

Data analysis to be carried out includes univariate and bivariate analysis. Univariate analysis aims to explain or describe the characteristics of each variable to be studied. Bivariate analysis aims to determine whether there is a significant relationship between the two variables [11]. The purpose of doing bivariate analysis in this study is to prove the hypothesis whether there is a relationship between education and self-care in DM patients. Statistical test used for bivariate analysis, using SPSS.

## RESULTS AND DISCUSSIONS

Table 1 Distribution of Respondents Based on Education Level and Self Care of DM Patients

Variables	Category	F	%
Education	Higher education	39	65
	Low education	21	35
Self care	Good self care	30	50
	Self care is not good	30	50

The results of the analysis in table 1 show that some respondents have a high level of education, namely 39 people (65%) while 21 people (35%) have a low level of education. Distribution of respondents based on self care for DM, the results obtained were equal between good and bad categories of self care, each of which was 50%.

Table 2 The Relationship Between Education and Self Care of DM Patients

Education	Self Care				Total	<i>p-value</i>	
	Good		Not good				
	N	%	N	%			
High	24	80	15	50	39	65	0.015
Low	6	20	15	50	21	35	

Low education and self care are not good as In table 2 above, it can be seen that there are 24 respondents with DM who have higher education and have good self-care, while 6 respondents with DM who have low education and have good self-care. It can also be seen that DM patients who have higher education and self care are not good as many as 15 respondents and DM patients who have well as 15 respondents. And the P-value obtained based on the table above is 0.015, this states that there is a significant relationship between education and the incidence of self-care.

Based on the description of the results of the study above, it was found that 39 people (65%) had higher education, 21 people (35%) had low education, 50% of self care was good and 50% of self care was not good. And it can also be seen that respondents who are highly educated and have good self-care are 24 respondents, respondents with higher education have poor self-care as many as 15 respondents, respondents with low education have poor self-care as many as 15 respondents and respondents with low education have good self care as many as 6 respondents. And the results of statistical tests for the two variables obtained p-value 0.015 (p-value <0.05), this indicates that there is a significant relationship between the two variables.

This study is in line with the results of Hunt (2012) that the educational background of the largest respondent is higher education, which is 57.9%, then secondary education is 32.2% and the lowest is basic education at 9.9%. Likewise with the results of Wilson's research (2012), respondents with the largest educational background are higher education, which is 66.2%, secondary education is 23.1% and the lowest is basic education at 1.5% [12].

The analysis of the relationship between education and self-care for DM patients in this study showed that there was a significant relationship, which means that there were differences related to self-care for DM patients between respondents who had high and low educational backgrounds.

The level of education of a person determines the attitude and pattern of behavior. The higher the level of education of a person, the higher the level of behavior patterns, but the lower the level of education of a person, it is almost certain that the level of behavior patterns is also low. Low education turns out to have a high level of behavior patterns because there are factors of religious understanding and also other understandings [7]

The level of education has an influence on the incidence of type 2 diabetes mellitus. People who have high education will have a lot of knowledge about health management, education also affects the awareness of each respondent. The level of education affects the way a person thinks and acts in dealing with something. People who have very limited basic education and

skills and poor health conditions will tend to experience stress. Low levels of education are also associated with poor self-care skills [13].

National education functions to develop capabilities and shape the character and civilization of a dignified nation in order to educate the nation's life. This aspect also covers the health sector. In the future, the individual is given an understanding from the school to instill healthy behavior and also values related to health so that later students can understand correctly what a healthy lifestyle is and of course will practice it in life [7].

People who have high education will have a lot of knowledge about health management, education also affects awareness for respondents. The level of education affects the way a person thinks and acts in dealing with something. People who have very limited basic education and skills as well as poor health conditions will tend to experience stress but have a desire to achieve healing. Respondents will also be careful in their diet to avoid these diseases. Low levels of education are also associated with poor self-care skills. Respondents with poor levels of education are often resigned and indifferent to their illness. In addition, a low level of education is associated with low self-awareness to seek treatment at health services considering that not all treatment can be covered by health insurance, even though it is currently available in government programs [5].

This is in line with various studies which show a strong correlation between education level and health status. Ross and Mirowsky in their research conclude that there is a positive effect of the length (years) of education with consistent health, arguing that the length of the school year can develop an effective life capacity that will ultimately affect health, including working full-time, being able to carry out work with good, improving welfare, economy, self-control, more social support, and a healthy lifestyle. This argument is based on "Human capital theory and status attainment model". Schools provide general skills, especially those related to cognitive, special skills that are useful for work, social values, behavior and have an important disposition for achieving a goal Higher education teaches people to think more logically and rationally, an issue from various sides so that they can be more perform analysis and solve a problem. In addition, higher education improves the cognitive skills needed to be able to continue learning outside of school [6].

The Seeman-Lewis study and the Seeman Budros study concluded that people who know more about health are more likely to initiate preventive behavior. The knowledge gained can come from formal or informal education. They argue that especially in schools can promote relationships and support equally because it helps partners in understanding each other. This social support can reduce depression, anxiety and psychological stress that affects health. Likewise, social support can be translated, among others, such as the habit of doing social activities such as doing sports activities, participating in anti-smoking movements or peer associations [6].

The research is inversely proportional to research conducted by Wattanakul (2012) and Adwan & Najjar (2013), both studies gave p value  $> 0.05$ , indicating that there is no difference in DM self-management behavior between respondents who have a basic education background. , medium, and high [10].



## CONCLUSION

Based on the results of the study showed that there was a relationship between the level of education and self-care for DM patients with a p-value of 0.015 (p-value <0.05).

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## **THE RELATIONSHIP BETWEEN WORKLOAD AND NURSE PERFORMANCE IN NURSING CARE DOCUMENTATION**

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### **ABSTRACT**

*Performance is the appearance of the work of human resources or employees both in quantity and quality. High demands from society can unconsciously cause a workload for nurses so that it can affect the performance of nurses in documenting nursing care. The purpose of this study was to determine the relationship between workload and nurse performance in documenting nursing care at the Dumai City General Hospital. The research design is a correlation description with a cross sectional approach, the number of samples is 72 people with a purposive sampling technique. Kolmogorov Smirnov data analysis. The results showed that the majority of 69.4% of the respondents' physical workload was in the light category, the majority of 62.5% of the respondents' mental workload was in the light category, the majority was 68, 1% of respondents' performance in documenting nursing care is in good category. The statistical test results showed that there was a relationship between physical ( $p=0.000$ ) and mental ( $p=0.000$ ) workload with the performance of nurses in documenting nursing care. It is hoped that the hospital management will pay attention to the workload of nurses so that the performance in documenting nursing care goes well.*

*Keywords: Workload, Nurse Performance, Nursing Care Documentation*

### **INTRODUCTION**

Nursing service is a form of professional service which is also an integral part of health services based on nursing knowledge and tips aimed at individuals, families, groups or communities, both healthy and sick (Law No. 38 of 2014). Nurses are one of the professions in hospitals that have an important role in the delivery of health services. Therefore, the hospital where nurses work always makes various efforts (Dalimunthe, 2016).

The main duties of nurses are as providers of nursing care, counselors and counselors for clients, managers of nursing services, nursing researchers, executors based on delegation of authority, and/or executors under certain limited circumstances (UU No. 38 of 2014). The main duties of a nurse can be an indicator to assess a nurse's performance.

Performance appraisal is a process of controlling the performance of nurses who are evaluated based on certain standards (Samba, 2000). In fact, in hospitals, the performance of nurses has not shown satisfactory results. Therefore, the performance of nurses continues to be the concern of various parties. The performance of a nurse can be seen from the quality of nursing care given to patients. Quality nursing care needs to be oriented towards better patient outcomes (Yesi, 2010).

Performance is the appearance of the work of HR or employees both in quantity and quality (Ilyas, 2013). According to Mangkunegara (2015) performance is the result of work in quality

and quantity achieved in carrying out the tasks and responsibilities given to him. Nurse performance is measured from the services provided to patients so that patients feel satisfied or dissatisfied (Kurniadih, 2013).

The performance of nurses in Indonesia is still low. Research by Maimun and Yelina (2016) at the Bhayangkara Hospital in Pekanbaru reported low nurse performance of 53.4%. Hidayat's research (2016) at a Surabaya hospital also showed low nurse performance of 50%. Meanwhile, research conducted by Mauliani and Dasuki (2015) at the H. Hanafie Muara Bungo Jambi Hospital also showed that nurse performance was in the unfavorable category of 47.6%. When seen from the research above, the performance of nurses is still low, close to 50%, meaning that most nurses are still not optimal in providing nursing services to patients. This shows that performance is an important element to be considered by leaders so that the nursing services provided can be of high quality.

Many factors affect employee performance including educational background that is not in accordance with work, low employee motivation, rewards given by agencies are not appropriate, low employee commitment, lack of employee discipline, employees who feel less involved in their work and high workload given the wrong agency.

High demands from society can unconsciously create a workload for nurses when carrying out their duties (Werdani, 2016). Workload is something that arises from the interaction between the demands of tasks, the work environment where it is used as a workplace, skills, behavior and perceptions of workers (Hart & Staveland, 1988 in Kasmarani 2012).

The results of research that is Runtu, Pondaag and Hamel (2018) with the title relationship between physical workload and work stress of nurses in the inpatient installation room of the General Hospital GMIM Pancaran Kasih Manado shows that there is a relationship between physical workload and work stress in the inpatient installation room of the hospital general GMIM Pancaran Kasih Manado ( $P=0.000$ ). Stress caused by the high physical workload will affect the performance of nurses in give servicenursing. The results of research conducted by Puspitasari (2012) with the title the relationship between physical and mental workload and work stress in nurses at the Inpatient Installation at the Regional Hospital Dr. Haryoto Lumajang showed that there was a relationship between physical workload and work stress ( $P=0.00$ ) which could directly reduce the quality of nurse performance and service in providing nursing care.

Nurses' physical workload includes lifting patients, bathing patients, helping patients to the bathroom, pushing medical equipment, tidying patient beds, pushing patient stretchers. Meanwhile, the mental workload experienced by nurses, including working shifts or taking turns, preparing the patient's and family's mental spirituality, especially for those who will carry out operations or in critical situations, working with special skills in caring for patients and having to establish communication with patients (Yudi, Tangka & Wowiling , 2019).

In addition to physical workload, nurses will also experience mental workload in providing nursing care. The mental workload experienced by nurses can be in the form of working shifts or taking turns, there are various types of patients under time pressure in making quick and appropriate decisions to take action on patients and having to deal with panicked patient families. With a number of mental workloads faced, nurses sometimes feel tense, unable to overcome difficulties on their own and it is not easy to consider things related to the task as a nurse (Kasmarani, 2012).

Several studies related to mental and physical loads that affect nurse performance. The results of research conducted by Werdani (2016) with the title the effect of nurses' mental workload on the level of patient satisfaction in Inpatient Rooms of Private Hospitals in Surabaya showed that there was a significant relationship between mental workload on the level of patient satisfaction in inpatient rooms ( $P = 0.001$ ). The results of research by Puspitasari (2012) with the title the relationship between physical and mental workload and work stress in nurses at the Inpatient Installation at the Regional Hospital Dr. Haryoto Lumajang showed that there was a significant relationship between physical workload and work stress in the inpatient nurse at RSD Dr. Haryoto Lumajang ( $P = 0.001$ ).

If nurses have a high mental workload and workload, they can have a major influence on the nursing services provided to patients and their families, so that the level of patient satisfaction with nursing services may decrease. The level of patient satisfaction is an indicator of the quality of a hospital service, so that if many patients/families are dissatisfied with the nursing services provided, it will have an impact on customer disloyalty, and in the long term will reduce the percentage of Bed Occupation Rate (BOR) of the hospital. (Werdani, 2016).

## RESEARCH METHODS

This study uses a correlation description design with a cross sectional approach. The sampling technique in this study used purposive sampling with a total sample of 72 respondents.

Collecting data using a questionnaire consisting of a physical workload questionnaire, mental workload and a questionnaire about nurse performance in documenting nursing care. The workload questionnaire was adopted from Rahadi's (2015) questionnaire. This study was tested using the Kolmogorov Smirnov test

## RESEARCH RESULT

Table 1. Frequency Distribution Based on Respondent Characteristics at City Hospitals Dumai in 2020

No	Characteristics Respondents	f	%
1	<b>Age (Years)</b>		
	24-30 Years	36	50
	31-37 Years	27	37.5
	38-45 Years	9	12.5
2	<b>Gender</b>		
	Male	14	19,4
	Female	58	80.6
3	<b>Education</b>		
	Low	4	5,6
	Higher	68	94.4
4	<b>Years of service</b>		
	< 9 years	52	72,2
	9-14 Years	15	20,8
	>14 Years	5	6,9

Based on table 1 it can be seen that, the majority of 57.5% of respondents were aged between 24-30 years, the majority of 80.6% of respondents were female, the majority of 94.4% of

respondents had low education and the majority of 72.2% of respondents had years of service under 9 year.

Table 2 Frequency Distribution of Respondents' Physical Workload at Dumai City Hospital in 2020

No	Workload Physical	f	%
1	Light	50	69,4
2	Heavy	22	30,6
<b>Amount</b>		<b>72</b>	<b>100</b>

Based on table 2 it can be seen that the majority of 69.4% of the respondents' physical workload is in the light category.

Table 3 Frequency Distribution of Respondents' Mental Workload at Dumai City Hospital in 2020

No	Workload Mental	f	%
1	Light	45	62.5
2	Heavy	27	37.5
Amount		72	100

Based on table 3 it can be seen that the majority of 62.5% of respondents' mental workload is in the light category.

Table 4 Frequency Distribution of Nurses' Performance in Documenting Nursing Care at Dumai City Hospital in 2020

No	Performance	f	%
1	Well	49	68,1
2	Enough	23	31,9
3	Not enough	0	0
<b>Total</b>		<b>72</b>	<b>100</b>

Based on table 4 it can be seen that the majority of 68.1% of the respondents' performance in documenting nursing care was in good category.

Table 5 Relationship between Physical Workload and Nurse Performance in Documenting Nursing Care at the Dumai City Hospital in 2020

No	Physical Workload	Nurse Performance in Nursing Care Documentation						Total		P values
		Well		Enough		Not enough		f	%	
		f	%	f	%	f	%			
1	Light	46	92	4	8	0	0	50	69.5	0.000
2	Heavy	3	13,6	19	86.4	0	0	22	30.5	
Amount		49	68,1	23	31,9	0	0	72	100	

Based on table 5 obtained from 50 respondents, 46 respondents (92%) with light physical workload had good performance in documenting nursing care, 3 respondents (13.6%) with heavy physical workload had good performance in documenting nursing care. The results of the statistical test with the Kolmogorov Smirnov test obtained a value of  $p = 0.000 < 0.05$ , which means that there is a relationship between physical workload and the performance of nurses in the inpatient room of the Dumai City Hospital

Table 6 Relationship between Mental Workload and Nurse Performance in Documenting Respondents' Nursing Care at Dumai City Hospital in 2020

No	Mental Workload	Nurse Performance at In Documenting Nursing Care						Total		P Value
		Well		Enough		Not enough		f	%	
		f	%	f	%	f	%			
1	Light	43	95.6	2	4,4	0	0	45	62.5	0.000
2	Heavy	6	22,2	21	77,8	0	0	27	37.5	
Amount		49	68,1	23	31,9	0	0	72	100	

Based on table 6 obtained from 45 respondents, 43 respondents (95.6%) with light mental workload had good performance in documenting nursing care, 6 respondents (22.2%) with heavy mental workload had good performance in documenting nursing care. The results of the statistical test with the Kolmogorov Smirnov test obtained a value of  $p = 0.000 < 0.05$ , there is a relationship between mental workload and the performance of nurses in the inpatient room of the Dumai City Hospital.

## DISCUSSION

An overview of the Physical Workload of Nurses in Dumai City Hospital

Based on the results of the study, it was found that the majority of 69.4% of respondents had a light physical workload. This is because due to the clear division of tasks for nurses so that

there is no overlapping, good monitoring and control from the head of the room, as well as good cooperation between the nursing team in completing the assigned tasks.

This result is inversely proportional to the results of research conducted by Yudi, Tangka and Wowiling (2019) showing that respondents have a high physical workload of 56.7%. The results of research conducted by Runtu, Pondaag and Hamel (2018) show that most of the workload is heavy, namely 23 people (56.1%) and the least workload is light with 18 people (43.9%). Nurses' light workload occurs due to the distribution of tasks that are evenly distributed to all nurses. Light workload can also be caused because nurses help each other to meet needs patient.

There is Several factors affect workload, namely internal factors and external factors. Internal factors include age, gender, weight, height, nutrition, physical health, motivation, beliefs, job satisfaction and desires. While external factors include work organization activities, environmental conditions, workplace and tasks that must be done.

Workload is the body's ability to accept work. any workload received by a person must be appropriate and balanced with the physical and psychological abilities of the worker who receives the workload. Physical workload can be in the form of heavy work such as lifting, pushing and caring for. If the workload that must be borne by nurses exceeds their capacity, it will have a negative impact on the work productivity of these nurses (Manuaba, 2010).

An overview of the mental workload of nurses at the Dumai City Hospital

Based on the results of the study it was found that the majority of 62.5% of respondents had a light mental workload. This is because one nurse and another nurse supports each other and exchanges information related to the nursing care process provided. Nurses who are responsible for the process of providing nursing care do not work alone, but work based on a given team so as to reduce the mental workload they carry.

These results are in line with research conducted by Yudi, Tangka and Wowiling (2019) which shows that most respondents have a moderate workload, as much as 93.3%. The results of research conducted by Werdani (2016) show a slight difference where the majority of nurses are at a "very high" level, reaching 53%.

The workload given to workers needs to be adjusted to the psychological and physical abilities of the workers concerned. Travel conditions, travel time from and to work that is as minimal as possible and as safe as possible has an impact on working health conditions in general and work fatigue in particular. Mental coaching that takes place periodically and specifically is able to change the tendency for fatigue to occur. Work facilities and recreational facilities are positive values for workers (LS, 2011).

Nurse's workload is not static, but dynamic which can change at any time, depending on several factors. According to Kurniadi (2013) internal factors that can affect the workload of nurses are the number of patients treated per day or per month or even per year. In this study, on average, the three hospitals treated 4-5 patients per day for each nurse, with an average dependency level of total care. This condition requires nurses to perform invasive or non-invasive skills on patients quickly and precisely without errors. This often creates a mental workload, because nurses cannot make the slightest mistake in carrying out their duties. Thus these three things lead to high physical activity carried out by nurses



## Description of Nurse Performance in Documenting Nursing Care at Dumai City Hospital

Based on the results of the study it was found that the majority of 68.1% of respondents had good performance, this is because nurses can focus on carrying out their duties according to the job description given. The research is in line with research conducted by Manuho, Warouw and Hamel (2015) which shows that the performance of nurses is good, namely as much as 62.5%. The results of Buanawati's research (2019) show that 70% have sufficient performance.

Research by Maimun and Yelina (2016) at the Bhayangkara Hospital in Pekanbaru reported low nurse performance of 53.4%. Hidayat's research (2016) at a Surabaya hospital also showed low nurse performance of 50%. Meanwhile, research conducted by Mauliani and Dasuki (2015) at the H. Hanafie Muara Bungo Jambi Hospital also showed that nurse performance was in the unfavorable category of 47.6%.

Nurse performance is a measure of success in achieving nursing service goals. Nursalam (2017) suggests that there are several performance indicators for nurses, namely caring, collaboration, empathy, speed of response, courtesy and sincerity.

## The Relationship between Physical Workload and Nurse Performance in Documenting Nursing Care at the Dumai City Hospital

Based on the results of the study, it was shown that there was a relationship between physical workload ( $p=0.000$ ) and the performance of nurses in documenting nursing care at the Dumai City General Hospital. The results of research by Puspitasari (2012) with the title the relationship between physical and mental workload and work stress in nurses at the Inpatient Installation at the Regional Hospital Dr. Haryoto Lumajang showed that there was a significant relationship between physical workload and work stress in the inpatient nurse at RSD Dr. Haryoto Lumajang ( $P = 0.001$ ).

Employee performance is very necessary, because this will determine how far their ability is in carrying out the tasks assigned to them. The results of the study show that nurses must be responsible for the actions taken to patients, pay attention to patient complaints, provide good service and give trust to patients. Ilyas (2013) argues that performance is the appearance of the work results of HR or employees both in quantity and quality. This definition of performance is supported by Mangkunegara (2010) that the performance or work performance of an employee is differentiated in quality and quantity and is produced in accordance with the responsibilities given to him.

Physical work activities that exceed the capacity of a nurse can reduce her productivity at work so that things that should be done to maintain patient safety are often done but are not in accordance with applicable procedures. This is in line with research conducted by Kambuaya in 2016 concerning the relationship between nurse workload and response time for nursing services in the emergency room, where there is a relationship between the two variables. This is because the large number of patient visits and the increased length of stay in the emergency room resulted in nurses experiencing fatigue so that it had a negative impact on the services provided, namely delays in handling arriving patients.

Physical workload is closely related to nurse performance. The higher the physical workload, the lower the quality of nurse work. The amount of physical workload given, especially workload outside of nursing workload, will result in nurses not focusing on providing nursing care to patients.

## The Relationship between Mental Workload and Nurse Performance in Documenting Nursing Care at the Dumai City Hospital

The results showed that there was a relationship between mental workload ( $p=0.000$ ) and the performance of nurses in documenting nursing care at the Dumai City General Hospital. The results obtained by Werdani (2016) concerning the effect of mental workload on the level of patient satisfaction are  $p = 0.000$ , which means that mental workload significantly affects the level of patient satisfaction. While the variable coefficient value is 0.245, which means that mental workload has a tendency of 0.245 times to affect the level of patient satisfaction.

According to Kasmarani's research (2012) concerning the effect of physical and mental workload on work stress in nurses in the Emergency Room of Cianjur Hospital, it was found that the condition of high mental workload in the Emergency Room nurses of Cianjur Hospital was 70.1% which included variations in patient conditions and types of disease, the time demands of each action against the patient and must face the patient's family

The workload given to workers needs to be adjusted to the psychological and physical abilities of the workers concerned. Travel conditions, travel time from and to work that is as minimal as possible and as safe as possible has an impact on working health conditions in general and work fatigue in particular. If the number of patients increases along with changes in weather and disease epidemiology, it will further increase the workload of nurses, causing work fatigue that affects their work performance (Maharja, 2015). Nurse workload is the work volume of nurses in a hospital unit. While the work volume of nurses is the time needed to treat patients per day.

It is important to know the workload as a basis for knowing the work capacity of nurses so that there is a balance between nursing staff and workload (Ambarwati & Latutuva, 2014). Performance is something that is achieved, the achievements shown and the ability to work.

Performance is said to be high if a work target can be completed at the right time or does not exceed the time limit provided while performance is said to be low if it is completed beyond the time limit provided or not completed at all (Manuho, Warouw & Hamel, 2015).

According to the researchers' assumptions, mental workload is closely related to nurse performance. Mental load conditions can affect the psychology of nurses. If the psychology of the nurse experiences a problem, it will affect the performance of the nurse in providing nursing care. Nurses at the Dumai City Hospital work together in providing nursing care. The head of the room and the team leader also often provide motivation to the implementing nurses in carrying out their duties.

### CONCLUSION

- a. The majority of respondents have a light physical workload, namely as many as 69.4% of respondents.
- b. The majority of respondents have a light mental workload, namely as many as 62.5% of respondents.
- c. The majority of respondents had good performance in documenting nursing care, namely 68.1% of respondents.
- d. There is a relationship between physical workload and nurse performance in Documenting Nursing Care in Dumai City Hospital ( $p=0.000$ ).
- e. There is a relationship between mental workload and nurse performance in Documenting Nursing Care at Dumai Mental Hospital ( $p=0.000$ ).

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**THE EFFECTIVENESS OF HEALTH FOOD STORY THROUGH FINGER PUPPET  
MEDIA ON NUTRITION KNOWLEDGE OF PRESCHOOL CHILDREN AT  
PANORAMA KIDS PEKANBARU KINDERGARTEN**

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**ABSTRACT**

*Children's knowledge about healthy food is helpful to make the right food choices and maintain their eating patterns. However, children's general learning is still low, causing children to consume food carelessly. Providing knowledge about healthy food to preschool children can be done through nutrition education, one of which is the Finger Puppet method. This study aims to determine the effect of Health Food Story through Finger Puppet Media on the Nutritional Knowledge of Preschool Children in Panaroma Kids Kindergarten Pekanbaru. This type of research used quantitative with a quasi-experiment with a one-group pretest-posttest design. This research was conducted in March to August 2022 at Panorama Kids Kindergarten Pekanbaru. The sample in this study was 25 children with a total sampling technique. The instrument used was a questionnaire sheet and finger puppet. Data analysis used the Dependent T-Test. The comparison of increasing children's knowledge before the Finger Puppet method was applied was less than 92% and 8% was enough. In contrast, the proportion after using the Finger Puppet method is less than 8%, enough 12%, and good 80%. The results of the statistical test showed a p-value of  $0.000 < 0.05$ , so it could be concluded that there is an influence on children's nutritional knowledge before and after the Finger Puppet method was applied. It was hoped that with this research parents or teachers can use Finger Puppet media in giving health education to preschool children.*

*Keyword: Finger Puppet, Health Food Story, Nutrition Knowledge*

**INTRODUCTION**

Children aged 4-6 years are part of early childhood which is terminologically referred to as preschool children (Indrawan dan Wijoyo, 2020). Preschool-age is a very sensitive period to the environment and this period is referred to as the golden period of child development, the window of opportunity, and the critical period. Therefore this period requires adequate nutrition both in quality and quantity (Supriatin dan Nusya, 2018).

The development of preschool is influenced by several factors such as health maintenance, nutrition, and psychosocial stimulation. At preschool age, children move actively play with their friends, are interested in learning new things, and continuously practice what they have just learned. Children have a fairly high level of activity, so high intake is needed in order to achieve a balance between the amount of intake and the energy expended and optimal child health (Dejestya, 2016).

Various studies show nutritional problems that occur in children, research conducted by Purbowati, et al (2017) showed that 5% of children experience malnutrition, while 17% experience excess nutrition or obesity. In addition, research conducted by Ramadhani, et al

(2017) showed that out of 10 respondents, 6 of the respondents were undernourished and 4 other respondents were well nourished.

According to UNICEF data for 2019, the prevalence of under-five nutritional status in Asia shows a prevalence rate of 68% malnutrition, 55% stunting, and 47% over nutrition (UNICEF, 2019). According to WHO (World Health Organization, 2016) around 7.7% or 52 million children under 5 years globally experience malnutrition, the highest percentage of children under 5 years of age with malnutrition is in Southern Asia at 15.4% and in Asia southeast 8.9%. Malnutrition in preschool children can also be found in developing countries, one of which is Indonesia

According to Basic Health Research (Riskesdas) in 2018, in Indonesia, 9.6% of preschoolers were underweight, and 37.2% were malnutrition. In Pekanbaru, there are 14% of preschool children with underweight, and 4.3% malnutrition (Riskesdas, 2018).

Factors that contribute to the nutritional status of preschool children include unbalanced eating patterns, history of infectious diseases, level of knowledge, economic level, and low intake of calories and protein (Fatmawati, 2008). Eating problems in children generally are eating difficulties. This is important to note because it can inhibit optimal growth and development in children. For a child, eating can be used as a medium to educate children to be able to accept, like, choose good food, and also to determine the amount of food that is sufficient and of good quality. Various understandings require a knowledge base about healthy, nutritious food to meet daily consumption (Santoso and Ranti, 2004).

One of the children's abilities in choosing food consumption can be through nutrition education methods to help children to be more careful in choosing the food they consume (Syahroni, M H A, 2021). Children's knowledge about healthy food or Health Food is very useful so that children can make the right food choices and children can maintain their eating patterns. However, children's knowledge, in general, is still low, causing children to consume food carelessly. Giving knowledge about healthy food or Health Food to preschoolers can be done through nutrition education which is held in schools including in kindergartens. One of the activities in learning that can carry out to facilities knowledge about healthy food or Health Food is the learn while playing, one of which is by Storytelling (Novianti, S, 2018).

Storytelling for early childhood aims for children to be able to listen by concentrating and expressing their feelings about what is being told. The purpose of giving storytelling is to train children in comprehension, thinking, and concentration. It helps the development of children's fantasies or imagination, creating a pleasant and intimate atmosphere between parents or educators and children (Kemendiknas, 2010). According research by Darajat, et al (2018) shows that the fairy tale method or storytelling which contains guidelines for balanced nutrition is very effective in increasing children's knowledge.

Finger Puppets are one of the media that apply to learn while playing which is very suitable for parents and children to play, facilitating interaction and communication and training children's creativity. This storytelling media looks very funny and is very effective in growing children's interest in activities carried out by parents or educators. (Madyawati, L, 2016)

Based on an early survey conducted on 25 November 2021 at Panorama Kids Kindergarten Pekanbaru, information was obtained that there were 35 students aged 5-6 years. The researcher chose Panorama Kids Kindergarten in Pekanbaru because there were many children who had unhealthy and irregular eating patterns. Based on an interview with a teacher at Panorama Kids Kindergarten in Pekanbaru, it was stated that the provisions the children brought were fast food

such as indomie, nuggets, and snacks. Problem Solving requires the right method so that children at Panorama Kids Kindergarten Pekanbaru can increase their knowledge about the benefits of healthy food or healthy food, namely by using finger puppets or finger puppets.

## RESEARCH METHODS

This study used a quantitative research type with a quasi-experimental research design with a one-group design with a pretest-posttest was conducted to determine the effectiveness of finger puppet to nutrition knowledge of preschool children. The sample of this study was 20 preschool children in Panorama Kids Pekanbaru Kindergarten were taken by total sampling.

This was quantitative analytic research using a quasi-experiment with one-group pretest-posttest design. Pretest and posttest was conducted to determine the effectiveness of healthy food stories through Finger Puppet Media on the Nutrition Knowledge of Preschool Children.

Research instrument used finger puppet and knowledge questionnaire. Finger puppets are used as media for storytelling about healthy food. The questionnaire of knowledge consists of 14 questionnaires used to explore children's knowledge of nutrition. It has been tested the validity and reliability of 20 preschool children and all statement of the questionnaire was declared valid ( $r_{count} 0,552 - 0,728 > r_{table} 0,468$ ) with *cronbach alfa* was 0,736.

Data collection was taken by assessing the initial information on the nutritional knowledge of preschool children (pretest). Giving storytelling intervention with finger puppets once a week for 3 weeks. Explore the knowledge of preschool children after being given an intervention (posttest). The data analyze used paired sample t test with p value 0,05.

## RESULTS AND DISCUSSIONS

Table 1. Frequency Distribution of Knowledge before Intervention of Finger Puppet in Panorama Kids Kindergarten Pekanbaru (n=20, 2022)

Category	f	%
Less	18	90
Enough	2	10
Good	-	-
Total	20	100

Based on the results of the knowledge research before the intervention Finger Puppet Method at Panorama Kids Kindergarten Pekanbaru, it shows that most of the children are 90% in less category.

The level of less knowledge in this study is a condition where children still do not know about foods that contain the nutrients their bodies need and their benefits for their health. The low level of knowledge of children's nutrition is related to the methods given by parents and teachers in providing information about healthy and nutritious food.

Providing knowledge about healthy food or Health Food to preschoolers can be done through nutrition education held at schools such as coloring or school worksheets with pictures of fruit and vegetables or telling stories but without the use of media that attracts children's attention.

One of the activities in learning that can be enshrined as a vehicle and means to provide knowledge about healthy food or Health Food is the learning method while playing, namely telling stories with finger puppets (Novianti, 2018). One of the children's abilities to choose food consumption can be through nutrition education methods to help children to be more careful in choosing the food they consume (Syahroni, 2021).

Table 2. Frequency Distribution of Knowledge after Intervention of Finger Puppet in Panorama Kids Kindergarten Pekanbaru (n=20, 2022)

Category	f	%
Less	2	8
Enough	3	12
Good	20	80
Total	25	100

Based on Table 2 showed that level of knowledge preschool children after intervention in the good category 80%. The results of the research are in line with Maysaroh's research (2015) where the results of his research show that the level of knowledge of children is in the good category of 79% so it is concluded that the storytelling method with Finger Pupets can function as a tool to support the process of learning knowledge and values in children.

Table 3. The effect of finger puppets on the nutrition knowledge of preschoolers in Panorama Kids Kindergarten Pekanbaru (n=20, 2022)

	N	SD	SE	p value
Pre test	20	6,7901	1,5183	0,000
Post test		15,3840	3,4400	

Based on the results of statistical tests using the paired sample T-test, it was obtained a p value of 0.000, so it can be concluded that there was an effect between before and after intervention of the finger puppet Method toward nutrition knowledge of preschool children. This is in line with research by Putriani (2017) which states that children's nutritional knowledge can be increased if using methods that are fun for children.

The results of this study are also in line with Israeli, et al (2021) that playing Vegetable Eating Motivation (VEM) have effect to knowledge of preschool children. It is line with Supriatin's research, et al (2018) storytelling method can increase vegetable and fruit consumption on preschool children. The other research was done by Destiani, et al (2017) proved that education with media finger puppet have effect toward consumption of vegetable and fruit on kindergarten children.

Finger Puppets or Finger Puppets are one of the media that apply learning while playing which is very suitable for parents and children to play, facilitating interaction and communication and training children's creativity. This storytelling media looks very funny and is very effective in growing children's interest in activities carried out by parents or educators (Madyawati, 2016).

In theory, in acquiring knowledge, children do not only need how to practice. But it also requires a tool as a supporting facility so the knowledge gained is truly meaningful. One of the children's ability to choose food consumption can be through nutrition education methods to help children to be more careful in choosing the food they consume (Syahroni, 2021).

In the opinion of own researchers that the increased nutritional knowledge of preschool children in Panorama Kids Kindergarten through the Finger Puppet method proves that this method is one of the right methods for increasing nutritional knowledge in preschool children because children respond well when storytelling was delivered so the children get new knowledge. Providing education through finger puppet children can interact or dialogue during activities so knowledge of children has increase

## CONCLUSION

The results of the research on the Effect of Health Food Story Through Finger Puppet Media on Nutritional Knowledge of Preschool Children in Panorama Kids Kindergarten Pekanbaru can be concluded that There is an Effect of Health Food Story Through Finger Puppet Media on Nutritional Knowledge of Preschool Children in Panorama Kids of Pekanbaru.

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# AISCH 2022

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### A PICTURE OF ANXIETY IN THE ELDERLY DURING THE COVID-19 PANDEMIC IN THE PUSKESMAS AREA

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#### ABSTRACT

*Currently, the elderly are one of the comorbid groups that are vulnerable to COVID 19, in the situation of the Corona Virus pandemic, usually anxiety comes in various forms including fear of death, this happens because of seeing the death rate due to the corona outbreak which is getting bigger day by day. The purpose of the study identified a picture of elderly anxiety as a comorbid Covid 19 in the city of Sedinginan, Rokan Hilir. Riau Regency. The design of this study is descriptive with a cross sectional approach. The research was carried out for 1 month from June 2021 to July 2021. Meanwhile, the research site was conducted in Sedinginan Village, Rokan Hilir Riau Regency, in 2021. The population is elderly in Sedinginan City, Rokan Hilir Riau Regency as many as 60 people with the "total sampling" method and research instruments using questionnaires. Univariate analysis is displayed in the frequency distribution. Result: research shows that out of 60 elderlies, the most elderly with high anxiety are 37 people (61,7%). Conclusion: that the elderly is of a high category and are recommended for the elderly to be able to control and manage anxiety well and can increase knowledge about the dangers of COVID-19 to the elderly so that they understand how to prevent the elderly from contracting COVID-19.*

*Keywords: Anxiety, Elderly, COVID-19*

#### INTRODUCTION

The family is the main support system for the elderly in maintaining their health as well as an important role in caring for the elderly, if family knowledge is reduced it will have a negative impact on the daily activities carried out by the elderly in addition to knowledge, family attitudes are also a major influence on the health of the elderly, attitudes The family is very influential in elderly health care one of them is in fulfilling the Activities of Daily Living (ADL), in the process of aging you will definitely experience physical and psychological changes and tend to depend on meeting your basic needs, so family attitudes must be applied properly without offending the feelings of the elderly (Nixson, 2016).

Corona Virus Disease (COVID-19) is a new type of virus that has never been previously identified in humans. Clinical manifestations of COVID-19 usually appear within 2 days to 14 days after exposure. Common signs and symptoms of corona virus infection include symptoms of acute respiratory disorders such as fever, cough and shortness of breath. In severe cases it can cause pneumonia, acute respiratory syndrome, kidney failure and even death. COVID-19 cases in Indonesia as of April 14 2020 still show a significant increase in the number of infected patients by 4,839 people with 282 new cases, patients recovered 426 people and a death rate of 459 people (MorawskaL, CaoJ, 2020).

Changes experienced by the elderly physically, mentally and emotionally require a good attitude from the family because with a good attitude the family helps the problems faced by the elderly, so that the elderly receive happiness in old age, this attitude directs the elderly so that the elderly can still carry out activities according to their abilities and in moderation. If the attitude of the family is not good in caring for the elderly, it will have a negative impact on the health of the elderly. if the treatment or attitude of the family is not good towards the elderly.

Because in caring for the elderly, they must have procedures or a higher level of knowledge apart from education as well as from experiences gained by elderly families, because with a low level of family knowledge, it will also have a negative impact on mental health (Bintang, 2013).

Currently the elderly are one of the comorbid groups that are susceptible to COVID-19. There are 8 out of 10 deaths in the United States of America are elderly people aged over 65 years and infected with COVID-19 (CDC, 2020). Based on data from the CDC, it was found that aged 65-74 years are at 5x greater risk of being treated for COVID 19 and 90x more prone to be at risk of death due to COVID 19. In Indonesia, research results show that as many as 68% of the elderly experience COVID 19 and are hospitalized . With a mortality rate of 23% (Azwaretal, 2020).

In a situation of a Corona Virus pandemic, usually anxiety is present in various forms including fear of death, this occurs because the death rate due to the corona outbreak is getting bigger day by day. Fear of being infected with the corona virus or infecting other people. Fear of lack of availability of drugs because until now a vaccine or anti-covid 19 virus has not been found. Worried about losing jobs/income due to restrictions on leaving the house causing large-scale social restrictions to cause businesses to be empty of buyers, or even workplaces to close, fear of a lack of basic food ingredients due to panic throughout the community who buy up groceries until they are scarce on the market (Jarnawi, 2020).

The number of incidents of Covid 19 also occurred in the Sedindingan sub-district area in Rokan Hilir Riau, which was treated at the Sedindingan Community Health Center. The number of residents who experienced Covid-19 was 117 people, one of whom was an elderly, totaling 7 people aged 60-74 years. who don't wear masks or don't comply with health protocols (data from Puskesmas reports as cold).

The community in general already knows about the Covid 19 virus, especially the elderly because news is spreading from the public and social media that the Covid 19 virus easily attacks the elderly and according to news in the Kelurahan area as cold as 7 elderly people who died. Because the covid 19 virus is causing a group of elderly people to experience anxiety that causes anxiety in the elderly because of the transmission and the high death rate of covid 19. Based on the description above, the author is interested in conducting research research to find out the level of knowledge and anxiety in the elderly during the Covid 19 Pademi in Sedindingan Village, Rokan Hilir Regency.

## **RESEARCH METHODS**

This research uses a type of descriptive research. Descriptive research is research with a method to describe a research result. The variable that is measured in this study is anxiety. The research was carried out for 1 month from March 2021 to April 2021. While the research location was carried out in Sedindingan City, Rokan Hilir Regency, Riau in 2021. The research consisted of 60 elderly people in Sedindingan City, Rokan Hilir Regency, Riau in 2020. The sample was the elderly in the city of Sedindingan, Rokan Hilir Regency, Riau. In 2002, 60 people met the

inclusion and exclusion criteria. The sampling technique used is Accidental sampling. The method taken by the author is to determine based on the subject who happens to meet the writer. The anxiety variable in this study was measured using the DASS instrument (Depression, Anxiety, Stress Scale). This instrument consists of three variables that are measured simultaneously. Each variable has 14 questions. In this study, researchers only used the anxiety variable. The measurement results of the anxiety variable are as follows: Normal: 0-7, Mild: 15-18, Moderate: 19-25, Severe: 26-35, Very Severe: >34

## RESULTS AND DISCUSSIONS

Data description of the Anxiety Level of the Elderly in the city of Sedindingan, Rokan Hilir Regency. Riau during Pademi Covid 19 based on Elderly Characteristics. The data obtained is described in the form of a frequency distribution of each questionnaire. For more details, see the following description: An overview of the anxiety of the elderly in the city of Sedindingan, Rokan Hilir Regency. Riau during Pademi Covid 19, with the following description:

Table 1 Descriptive Anxiety of the Elderly in the city of Sedindingan, Rokan Hilir Regency. Riau during Pademi Covid 19

Elderly anxiety	F	%
Low	23	38,3
High	37	61,7
Total	60	100

Based on the table above, it was found that out of 60 elderly people, the most elderly experienced low anxiety, namely 37 people (61.7%) and high anxiety as many as 23 people (38.3%).

Table 2. Questionnaire Answers for Each Perception Statement Item

No	Statement	Answer							
		SS	F	S	F	KD	F	TP	F
1.	Dry lips	4	6,7	10	16,7	16	26,7	30	50
2.	Hard to breath	3	5	12	20	16	26,7	29	48,3
3.	Unsteady legs	2	2,3	9	15	17	28,3	32	53,3
4.	Anxious self	5	8,3	22	36,7	18	30	15	25
5.	Limp and faint	0	0	10	16,7	13	21,7	37	61,7
6.	Excessie sweating	2	3,3	10	16,7	26	43,3	22	36,7
7.	Afraid of unclear reasons	2	3,3	12	20	14	23,3	32	53,3
8.	Difficulty swallowing	1	1,7	9	15	26	43,3	24	40
9.	Heart conscious	3	5	9	15	17	28,3	31	51,7
10.	Almost panickd	5	8,3	6	10	12	20	37	61,7
11.	Afraid	4	6,7	12	20	26	43,3	18	30
12.	Very scared	5	8,3	15	25	20	33,3	20	33,3
13.	worry	3	5	16	26,7	21	35	20	33,3
14.	vibrate	4	6,7	17	28,3	11	18,3	28	46,7

Based on the table above, the answers to the questionnaire about anxiety were obtained, of the 14 questionnaire items, the most were (28.3%) the elderly strongly agreed to feel their hands shaking, (43.3%) the elderly sometimes sweated excessively and had difficulty swallowing and as many as (61, 7%) never fainted and fainted and never nearly panicked.

## CONCLUSION

Based on the research, the results obtained from 60 elderly, mostly elderly with normal anxiety, namely 25 people (41.7%) in the city of Sedindingan, Rokan Hilir Regency. Riau during Pademi Covid 19 based on Elderly Characteristics.

In line with Sitohang's research, (2021), the results obtained showed that the anxiety level of the elderly was in the mild / asymptomatic category. This was proven because the majority of respondents, namely 20 respondents (63%) had no symptoms and a small number experienced mild anxiety. However, there were also respondents experiencing severe anxiety, 1 person (4%). This shows that there are still elderly people who feel anxious about COVID-19 and also another study conducted by Guslinda, (2020) also found that the most (30%) of the elderly are experiencing anxiety.

Anxiety in the elderly arises from a vague and diffuse feeling of worry related to feelings of uncertainty, helplessness, and unspecified objects. This anxiety is manifested directly through physiological changes such as (trembling, sweating, increased heart rate, abdominal pain, shortness of breath). breath) and by changes in behavior such as (anxiety, fast speech, surprised reactions) and indirectly through the emergence of symptoms as an effort to fight anxiety (Febrina & Lesmana, 2015).

Based on the answers to the questionnaire, it was found that (36.7%) the elderly agreed that they felt anxious, (28.3%) the elderly felt shaking in their hands. Anxiety is fear, worry and anxiety that have an impact on behavior changes such as withdrawal from the environment, difficulty focusing on activities, difficulty eating, irritability, low emotional control of anger, illogicality, insomnia (Jarnawi, 2020). That is why with sufficient knowledge, anxiety can be reduced and of course the negative effects of anxiety itself. Conversely, lack of knowledge can cause anxiety. As found by Manurung et al. (2020) students with low knowledge have severe anxiety.

Efforts that can be made to reduce the anxiety of the elderly are ensuring that the elderly always maintain physical distance, wash their hands, wear masks, eat nutritious food, and do light exercise. Hobbies that can be done indoors, such as reading books, painting, or watching movies, can still be done. Explanations should be given as concisely as possible to the elderly. If the elderly understand, then they will feel safe and peaceful. Quality of life will increase. Social relations with family and friends through communication tools must be maintained. Emotional support is especially important for seniors living alone. They are prone to anxiety and confusion during this uncertain period (Minannisa 2020).

The government should provide free telephone counseling services for the community, especially the elderly. Families and neighbors should look after each other for the elderly who live near them. They can send regular food and medicines to the elderly's homes so they don't have to leave the house too often. Elderly with Alzheimer's disease, depression, or other psychiatric disorders should be monitored more closely because they have a risk of suicide. Psychosocial needs are very important for the elderly. (Yuliana, 2020).

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