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ORIGINAL RESEARCH

INFLUENCE OF BABY MASSAGE KIT (BABY MASSAGE, MUSIC, AROMA THERAPY) ON BABY DEVELOPMENT at BIDAN'S PRIVATE PRACTICE IN PRUMNAS DISTRICT OF REJANG LEBONG DISTRICT

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ABSTRACT	Keywords
Delays in motor skills interfere with children controlling the muscles of the arms, legs and hands. prevention with baby massage stimulation. The aim is to determine the effect of baby massage KIT (baby massage, music, aromatherapy) on toddler development. Quasi-experimental research design, pre-test and post-test design, control group. The population and sample were toddlers in the working area of the Perumnas Health Center, Rejang Lebong Regency, Bengkulu Province. The sampling technique is purposive sampling. The total sample is 42 respondents, the criteria for each group are 21 respondents. Questionnaire data collection tool. Collection of development data using the KPSP instrument. Data analysis used the Wilcoxon test and the Man Whitney test. The research results show the effect of baby massage KIT (baby massage, music, aroma therapy) on the growth and development of toddlers with a P value <0.05. Conclusion: There is an influence of baby massage KIT (baby massage, music, aromatherapy) on the growth and development of toddlers. Man Whitney test p value 0.000<0.05, the difference in the effect of baby massage equipment and conventional massage counseling on development.	*Baby massage, music, aromatherapy, development of toddlers*

INTRODUCTION

Future investments in the health and well-being of Indonesia's children will focus heavily on their growth and development and the problems of growth and development disorders in the future. Intensive investment in the health and well-being of children in Indonesia on child growth and development and problems of growth and development disorders (Child Health Profile, 2020).

The results of the examination of child growth and development in Indonesia in 2019 with an age range of 0-6 years with a total of 2,634 children found that the growth and development of children who were normal and in accordance with age was 53%, children whose development was

doubtful (requiring further examination) were 13%, and developmental deviations were 34% (IDAI, 2019). Deviations in child growth and development can occur during pregnancy and during development (Cahyani, et al, 2018).

The first three years of toddlerhood are the golden period of a child's physical, intellectual, mental and emotional growth. Toddler age occurs between 1 to 3 years. This age is a golden period in children because at this time children will very quickly learn new things. Successfully mastering developmental tasks at the toddler age requires a strong foundation during growth and requires guidance from others, especially parents.

Factors that affect growth are internal (genetic) and external (environmental) factors Internal (genetic) factors are congenital and pathological factors,gender and race or ethnicity. While external factors (environment) are supporting factors that greatly determine the achievement of optimal genetic potential, which consists of prenatal environmental factors (still in the womb) and postnatal environmental factors (after birth). Supporting factors (postnatal) that greatly determine physical growth for their children arenutrition, health status, family economy and stimulation (Oktiawati, et al, 2017).

Development has 4 aspects of development namely, gross motor, fine motor, personal social, and language, child development problems such asmotor delays. Delays in motor skills will interfere with the child's ability to controlmuscles in the arms, legs and hands.Developmental delays in children can be prevented by providing stimulation that can improve development in children. Parents' ability to fulfill basic needs and provide sensory-motor stimulus is absolutely necessary for the growth and development of toddlers.Stimulation plays a role in improving the growth and development of toddlers to develop optimally, to support other factors. Stimulation that is given continuously on a regular basis can stimulate the development of brain cells and strengthen the connections between nerves that have been formed (Haryanti, et al, 2018).

One form of stimulation that is commonly done is tactile stimulation in the form of massage, massage or touch is the most basic thing related to humanskin to get a sense of security, comfort and love. Touch is the first thing felt by neonates even before neonates are born. Touch has a positive impact on the growth and development of neonates (Field, 2004).

Toddler massage has many benefits, including reducing stress behaviors in premature toddlers (Hernandes, Diego & Field, 2007). In addition, toddler massage is also useful for increasing bounding and attachment between mother and toddler (Sari, 2013), increasing body weight (Daniati, 2010), and increasing the quantity of toddler sleep (Hayati, 2012).

One form of growth and development stimulation is with toddler massage, music, and aromatherapy. Baby massage kit is an addictive form of growth and development stimulation is with toddler massage, music, and aromatherapy. baby massage kit, which is a tool in the formof an innovative toddler massage mat equipped with musical instruments and aromatherapy. Baby massage kit is made to facilitate health workers and mothers in providing growth and development stimulation and minimize the disturbance of delays in growth and development in toddlers.

Based on an initial survey conducted at the Prumnas Health Center of 74 toddlers. development of toddlers who are dubious as many as 35 toddlers (47.29%), deviant development as many as 3 toddlers (4.05%). there is no baby masage KIT service provided The results of interviews that researchers get are 3 out of 5 mothers say they have done massage to their toddlers by a masseur.

Massage your toddler with a traditional healer or masseuse when feverish, sick, fussy and when not feeling well with a traditional masseuse they trust.The purpose of the study was to determine the effect of *baby massagek kit on* the development of toddlers in the Prumnas Health Center Working Area in 2023. Research Question: What is the effect of *baby massagek kit on* the development of toddlers?

METHOD

This research includes quantitative research where the research design used is *Quasi Experimental design*, with *pre test and post test design with control group,* which is a research design that aims to test the cause and effect relationship. In this study, a *baby massagek kit* will be conducted on the development of toddlers in the working area of Perumnas Health Center, Rejang Lebong Regency.

The population in this study were toddlers in the working area of Perumnas Health Center, Rejang lebong Regency, Bengkulu Province. The sample in this study

were toddlers in the working area of Perumnas Health Center, Rejang lebong Regency, Bengkulu Province. Inclusion criteria are: Toddlers, healthy condition, no congenital heart defects, no open wounds. Parents are willing for their children to be used as respondents. Exclusion criteria are At the time of the intervention, the toddler was in a fever, At the time of the intervention, the respondent moved residence, Toddlers with KPSP results in accordance with their developmental age.The sampling technique was purposive *sampling*. Calculating the sample size to calculate the proportion with a degree of accuracy at a statistically meaningful level (significance). The sample size is:21 respondents per group, then the number of samples needed is: 42 respondents consisting of 21 respondents for the intervention group and 21 control respondents.

Data collection tools in this study used a questionnaire to determine the characteristics of respondents' parents, Developmental data collection using the

	Group	N	Mean Rank	Sum of Ranks	Nilai p
Postte st	baby massage Kit	21	28.74	603.50	0.000
	conventional massage counseling	21	14.26	299.50	
	Total	42			

KPSP instrument.Data analysis was carried out with the help of computerization. Univariate analysis was conducted to determine the frequency distribution of development before and after baby masage kit. Bivariate analysis, data normality test was conducted using the Shapiro wilk test formula. Data is said to be normally distributed if the p value is> 0.05. The results of the normality test were found to be not normally distributed, so a parametric statistical test was carried out, namely Man-whitnay

RESULTS
Respondent Characteristics

Univariate Analysis.

This analysis was conducted to determine the frequency distribution of development in toddlers before and after the *baby massage*

	Group			
Characteristics	**baby massage Kit**		**Conventional massage Counseling**	
	n	**%**	**n**	**%**
Before Intervention				
As per	0	00,0	0	0,00
Doubtful	19	90,5	18	85,7
Deviate	2	9,5	3	14,3
After Intervention				
As per	18	85,7	5	23, 8
Doubtful	3	14,3	15	71,4
Deviate	0	00,0	1	4,8

kit in the Prumnas Health Center working area.

Table 1. Frequency distribution of development in toddlers before and after the *baby massage kit* in the Prumnas Health Center working area

Based on Table 1 above shows that the characteristics of development in toddlers aged 1-3 years before treatment (*pretest*) in the *baby massage Kit* group, most (90.5%) experienced dubious development and a small proportion (9.5%) deviated. After treatment (*posttest*) most (85.7%) experienced appropriate development and some experienced questionable development(14.3%). The characteristics of development in toddlers in the controlgroup before treatment (*pretest*) in the*counseling* group of *confrontational massage,* namely most ((85.7%) of toddlers experienced dubiousdevelopment, and a small portion (14.3%) of toddlers experienced dev iant development. After treatment (*posttest*),a small proportion (23.8%) of toddlers experienced appropriate development, and most (71.4%) toddlers experienced dubious development. and a smallproportion (4.8%) of toddlers experienced deviant development.

Tabel 2 Average development in toddlers aged 1-3 years before and after the *baby massage kit* in the Prumnas Health Center working

Based on Table 2, it can be seen that the average development of toddlers *before* being given the intervention of *baby massage Kit* 7.24 standard deviation

Group	n	Mean	Min	Max	SD
baby massage Kit					
Before	21	7.24	6	8	.700
After	21	9.24	8	10	.700
Conventional massage counselin					
Before	21	7.33	6	8	.730
After	21	8.05	6	10	1.024

.700 and the average, Development after being given the intervention of *baby massage Kit* with a 9.24 standard deviation of . 700. In the conventional massage counseling group, the average development of toddlers before being given the intervention of conventional massage counseling was 7.33, the standard deviation of .730 and the average development of toddlers after being given the intervention of conventional massage counseling was 8.05, standard deviation 1.024

Bivariate Analysis
Normality Test
Data normality test was conducted before the bivariate test in the *baby massage kit* group and the conventional massage counseling group to determine the data analysis test to be used. The results of the normality test with *Shapiro Wilkt can* be seen in the table below.

Table 3 Normality of data (*Shapiro- Wilk*) in the *baby massage kit* and conventional **massage counseling groups before and after the intervention area in 2023**

Group		Df	p-value[a]
baby massage kit	Before	21	0.001[*]
Baby Massage		21	0.001[*]
Conventional massage counseling	After	21	0.000[*]
Conventional massage counseling		21	0.007[*]

[*]) Level of sign p<0.05

Based on Table .3 above, it can be explained that the normality test using the *Shapiro Wilk test* (sample <50), the data is not normally distributed so that the test performed is the *Wilcoxon SignedRank Test*

Tabel 4. Differences before and after *baby massage Kit* development in toddlers aged 1-3 years in the working area of the Prumnas Health Center.

Based on table 4. above, it can be concluded that in the *baby massage Kit* group the gross motor development of toddlers with *p value*

Group	N	Mean	SD	p-value
baby massage Kit				
Before	21	7.24	.700	0.000[*]
After	21	9.24	.700	
Conventional massage counselin				
Before	18	7.28	.730	0.001[*]
After	18	8.89	1.024	

= 0.000 (<0.05). In the *conventional massage counseling* group, the gross motor development of toddlers with a *p* value = 0.001 (<0.05).

Table 5 Differences in the effect of the *baby massage kit* on the development of toddlers aged 1-3 years

Based on Table 5, it is found that the statistical results, namely the man whitney test, obtained a p value of 0.000 <0.05, this means that there is a different influence between the baby massage kit on gross motor development in toddlers 1-3 years in the Prumnas Health Center work area.

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DISCUSSION

The effect of *baby massage Kit* on development in toddlers aged 1-3 years in the working area of the Prumnas Health CenterBased on the results of research before the *baby massage* Kit and *conventional massage counseling* in the working area of the Prumnas Health Center in 2023, out of 74 toddlers 1-3 years found toddlers with dubious development as many as 37 toddlers and there were 5 toddlers with deviant development. The results showed that children's development increased after the *baby massage kit* intervention, seen from the average development after the intervention was higher than before the intervention. In addition, judging from the statistical data shows that the *baby massage kit has an* effect on the development of toddlers indicated by the p value of 0.000 (p <0.05). Based on the results of research and theory, there is no gap between the results of research an which states that there is a relationship between *baby massage kits* and gross motor development with a p value = 0.004 <0.05. According to Dewi (2013) in order to grow and develop optimally adequate nutrition and affection are needed, nutrition in toddlers. Age 1-3 years can be obtained from the provision of Asi and masi, besides that toddlers also need proper stimulation, because children who get a lot of stimulation will develop faster than those who are less or even do not get stimulation. one with a massage kit. Baby massage kit is an addiction to the form of stimulation of growth and development is with toddler massage, music, and aromatherapy. baby massage kit, which is a tool in the form of an innovative toddler massage mat equipped with musical instruments and aromatherapy. Baby massage kit is made to facilitate health workers and mothers in providing growth and development stimulation and minimize the disturbance of delays in growth and development in toddlers.

This is in accordance with the research of Nurlaila (2014) which shows that the provision of stimulation by mothers can improve child development with a p value of p=0.04. The study concluded that the provision of stimulation by mothers 56.7% of respondents provided good stimulation, while for the development of respondents according to 81.7%.

Stimulation of *baby massage Kit* is one way that can help toddlers improve development through massaging activities, of course creating a relationship of affection (Galeria, 2014). There is a good effect from the combination of the three therapies,

This is in line with the results of research put forward by Budi (2015) showing that *baby massage Kit is* more proven that toddlers do baby massage Kit treatment responsiveness and brain and brain work power will be better so that toddlers experience an increase in motor development both gross and fine. massage to launch blood circulation, listening to music and inhaling aromatherapy for increased relaxation in infants. According to Colliver's research11 in a clinical trial found that listening to music can reduce stress as measured by a decrease in plasma cortisol levels and lymphocytes, both of which are associated with stress. Similarly, research by Toda and Morimoto.12 on the effects of lavender and peppermint aroma, the findings state that peppermint aroma can relieve stress as evidenced by salivary cortisol statistically significantly decreased compared to lavender aroma which did not change. Observations during the study that during the massage using the baby massage kit in the treatment group showed that most of the babies fell asleep before the massage was completed. When massaged, the baby will feel a gentle massage while listening to lute music and inhaling peppermint aromatherapy so that the baby can feel the body becomes more relaxed when compared to the conventional massage group which is done only massage. In this study, the use of a baby massage kit that has a combination of massage, music, and aromatherapy proved to be very beneficial for stimulating growth and development in toddlers aged 1-3 years. Observations during the study that during the massage using the *baby massage kit* in the treatment group showed that most babies fell asleep before the massage was completed. When massaged, the baby will feel a soft massage while listening to lute music and

inhaling aromatherapy so that the baby can feel the body becomes more relaxed when compared to the conventional massage counseling group which is done massage only.

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CONCLUSIONS

There is an effect of baby masage kit using on the development of toddlers p value of $0.000 < 0.05$

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ORIGINAL RESEARCH

LIFE SKILL EDUCATIONAL MANAGEMENT MODEL FOR THE SOCIAL SKILLS OF CHILDREN WITH SPECIAL NEEDS

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ABSTRACT	Keywords
Teaching life skills to children with special needs is not as easy as normal children. The aim of this research is to determine the influence of the life skills model on the social closeness of children with special needs. The population was 37 students with a sample of 20 treatment groups and 17 control groups. This research used female respondents as SLBS PGRI Dlanggu Mojokerto students. The research instrument for the independent variable is to use activity event units (SAK) as a guide in carrying out interventions. Children's Social Ability Variables The research instrument for variables is using a questionnaire. This research is a type of quantitative research with a research design using a quasi-experiment with a pre-test post-test control group approach. using the Wilcoxon range test statistical test. The research result is ρ 0.000, meaning it is smaller than α 0.05, H0 is rejected, meaning there is a difference between the treatment group and the control group. The life skills model has a big influence on the socialization of children with special needs. The Life Skills model with intense assistance from teachers will influence good habits in students and influence socialization with school friends and the environment.	*Children with special needs, Life skills, SLBS*

INTRODUCTION

Every child has a different cultural and developmental background, and therefore it is possible that each child will have special needs and different learning obstacles so that every child actually needs educational services that are tailored to their individual learning obstacles and needs. each child A child with special needs can be defined as a child who requires education that is tailored to the learning obstacles and needs of each child individually. The scope of the concept of children with special needs can be categorized into two large groups, namely children with special needs who are temporary and children with special needs who are permanent. Children with temporary special needs are children who experience learning obstacles and developmental obstacles caused by external factors. For example, a child who experiences emotional disturbances due to trauma resulting from being raped means that this child cannot learn. Such traumatic experiences are temporary, but if the child does not receive appropriate intervention, they may become permanent (Prihatin et al., 2019). Children like this need special needs education services, namely education tailored to the obstacles they experience,

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but these children do not need to be served in special schools. Children with permanent special needs are children who experience learning obstacles and developmental obstacles that are internal and are a direct result of the condition of disability, such as children who have lost the function of vision, and hearing, impaired development of intelligence and cognition, impaired movement (motor), impaired interaction-communication, emotional, social and behavioral disorders (American Journal of Sociology, 2019).

In other words, children with permanent special needs are the same as children with disabilities. Just like normal children in general, children with special needs also need to have skills to survive. Ananda, who is currently still being helped by his father or mother to put on clothes, make sandwiches with jam, or tie his shoelaces, will be an adult human being who should be independent in ten years. It feels like there is still a lot of time to teach until procrastination behavior arises, as well as the parent's love for their child, making parents reluctant to make children have difficulty learning things that mom and dad can still help with. Life skills are things that parents must teach their children. Children without special needs find it easier to teach life skills. In some basic skills, they only need to imitate what the adults around them usually do. Although teaching life skills to children with special needs is not as easy as normal children in general because they do not have enough opportunities due to their various conditions, this does not mean that this cannot be done. Some children with special needs have other advantages that help them quickly absorb and learn new things. We as parents play a role in accompanying the learning process because children need support from those closest to them (Winarsih et al., 2013).

Teaching life skills can start with the things that are most realistic and possible for you to do, for example, basic self-help skills, such as eating, drinking, dressing, bathing, toilet training, and brushing your teeth. Once you can master the basic skills. To develop higher level and complex skills such as making the bed, tidying up toys, watering the plants, sweeping the floor, and washing the dishes after eating. For the next stage, the father and mother also teach as much as possible skills that can make children independent individuals in social life in the future. For example, entrepreneurial skills, solving problems, social skills, teamwork, and others (Rohmanasari et al., 2019). Teaching life skills needs to get used to and become a daily routine so that you can get used to it with help and support from all family members at home as well as those closest to you. Don't forget, father, mother and the people around you need to support you by giving appreciation to your child if he succeeds in applying life skills correctly and most importantly consistently.

According to preliminary data at SLBS PGRI Dlanggu, Mojokerto Regency, the implementation of life skills is implemented in collaboration with Dlanggu Vocational School, Mojokerto Regency, implementation still follows the vocational school activities and there is no model for applying life skills to children with special needs. There has never been an evaluation of children's social development

The next hope for children with special needs by implementing these life skills is that the child can socialize with their peers so that even though the child is physically disabled, the child is able to socialize with friends and their environment. Social abilities are activities in relationships with other people, whether with peers, teachers, parents, or siblings. In relationships with other people, very meaningful events occur in his life that shape his personality, which helps his development into the human being he should be. Since childhood, children have learned how to behave socially in accordance with the expectations of the people closest to

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them, namely their mother, father, siblings, and other family members. What children have learned from their family environment greatly influences their social abilities. The hypothesis of this research is that there is a relationship between the life skills model and the social development of children with special needs

METHOD

This research is a type of quantitative research with a research design using a quasi-experiment with a pre-test and post-test control group approach. A parallel design is used to compare two independent groups (group comparison), namely the control group and the intervention group. In this study, there were two groups of respondents, namely the control and intervention groups (Isnawan et al., 2020). In this study, the population was 37 students of SLBS PGRI Dlanggu Mojokerto, East Java. The samples were students and students of SLBS PGRI Dlanggu Mojokerto, East Java who met the inclusion and exclusion criteria. The control group was 17 people, the treatment group was 20 people. Using purposive sampling. The sample criteria in this study were, Willing to be researched, Not sick, and not having extracurricular activities. Data Collection Tools for Life Skills Education Management Model Variables. The research instrument for the independent variable is to use activity event units (SAK) as a guide in carrying out interventions. Children's Social Ability Variables The research instrument for variables is using a questionnaire. A questionnaire is a number of written questions used to obtain information from respondents in the sense of reports about things they know (Arikunto 2013). The questionnaire used to measure the dependent variable in this research is social skills which was developed by Panji Nugraha Ridiansyah, 2016. This research obtained two pieces of data. The first data is the pre-test and post-test

results data from the intervention group (the group that was given action) and the second data is the pre-test and post-test result data from the control group (the group that was not given action). Each of the data above will be measured using the Wilcoxon range test, namely a statistical test comparing two paired samples with ordinal scale variables using a significance level of $p<0.05$. If the results of the research

analysis show a p-value <0.05. Then the Mann-Whitney U Test was carried out

	characteristics	Frequency/Percentace (%)
Age	13-16 Years 17-19 Years	10 / 50 % 10 / 50%
class	Secondary schoel Hight School	10 / 50% 10 /50%
Sex	Female Male	8 / 40% 12/ 60%
	Total	20 / 100%

again, namely a statistical test comparing two independent samples using a significance level of $p < 0.05$. This statistical test is used to determine the comparison of the delta results of the knowledge, attitudes, and actions of students in the intervention group and the control group. If the results of the research analysis show an α value <0.05 then the research hypothesis is accepted, which means there is a difference between the groups that received treatment and those that did not receive treatment.

ETHICAL CLEARANCE

Before this research was carried out, an ethical test was first carried out at the "MALUKU HUSADA" HIGH SCHOOL OF HEALTH SCIENCES with No. RK. 079/KEPK/STIK/VI/2023

FINANCING

RESULT

General data

Table 1 Characteristics of respondents in the treatment group

Tabel 2 Characteristics of control group respondents

Tabel 3 Characteristics of respondents based on type of physical deficiency

No	Charateristics	Treatment group	Control group
1	Deaf	8	6
2	Mentally disabled	8	6
3	Physically disabled	4	5
	Total	20	17

Fokus Data

Table 4 Implementation of the life skills model in children in the treatment group and control group

No	Group	Good	enough	Less	Total
1	Treatment Group	20			20
2	Control Group	3	7	4	17

Table 5 Implementation of the social skill in children in the treatment group and control group

No	Group	Good	enough	Less	Total
1	Treatment Group	15	5		0
2	Control Group	2	10	5	17

Tabel 6 Cross tabulation of life skills with the social skills of children in the treatment group and control group

		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
kelompok perl keopo kontrol	Equal variances assumed	60.617	.000	-6.488
	Equal variances not assumed			-5.164

Independent Samples Test

As we know, life skills learning programs teach children how to use the abilities they have to face the life problems they have now or in the future. From this, it can be seen that life skills are aimed at the long term and can be applied anytime and anywhere. This program is usually found in schools or special institutions to develop children's abilities in dealing with problems in life. The implementation of this program is

	characteristics	Frequency/Percentace (%)
Age	13-16 years	4 / 23,5%
	17-19 years	13/ 26,5%
Class	Secondary school	4 / 23,5%
	Hight School	13/ 26,5%
Sex	Female	7 / 41,2%
	Male	10/ 58,8%
	Total	17/100%

not only in regular schools or special schools. The implementation of this program is also implemented at SLBS PGRI Dlanggu. The results of interviews conducted by researchers with one of the teachers at SLBS PGRI Dlanggu, namely Mrs. Endah, life skills activities at the school are carried out once a month and are scheduled in a semester or semester program. Life skills activities are carried out both inside school and outside school. Life skills activities carried out outside of school usually take the form of school visits or school visits to places such as factories, markets, and mangrove forests. Meanwhile, life skills activities at school take the form of skills development or practicums which are

held every Friday. Various kinds of life skills activities at SLBS PGRI Dlanggu mean that these activities are carried out for 1 full day from morning to evening. At this school, there are teachers in the field of life skills. Life skills teachers are tasked with helping children with special needs in life skills activities.

There are 4 duties of a life skills teacher, namely being in class if needed for certain assistance, taking questions from the class teacher, accompanying the class teacher, and/or the life skills teacher who takes over all classes. Discussion The life skills learning system at SLBS PGRI Dlanggu depends on the characteristics of the child. From there, the life skills teacher will help and guide the children in these life skills activities, with the help of the OSIS children. Therefore, not all children are involved in this life skills activity. Life skills activities at SLBS PGRI Dlanggu only involve children with special needs at the school and several representatives from the OSIS to help life skills teachers. Children with special needs who are involved are also seen from the characteristics of the child. If children with special needs have characteristics that support life skills teachers to accompany them, then the children will be involved in these life skills activities. The learning materials used for life skills activities at SLBS PGRI Dlanggu are semester or semester programs.

Because life skills activities at the school are carried out once a month, the activities carried out depend on what type of activities the life skills teacher wants to carry out. The facilities, tools, and learning resources used also depend on what type of activities they will do that month. So, there are no facilities, tools, or learning resources that are very specific for these life skills activities. The same thing with the approach. The approach taken in this life skills activity also does not use a special approach, so its nature only flows according to what activities it will carry out (Fauziah & Pradipta, 2018). Every activity definitely requires evaluation. This life skills activity at SLBS PGRI Dlanggu is

no exception. For life skills activities, the school always carries out evaluation activities. The teacher will assess the extent to which the child understands and masters the life skills activities that are being carried out so that the teacher will know whether there is any improvement or development in the child while or after they carry out the life skills activities. Conclusion In essence, life skills are students' skills to understand themselves and their potential in life, including setting goals, solving problems, and living with other people (Educational Science Development Team, 2007).

Life skills teach children how to use the abilities they have to face the life problems they have now or in the future. From this, it can be seen that life skills are aimed at the long term and can be applied anytime and anywhere. Life skills programs are not only found in regular schools or special schools but can also be found in inclusive schools. Inclusive schools are educational services intended for children with special needs so that they can receive educational services along with children in general. SLBS PGRI Dlanggu has its own life skills activity program. One of the inclusive schools that has a life skills program is SLBS PGRI Dlanggu which holds life skills activities inside the school and outside the school. Activities in school take the form of training and practicums such as make-up, cooking, etc. which will be applied when children carry out life skill activities outside of school. Life skills activities carried out outside of school take the form of school visits to places such as factories and markets. The children involved in this life skills activity, which is carried out once a month, are all children with special needs or ABK at the school, taking into account the characteristics and conditions of the children. Evaluation is always carried out after the child has carried out life skills activities to see whether there is improvement or development in the child with special needs.

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CONCLUSION

The researcher's own conclusion regarding the success of educators for children with special needs in developing life skills has been quite successful but not yet optimal. Based on the researcher's observations, the mentally retarded children at SLBS PGRI Dlanggu Mojokerto, have been able to carry out several skills, including the mentally retarded children specifically at SMALB that I met very enthusiastically in socializing, giving greetings and shaking hands, cleaning the classroom before studying, participating in community service, etc. However, I say it is not optimal because there is a lack of special activities or collaboration between external institutions involving mentally retarded children which can support the process of improving children's life skills.

SUGGESTION

Suggestions that researchers can give based on research regarding Efforts to Develop Life Skills for Mentally Disabled Children at the State Special School of Wajo Regency are as follows: 1. It is hoped that the Special School (SLB) SLBS PGRI Dlanggu Mojokerto will collaborate between agencies specifically for the mentally retarded to provide activities that can support the activity of mentally retarded children. 2. There is an increase in the number of educators, especially in the field of intellectual disability, so that they can approach or even reach a certain ideal number, to make it easier to understand and recognize the characteristics of mentally retarded children. 3. It is hoped that parents, especially pregnant women, will prevent early birth of abnormal children, while maintaining health and nutrition, both pre-natal and post-natal. For example, maintaining a healthy diet, having regular check-ups, participating in disaster family programs, environmental sanitation and so on

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ORIGINAL RESEARCH

CORRELATION STUDY OF SOCIAL MEDIA ACCESS WITH SLEEP QUALITY AND LEARNING CONCENTRATION TO MIDWIFERY STUDENT

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ABSTRACT	Keywords
Globalization has led to increased social media usage among adolescents, potentially disrupting their sleep schedules and affecting sleep quality. This study aims to determine the correlation between social media usage and sleep and concentration levels among students, highlighting the potential for addiction and excessive engagement on platforms. The employed methodology is descriptive correlational, utilizing a cross-sectional approach. The participants in this study consisted of 24 students enrolled in the Dian Husada Mojokerto Stikes Midwife Diploma Study Program, selected using total sampling. The data was gathered by a questionnaire and subsequently examined using the Chi Square Test and regression analysis, with a significance level of $\alpha = 0.05$. The findings of the study indicated that 24 participants exhibited a significant level of social media usage, while also experiencing subpar sleep quality and diminished concentration whilst studying. A correlation has been found between the utilization of social media and the quality of sleep, with a resulting correlation coefficient of $\rho = 0.000$, which is statistically significant at $\alpha = 0.05$. There is a correlation between the usage of social media and study concentration, with a correlation coefficient (ρ) of 0.000, which is statistically significant at a significance level (α) of 0.05. The regression test findings indicate a significant relationship (sig value = 0.000) between the three variables: social media usage, sleep quality, and study concentration. This relationship is statistically significant at a significance level of $\alpha = 0.05$. Increased utilization of social media is directly correlated with decreased sleep quality and diminished attention whilst studying.	*Impact of Social Media , Learning Concentration , Sleep Quality*

INTRODUCTION

The use of social media including Facebook, Twitter, Messenger, email, Line and others is rapidly increasing in every part of the world. Indonesia is also one of the countries that follows advances in technology and information (Yuan et al., 2021). The spread of social media sites makes it easy for people from various parts of the world to interact, exchange pictures, send voices, provide information. Various groups can now use social media. Starting from teenagers, adults, parents and even children are familiar with social media . Many teenagers (students and college students) spend their time online on social media, even at night. This can disrupt the sleep process, so that they do not experience quality sleep at night (van der Schuur, Baumgartner, & Sumter, 2019).

Based on Bachelor (S1) or Diploma (D1/D2/D3) education level, 98.39% of internet users in Indonesia (Sánchez-Fernández & Borda-Mas, 2023). The We Are Social report shows that the number of active

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social media users in Indonesia was 167 million people in January 2023. This number is equivalent to 60.4% of the population in the country (Borgohain & Borpatra Gohain, 2021). When the body lacks quality sleep at night it will result in various physiological balance disorders such as decreased daily activities, feeling tired, weak, poor neuromuscular conditions, decreased immune system, which can be caused by poor quality sleep (van den Eijnden, Geurts, Ter Bogt, van der Rijst, & Koning, 2021). Humans spend a third of their life sleeping. Factors that cause sleep disorders include changes in lifestyle, one of which is the use of gadgets, especially social media. So it is not surprising that nowadays many teenagers experience poor sleep quality. Someone who experiences poor sleep quality can cause a decrease in concentration (Simsek & Balaban Sali, 2020). One way that can be tried to improve respondents' sleep quality and study concentration is to increase their interest in reading, increase physical activities such as sports and engage in other useful hobbies.

The aim of this research is to determine the relationship between social media use and sleep quality and study concentration for students of the D III Midwife Stikes Dian Husada Mojokerto Study Program.

METHOD

This research was conducted descriptively, correlationally, using a cross sectional approach. The respondents in this study were all active D 3 Midwife students in 2023 STIKES Dian Husada Mojokerto, a total of 24 students taken by total sampling. This research was conducted during March 2023. Data was collected using a questionnaire for social media variables and sleep quality, and concentration was measured using the Stroop Test sheet. Data analysis used the Chi Square Statistical Test and regression (Pratama, Aisyah, Putra, Sirodj, & Afgan, 2023).

RESULTS

Table 1. Respondents' Frequency Distribution Based on sex, Age, using of social media, sleep qulity and learn consentration.

Category	N	%
Gender		
Woman	24	100
Age		
19	6	23
20	15	64
21	3	13
Social Media		
High	21	88
low	3	12
Sleep quality		
Bad (PSQI >5)	20	84
Good (PSQI ≤5)	4	16
Learning concentration		
Buruk (>13 detik)	19	82
Baik (≤13 detik)	5	18

Based on Table 1 Sebagian besar responden berumur 20 tahun yaitu sebanyak 15 responden (64%). Sebagian besarpenggunaan media sosialnya dalam kategori tinggi 21 responden (88%). Demikian juga dengan kualitas tidur Buruk (PSQI >5) sebanyak 20 responden (84%). Dan konsentrasi belajar Buruk (>13 detik) sebanyak 19 responden (82 %).

Table 2. corelation of using of social media and sleeping quality

No	Use of social media	Sleep Quality				Total	
		poor		good			
		N	%	N	%	N	%
1	low	1	3	2	9	3	12
2	high	19	81	2	7	21	88
	Total	20	84	4	16	24	100
			ρ = 0,000				

In table 2, it is known that 19 students (81%) had poor sleep quality or PSQI>5 of respondents whose sleep quality was high or PSQI≤5 and 2 students (7%) who had good

Table 4. Correlation of social medi use with sleep quality and study concentration Coefficients[a]

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1 (Constant)	1.743	.099		7.567	.000
Sleep Quality	-.305	.080	-.349	3.816	.000
Konsentrasi Belajar	-.414	.071	-.533	-5.829	.000

a. Independent Variable: Media Sosial

sleep quality or PSQI≤5 had high social media use. Meanwhile, 2 students (9%) had good sleep quality or PSQI<5 and 1 student (3%) had poor sleep quality or PSQI≤5. After data analysis, there was a relationship between the use of social media and sleep quality among respondents.

Table 3. Relationship between social media use and study concentration

No	Social media used	Learning concentration				Total	
		poor		good			
		N	%	N	%	N	%
1	Low	0	0	3	12	3	12
2	high	19	78	3	10	21	88
total		19	78	5	22	24	100
ρ = 0,000							

In table 3, it is known that 19 students (78%) of respondents who used social media had poor study concentration and 3 students who had good study concentration (10%). Meanwhile, 3 students (12%) of respondents whose use of social media was low had good study concentration and no students had poor study concentration.

There is a relationship between the use of social media and the study concentration of respondents. Woran K (2020) said that decreased concentration really interferes with daily activities. If it continues continuously it

can cause failure to focus when doing tasks and not being able to complete them well.

In table 4, the results of the regression coefficient for each variable obtained a value of sig (0.000) because the value of sig (0.000) < α (0.05), the regression coefficient is significant, which means there is a relationship between the use of social media and the quality of sleep and study concentration in program students. D III Midwife Stikes studies Dian Husada Mojokerto.

DISCUSSION
Correlation of Social Media Use and Sleep Quality

The results of the research show that there is a relationship between the use of social media and sleep disorders. Firstly, the use of social media will replace sleep, for example if someone is still busy with Instagram, then sleep time will be reduced. Second, the use of social media can increase emotional, cognitive and physiological arousal. Third, the bright light emitted by social media devices can delay circadian rhythms. If the regulation of the melatonin hormone is disturbed due to exposure to light, such as gadget light due to using social media for too long, it can cause a person's sleep quality to become poor or experience sleep disorders (Saffari et al., 2022).

Apart from that, there are many facilities available on social media, which makes respondents usually forget the time and respondents spend a lot of time using social media, forgetting to rest and not using the hours to sleep properly.

The relationship between the use of social media and sleep quality has a significant relationship because of social media in this era, especially online lectures where students are busy with social media all the time. Similar to research from (Hussain & Griffiths, 2019) have similarities in discussing the use of social media and sleep, the difference is, this research explains more about how social media can cause sleep disorders.

Correlation of social media use with learning concentration

Loss of concentration or lack of concentration can be caused by various factors, such as fatigue and boredom with daily routines. However, there are other factors that can reduce concentration, one of which is social media. Without realizing it, using social media excessively can make it difficult to concentrate. Currently, almost all students and workers use smartphones. At least, there are more than two social media used. Interesting information that appears on social media every second can kill someone's concentration. The more active you are and the more you interact on social media, the more difficult it is to stop playing on social media.

Social media was born as a result of technological developments. However, if not used wisely, social media can be detrimental, such as reducing productivity so that it can reduce concentration when carrying out activities during the day because they use social media too much. Having a negative impact doesn't mean we stop playing on social media. There are still positive impacts of social media that can be reaped and managed well, for example it can be used to upload inspiring content, inspiring stories, apart from that, social media can also make it possible to open up new environments and new communities. This is supported by research by (Dibben et al., 2023)regarding the relationship between social media and students' learning concentration during the Covid pandemic, namely if the use of social media is good enough, then students' learning concentration is also good enough. Use social media wisely with sufficient duration of use, even though the activity of using social media for the purpose of learning or looking for information related to lessons is not active enough, the students' ability to concentrate during the learning process is quite good, one of which is shown by the students' good attention to the lesson material.

Correlation of social media use with sleep quality and study concentration

From the results of research using regression tests, social media, sleep quality, and study concentration are interconnected. Because each variable has a sig value (0.000). In the current era of advances in information and communication technology, everyone uses social media. Where exposure to light from gadgets while playing on social media can disrupt the regulation of the hormone melatonin in the body which can cause a person's sleep quality to be poor or experience sleep disorders. Apart from that, excessive use of social media or addiction can disrupt the regulation of thyroid hormones in the body so that metabolism becomes slow, reducing blood flow and cell function in various parts of the brain which can reduce a person's concentration or experience concentration problems. Currently, smartphones have become a necessity in life which causes them to use social media all the time, almost all respondents said they use social media $\geq$ 6 hours. The sleep process is disturbed due to teenagers who focus on playing social media until late at night and still ignore warnings from social media when students start to sleep. (Suranto, Johan Syah, Kristiana, & Puspita, 2020)said that decreased concentration really interferes with daily activities. If it continues continuously it can cause failure to focus when doing tasks and not being able to complete them well. Loss of concentration or lack of concentration can be caused by various factors, such as fatigue and boredom with daily routines. However, there are other factors that can reduce concentration, one of which is social media. Without realizing it, using social media excessively can make it difficult to concentrate.

CONCLUSIONS

The higher the time you use social media, the worse the quality of sleep you will experience, resulting in body fatigue and not getting the energy your body and brain need for activities during the day.

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ORIGINAL RESEARCH

IMPROVING PERSONAL HYGIENE OF SCABIES SUFFERERS IN ADOLESCENTS USING THE PEER GROUP METHOD

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ABSTRACT	Keywords
Cleanliness of the skin and mucous membranes is very important because the skin is the body's first line of defense from germs. Low levels of hygiene and sanitation as well as socio-economic conditions are factors that trigger the occurrence of scabies. Scabies or scabies is an infectious skin disease caused by the infestation of the mite Sarcoptes scabies and is zoonotic. Scabies is one of the most common dermatological conditions, accounting for the majority of skin diseases in developing countries. Globally, it affects more than 130 million people at any time **Objectives:** This research aims to improve Personal Hygiene for scabies sufferers in adolescents using the Peer Group method **Methods:** The method in this study was to use the peer group method with a research design using a pre-experiment with the type of one-group pretest-posttest design. The population is all female students at the Roudlotun Nasyiin Islamic Boarding School, namely 24 students, the sampling uses total sampling with a sample of 24 respondents. The study was conducted for 3 weeks **Results:** The results of this study are that all respondents before being given the peer-group method were included in the inappropriate personal hygiene category as many as 24 respondents (100%) and after being carried out with the peer group method almost all of the respondents were included in the personal hygiene category right 22 respondents (91.7 %), and 2 respondents (8.3%) still did not do personal hygiene correctly **Conclusions:** This study concludes that there is an influence of the peer group education method on the personal hygiene of female students at the Roudlotun Nasyiin Islamic Boarding School. The peer group method makes it easier to provide information about personal hygiene in dealing with scabies sufferers, namely through peers, those who live together will know each other so they can remind each other about the personal hygiene of female students.	*personal hygiene, scabies sufferers, peer group*

INTRODUCTION

Personal Hygiene or personal health is an individual effort to maintain personal hygiene which includes cleanliness of hair, ears, teeth and mouth, nails, skin, and cleanliness in clothing to promote optimal health. (Kozier, 2012) Cleanliness of the skin and mucous membranes is very important because the skin is The body's first line of defense against disease germs. The skin receives various stimuli from the outside and is the main entry point for pathogenic germs into the body (Djuanda & Aisah, 2017)

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In general, the purpose of personal hygiene is to maintain personal hygiene, create beauty, and improve individual health status to prevent disease in oneself and others. (Djuanda & Aisah, 2017)

Scabies or scabies is a contagious skin disease caused by an infestation of Sarcoptes scabies mites and is zoonotic. This disease has been known for a long time, namely when Bonoma and Cestoni were able to illustrate a mite as the cause of scabies in 1689. Other literature states that scabies was first studied by Aristotle and Cicero, calling it "lice in the flesh". So far, it has been reported that there are more than forty species from seventeen families and seven orders of mammals that can be infected with scabies, including humans, livestock pets and wild animals. The incidence of scabies in humans is estimated at three hundred million people per year. (Efendi et al., 2020)

Scabies or scabies is a contagious skin disease caused by the infestation of the mite Sarcoptes scabies and is zoonotic. This disease has been known for a long time, namely when Bonoma and Cestoni were able to illustrate a mite as a cause of scabies in 1689. Other literature states that scabies was first studied by Aristotle and Cicero by calling it a "lice in the flesh". So far it has been reported that there are more than forty species from seventeen families and seven orders of mammals that can be attacked by scabies, including humans, livestock, and pets (pet animals) as well as wild animals (wild animals). The incidence of scabies in humans is estimated at three hundred million people per year. (Efendi et al., 2020)

According to WHO data, in several developing countries, the prevalence of personal hygiene is reported to be 6% - 27% of the general population, while in Indonesia it was registered in 2010 at 4.60% - 12.5%.

Based on the sacred research in 2013, stated that most of the students were 13 years old (26.5%), educated at Madrasah Tsanawiyah (60.2%), and the majority of students were female (63.1%). The proportion of personal hygiene students in the less category was 68.7% and the proportion of students who had experienced scabies was 71.1%. For students, it is expected to increase personal hygiene efforts including cleanliness of the skin, hands, towels, beds, and clothing. For the administrators of the boarding school to strive for healthy housing, and maximize the Islamic boarding school health post program.(Akmal et al., 2013)

Maintenance of Personal Hygiene greatly determines health status, where individuals consciously and on personal initiative maintain health and prevent disease. Personal Hygiene includes cleanliness of hair, eyes, ears, teeth, mouth, skin, nails, and cleanliness in clothing. Personal hygiene of Islamic boarding school students is an important subject in the problem of scabies, because from the available data most of those who suffer from scabies are students of Islamic boarding schools. Caring for skin cleanliness because the skin functions to protect the surface of the body, maintain body temperature, and remove certain impurities. Considering that the skin is important as a protector of the body's organs, it is necessary to maintain the health of the skin. Skin diseases can be caused by fungi, viruses, germs, and parasites. One of the skin diseases caused by parasites is scabies (Djuanda & Aisah, 2017)

Peer Group is socialization for individuals. Peers have a lot of roles in adolescents. Its role is as an amplifier in wanting something, for example, to get praise, as a model to be emulated, as a strong relationship with self-esteem through comparison to values , and as a guide to foster a sense of togetherness (Asroni, 2012)

Prevention of scabies in humans can be done by avoiding direct contact with sufferers and preventing the use of sufferers' items together. Sufferers' bed sheets must be replaced frequently with new ones a maximum of every three days. Items that cannot be washed are recommended to be put in a plastic bag for seven days, then washed dry or dried in the sun. Cleanliness of the body and environment including sanitation and a healthy lifestyle will accelerate healing and break the life cycle of Sarcoptes scabies (Notoatmojdo, 2020)

This study aims to prove that there is an increase in Personal Hygiene for scabies sufferers in adolescents using the Peer Group method at the Roudlotun Nasyiin Islamic

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Boarding School, Kemlagi District, Mojokerto Regency

METHOD

The design in this study used a pre-experiment with one group pretest-posttest design or treatment applied to the experimental unit group with 2 measurements (pretest and posttest). (Alimul Aziz Hidayat, 2010) The population in this study were all female students who suffer from scabies at the Roudlotun Nasyiin Islamic Boarding School. Kemlagi District, Mojokerto Regency as many as 24 students. The method that we provide is to do a pretest on 24 students and then do a posttest on 24 students to find out the results of the difference between the pretest and the posttest. The sampling technique used is Total Sampling. when data collection was carried out at the Roudlotun Nasyiin Islamic Boarding School, Kemlagi District, Mojokerto Regency. The instrument in this study was an observation sheet, which contained a physical examination in fulfilling personal hygiene, totaling 6 items for clothing hygiene, 6 items for skin hygiene, 4 items for hand and nail hygiene, 6 items for genital hygiene, and 6 items. for the cleanliness of the towels where the respondent will be observed.

RESULTS

Table 1. Cross-tabulation between personal hygiene of scabies sufferers in adolescents before and after the peer group method was carried out at the Roudlotun Nasyiin Islamic Boarding School, Kemlagi District, Mojokerto Regency

Criteria	Pretest		Posttest	
	f	%	f	%
Improper Hygiene	24	100	2	8,3
Proper Hygiene	0	0	22	91,7
∑	24	100	24	100

The results showed that all respondents, before being given the peergroup method, were included in the category of improper hygiene as many as 24 respondents (100%). And after using the peer group method, almost all of the respondents were

included in the hygiene category, exactly 22 respondents (91.7%). A small proportion of respondents 2 respondents (8.3%) did not experience an increase in the right hygiene category either before or after being given the peer group method

DISCUSSION

Scabies is caused by low personal hygiene factors such as bathing, changing clothes with other people, and poor environmental hygiene. In adolescents this problem is experienced more because the individual does not know how to perform personal and environmental hygiene properly, female students like to borrow or change clothes with their friends, thus allowing the transmission of disease through direct or indirect contact (Akmal et al., 2013) The purpose of providing personal hygiene education according to (Suliha U, 2010) where health education aims to change the understanding of individuals, groups, and communities in the field of health so that health becomes something of value, is independent in achieving healthy living goals and can use health facilities appropriately and according to achievement.

For respondents who did not experience an increase in personal hygiene, it was also influenced by the habitual factor possessed by everyone so that sometimes personal hygiene was also appropriate due to the habits of the individual. The Islamic boarding school environment certainly has many obstacles in finding information because of limited media or limited experts around it, therefore it is necessary to carry out socialization or health education through several methods called peer groups with peers. (Asroni, 2012)

Poor skin hygiene can be a factor causing scabies in students. The component that most influences skin cleanliness is students who use unclean water, unclean water is affected by the cleanliness of the bathroom which is not maintained because it is rarely drained by the students. Thus causing yellow deposits on the bottom and walls of the bathing pool. These yellow precipitates are also picked up when students use water for toilet washing purposes. The transmission of scabies can be facilitated by a lack of clean

water supply and this disease can occur by way of infection through the skin (Djuanda & Aisah, 2017)

Regarding hair hygiene, combs that are used interchangeably can cause the transfer of diseases from one person to another indirectly and one of them is scabies. Another component is the use of bath soap alternately among students. The use of soap alternately can cause transmission of scabies by indirect contact because soap is one of the objects that students always use to clean themselves. Then the students have a habit of drying towels in the room and using towels alternately, towels that are used alternately and not dried in the sun can increase the activity of Sarcoptes scabiei mites on towels, so that mites on towels of students suffering from scabies can move to healthy students. A towel is an object that can transmit scabies through indirect contact. (Potter, Patricia. A & Perry AG, 2010)

Based on research from Sema Koç Yıldırım stated that scabies is a common dermatologist problems in our daily routine and such factors duration of illness, need for repeat treatment protocols, the severity of itching and transmission may complicate disease management. Scabies has a moderate degree to have a severe impact on the patient's quality of life, and as in chronic skin disease, depression, and anxiety scores increased with quality from life's distractions. In this setting, scabies is important health problems and it should be remembered that the patient diagnosed with scabies is affected not only clinically but emotional, and they can be consulted by a psychiatristdepartment when needed (Koç Yıldırım et al., 2023)

Dirty hands and nails can pose a risk of contamination and cause skin diseases such as scabies. For people with skin diseases, especially scabies, hand, and nail hygiene that is not maintained will very easily spread to other parts of the body and can also be transmitted to other people, for example through direct contact such as shaking hands. While personal hygiene has a relationship with the incidence of scabies in students because students who live in Islamic boarding schools do not properly maintain and maintain personal hygiene. Sarcoptes scabies mites will

more easily infest individuals with poor personal hygiene (Mubarak, 2007)

CONCLUSIONS

Personal hygiene for female students at the Roudlotun Nasyiin Islamic Boarding School, Kemlagi District, Mojokerto Regency, before being given the peer group method, all respondents were in the inappropriate personal hygiene category and after being given the peer group method, almost all personal hygiene respondents were in the right category. Personal hygiene affects the skin health of adolescents at the Roudlotun Nasyiin Islamic Boarding School, Kemlagi District, Mojokerto Regency because personal hygiene can improve skin health by carrying out the domains of clothing cleanliness, skin hygiene, hand and nail hygiene, genital hygiene, towel cleanliness

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ORIGINAL RESEARCH

ASSOCIATION OF SHINE AND LAL INDEX β-THALASSEMIA TRAIT SCREENING RESULTS WITH ANAEMIA AND LOW BIRTH WEIGHT

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ABSTRACT	Keywords
Beta thalassemia trait are more likely to have anemia which leading to intrauterine hypoxia and adverse uterine conditions. Adverse intrauterine environment has been shown to have a significant impact on the risk of low birth weight. Therefore, this study aims to investigate association between Shine and Lal index β-thalassemia trait screening results with anaemia and lowbirth weight. A retrospective study design was conducted based on medical records of mothers and their infants born in 2022 at a regional hospital, in East Nusa Tenggara. The inclusion criteria were being live birth, singleton births and gestational age >28 weeks. Mothers didn't have complete records were excluded from study. Analysis uses chi-square test to evaluate the relationship between dependent and independent variables, This study identified 738 eligible samples. The incidence of suspected β-thalassemia trait according Shine and Lal Index was about 42.5%. There is a significant relationship between Shine and Lal β-thalassemia trait screening results with maternal anaemia and no relationship between Shine and Lal index β-thalassemia trait screening results and LBW.	*Anaemia, beta thalassemia trait, low birth weight, newborn*

INTRODUCTION

Thalassemia is a genetic disease caused by red blood cell abnormalities in which the main hemoglobin-forming α- or β-globin chains are partially formed or absent altogether (Maskoen et al. 2019). The genetic disorder in thalassemia causes the body to only produce a small amount of Hb and red blood cells (El-Shanshory et al. 2021). Beta-thalassemia is one of the major types of thalassemia and results from decreased production of beta-globin (β-globin) chains. Based on the severity, thalassemia is divided into severe thalassemia (thalassemia major), thalassemia intermedia and asymptomatic thalassemia (thalassemia minor/ thalassemia trait) (Zhang, Yan, and Zeng 2018).

Moderate and severe thalassemia is usually diagnosed in childhood because symptoms usually appear during the first two years of a child's life. Meanwhile, people with mild thalassemia may be diagnosed after routine blood tests show that they have anemia. In contrast to β thalassemia, α thalassemia trait cannot be diagnosed in adults without genetic testing and is, therefore, highly underdiagnosed (Mettananda et al. 2018).

However, these thalassemic patients are prone to a variety of complications, including increased risk of cirrhosis, heart failure, and endocrinopathies, while ineffective erythropoiesis and hemolysis contribute to multiple complications,

including splenomegaly, extramedullary hematopoiesis, pulmonary hypertension, and thrombosis (Sayani and Kwiatkowski 2015). Thalassaemia in pregnancy may not have life-threatening symptoms, but the pregnancy outcome still requires attention (Adler, Wainstock, and Sheiner 2021).

Indonesia is located along the "thalassemia belt," where approximately 3.0 to 10.0 percent of the population carries β-thalassemia (Wahidiyat et al. 2022). In developed areas, thalassemia genetic screening is considered a routine prenatal examination, but not in most developing areas in Indonesia (Setiawan, Firmansyah, and Richard 2023). Awareness of carrier testing in hospitals and laboratories remains very low. Even families who have children with thalassaemia do not perform genetic testing. The strongest reason given by the family besides lack of knowledge about thalassemia, was the cost of the test, which is expensive and not covered by health insurance (Setiawan, Ediati, and Winarni 2017).

The diagnosis of β thalassemia is based on the clinical picture, complete blood count, and hemoglobin electrophoresis (Hernaningsih et al. 2022). Currently, several calculation formulas have been developed for thalassemia detection, including the Mentzer index (MCV/RBC), Srivastava index (MCH/RBC), Shine&Lal index (MCVxMCVxMCH/100) and any others. The Shine&Lal index is very helpful in initial screening of β-thalassemia trait, because this index confirms the presence of mutations in CD-26 and IVS1nt5 which are common mutations in Indonesia. The Shine&Lal index may be a useful predictor for thalassemia carrier screening in resource-limited settings where molecular methods are not readily available. The Shine & Lal index < 1530 could be used to predict all beta-thalassemia trait. (Maskoen et al. 2019, Noulsri et al. 2023)

However, more data is needed about the impact of β-thalassemia trait status on pregnancy outcomes. Carrying β thalassemia can increase the risk of LBW minimally but significantly, but does not increase the rate of bad outcomes in the mother (Charoenboon et al. 2016). Mothers with β-thalassemia trait are more likely to have anemia (Adler, Wainstock, and Sheiner 2021). Maternal anemia leading to intrauterine hypoxia and adverse uterine conditions (Kaplan et al. 2021). The intrauterine environment has been shown to significantly affect long-term outcomes for the fetus. Thalassemia in parents, can increase the risk of premature birth and low birth weight in newborns, and the risk may be higher in newborns whose mothers and fathers suffer from β-thalassemia(Huang et al. 2019).

Low birth weight has been defined by the World Health Organization (WHO) as a baby with a birth weight of less than 2,500 grams, regardless of gestational age, measured after birth, ideally within the first hours of life (WHO 2023). More than 80% of neonatal deaths worldwide are due to low birth weight (Blencowe et al. 2019). According to the Indonesian Demographic and Health Survey 2021, low birth weight (LBW) is considered as the most important predictor of neonatal mortality, more than 34.5% of neonatal mortality is caused by LBW (Kemenkes RI. 2021). At least 1,074 neonates died in eastern Indonesia, particularly in East Nusa Tenggara more than 25% of neonates died due to LBW.

In general, women who are carrier of β-thalassemia usually have no symptoms and do not experience anemia and can tolerate the hematological changes caused by pregnancy well. Research on the effect of β-thalassemia traits on pregnancy outcomes including low birth weight is still very limited. The varying availability and quality of LBW data across countries makes it difficult to investigate association between β-thalassemia trait and LBW, so improved quantity and quality is needed.

The high incidence of LBW and limited screening for β-thalassemia carriers in South Central Timor district has made researchers to conduct a study on the risk of suspect of β-thalassemia trait for the incidence of LBW in South Central Timor district. In particular, the risk of β-thalassemia trait in LBW, as far as researchers have observed, no research has evaluated the relationship between beta thalassemia trait and LBW in Indonesia. This study aims to determine the relationship between suspected β-thalassemia trait using Shine and Lal index with maternal anemia and low birth weight.

METHOD

A hospital-based retrospective case-control study was conducted at Soe Hospital, South Central Timor District. All registered deliveries from January to December 2022 were used as sample population with a total of 1163. The minimum sample size was determined using a proportion difference approach with the assumption of a 95 % confidence level (Zα/2 = 1.96), 80 % power (Zβ = 0.84) obtained a minimum sample size is 113.

There were a total of 738 eligible samples by using total sampling technique. Women who gave live births, singleton births, gestational age >28 weeks were included from this study. Women didn't have complete records were excluded from study.

Maternal characteristics factors (i.e., maternal age, parity, interpregnancy interval, educational level and occupation), suspected thalassemia β trait was the exposure/independent variable. Maternal anaemia and low birth weight was the outcome/dependent variable.

The data were obtained from the medical records on mothers at childbirth was entered into a data collection sheet. The data sheet included the following information: maternal socio demographic and obstetrics information including age, educational level, occupation, parity and pregnancy interval and illness during pregnancy. Information on infants was infant's birth weight.

Suspected beta thalassaemia trait are calculated and categorised using the haematological index Shine&Lal index with the formula (MCV) x (MCV) x (MCH) /100, with suspected beta thalassaemia trait defined as <1530. Haemoglobin (Hb) level on admission to hospital before delivery is a sign of anaemia. The components of the complete blood count, were from laboratory test results in medical records.

Ethical permitted letter number 91/EC/KEPK/FKUA/2023 was obtained from the Health Research Ethics Committee, Faculty of Medicine, Universitas Airlangga, Surabaya. Analysis uses chi-square test to evaluate the relationship between dependent and independent variables. Statistical tests were considered significant at a p value of less than 0.05.

RESULTS

Based on Table 1 below, based on maternal characteristics, as many as 71.0% mothers aged 20-35 years. There was multiparous 59.3%, pregnancy interval less than 2 years was more common in this study. As many as 40.9% respondents with high-school education. Regarding the occupation, 80.6% mothers are housewife.

Table 1- The maternal characteristics.

Variable	Category	Freque ncy (n)	Percent age (%)
Maternal Age	<20	38	5.1
	20-35	524	71.0
	>35	176	23.8
Parity	Primiparous	292	39.6
	Multiparous	364	59.3
	Grandemultipa rous	82	11.1
Pregnanc y interval	< 2 years	342	46.3
	2-5 years	269	36.4
	>5 years	127	17.2
Educatio n	Illiterate	16	2.2
	Primary	275	37.3
	High-school	302	40.9
	University	145	19.6
Occupati on	Employed	143	19.4
	Housewife	595	80.6
Suspecte d β - Thalasse mia trait	Yes	314	42.5
	No	424	57.5
Low Birth Weight	Yes	123	16.7
	No	615	83.3

There was 42.5% suspected β thalassemia trait according Shine&Lal index. As many as 16.7% respondents were gave birth to low-birth-weight babies.

Table 2 Association of Pregnancy Outcomes with Suspected β-Thalassemia Trait

Variable	Suspected β-Thalassemia trait		Total	P value
	Yes	No		

Maternal Anaemia				
Severe anemia	13 (4.1)	3 (0.7)	16 (2.2)	
Moderate anemia	127 (40.4)	35 (8.3)	162 (22.0)	
Mild anemia	63 (20.1)	57 (13.4)	120 (16.3)	<0,001
Not anemic	111 (35.4)	329 (77.6)	440 (59.6)	
Low Birth Weight				
Yes	57 (46.3)	257 (41.8)	314 (42.5)	
No	66 (53.7)	358 (58.2)	424 (57.5)	0,405

Table 2 shows that a significant association between maternal anemia and thalassemia β trait (p<0.001). As many as 46.3% of the women who had thalassemia β trait were gave birth to low-birth-weight babies. This study found no association between thalassemia β trait and LBW (p=0.405).

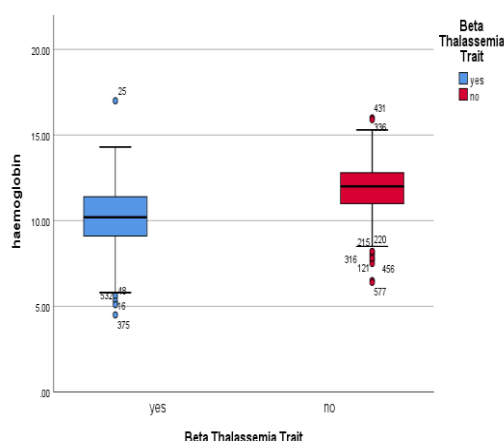**Figure 1 Distribution of Haemoglobin Level with β Thalassemia Trait in Pregnancy**

Figure 1 shows distribution of haemoglobin level with suspected β thalassemia trait.

DISCUSSION

There is a significant association between maternal anemia and thalassemia β trait in this study. This is consistent with the study by Adler, Wainstock, and Sheiner, mothers with β-thalassemia trait are more likely to have anemia (Adler, Wainstock, and Sheiner 2021). Women with the beta-thalassemia trait have limited production of beta-globin chains and are associated with hematologic disorders such as small red blood cell size (mean red blood cell volume) and decreased hemoglobin levels (mean red blood cell count) (Bharti et al. 2020). In theory, a 30% increase in red blood cell volume or a 40% increase in total blood volume (Cunningham et al. 2018) during pregnancy may be problematic in women with the β-thalassemia trait (Ruangvutilert et al. 2023).

Causes of anaemia in pregnancy include nutritional deficiencies, parasitic and bacterial infections, and congenital disorders such as thalassaemia. However, the most common cause of anaemia in pregnancy is iron deficiency. Regardless of whether there is iron deficiency, mothers with haemoglobin levels below the WHO standard (11.0 g%) are classified as having anaemia(Breymann 2015). Anaemia in pregnancy can result in disruption of the transfer of haemoglobin to the fetus through the placenta as a source of nutrition for the fetus(Shanty, Amalia, and Utomo 2023)

Thalassemia β trait was not associated with LBW incidence in this study. Mothers with β thalassemia trait did not have a tendency to give birth to LBW. This is consistent with the study by Kasparek(Hanprasertpong et al. 2013) and Barrett(Kemthong et al. 2016), who explained that the condition of thalassemia β trait did not affect the risk of IUGR and preterm birth, which are manifestations of LBW. This may be because the condition of thalassemia β trait is a genetic trait. The disease does not develop into a more severe form of thalassemia requiring medical treatment.

Although it is generally known that anemia in pregnancy is a significant risk factor for adverse maternal and fetal outcomes, the results of previous studies on the effect of the β-thalassemia trait on pregnancy have been inconsistent. A study showed an increased risk of adverse pregnancy outcomes (Ruangvutilert et al. 2023), while other studies could not confirm this Hanprasertpong (Hanprasertpong et al. 2013). Kasparek showed that trait thalassemia β increased

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maternal risk but did not increase adverse neonatal outcomes (Kasparek et al. 2021). Mothers with the β-thalassemia trait are usually asymptomatic, do not have anemia, and have a good tolerance for hematology changes due to pregnancy (Charoenboon et al. 2016). It is unclear whether these women cope well with such dramatic changes, and whether beta thalassemia trait increases the rate of adverse pregnancy outcomes. To our knowledge, there is limited research on the effect of thalassemia traits on pregnancy outcomes(Charoenboon et al. 2016).

Clinical features in thalassemia carriers range from almost asymptomatic to severe anemia requiring lifelong blood transfusions. Ideally, prenatal screening should be used to identify couples with thalassemia who are at risk of having a child with thalassemia major. This strategy is a control measure aimed at reducing the incidence of new affected neonates. Couples with a family history of thalassemia planning to have a child are advised to undergo hemoglobinopathy screening followed by appropriate genetic counseling (Barrett, Saminathan, and Choolani 2017).

Limitations of this study include a retrospective approach in which some records contained missing or not fully reliable data. The results of prenatal blood tests were unknown in both groups, a complete blood test was performed at the end of pregnancy. Recording of blood test results in early pregnancy varies; most pregnant women do not have complete blood tests in early pregnancy due to limited resources at health facilities. Therefore, the condition at the beginning of pregnancy cannot be known with certainty.

CONCLUSIONS

This study provided evidence that suspected thalassemia β trait does not increased risk of low birth weight. Further studies and pregnancy registries should be organized and analyzed to establish guidelines for this important period of life for women with thalassemia.

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ORIGINAL RESEARCH

ANALYZING URIC ACID CONCENTRATION AS A TOOL TO DIAGNOSE PREECLAMPSIA

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ABSTRACT	Keywords
Preeclampsia is a hypertensive disorder that occurs during pregnancy. So far, uric acid levels have been used as a guide to diagnose preeclampsia. Uric acid is a by-product of metabolism and its levels in the blood can be influenced by various factors, including kidney function and eating habits. This research is an observational study with a prospective approach. In this study, 258 pregnant women were involved at the Wonoasih Community Health Center and Jorongan Community Health Center from March to June 2023. Laboratory examinations were carried out to measure the serum uric acid levels of the research subjects. statistical tests of differences were carried out using SPSS. In pregnant women who suffered from preeclampsia before 34 weeks of gestation and after 37 weeks of gestation with a fetus that was not developing, a significant increase in uric acid levels was found with a Phi coefficient of 0.090 and a contingency test of 0.087. The cut-off point for the uric acid ratio (UAr) test is 1.5, where pregnant women who have been diagnosed with preeclampsia in the 1st trimester of pregnancy have a higher UAr value. The results of the data analysis p value were 0.918 [95% confidence interval (CI): 0.858–0.979) in the group of pregnant women with preeclampsia; This means that uric acid can be a tool for diagnosing preeclampsia in pregnant women.	*Uric Acid levels, Diagnosis, Preeclamsia*

INTRODUCTION

Preeclampsia is a pregnancy specific multisystem disease whose cause is unclear. With a very varied clinical picture, this disease reached 1,066 cases of hypertension reported as part of the causes of maternal and neonatal deaths in Indonesia (Kemenkes R1, 2020). And is the first cause of maternal death in 2021 (Dinkes Prov Jatim, 2022).

The effects of this syndrome extend beyond pregnancy and can cause long-term vascular and metabolic problems, as well as a heightened risk of cardiovascular disease in both mother and fetus (Benagiano et al., 2021). Pregnancy problems and their long term effects can be minimized by early

discovery and referral to a high-complexity center, even though this condition is incurable. Unfortunately, preeclamptic women are currently not recognized until after the development of clinical symptoms, which significantly complicates patient care (Mutiara Putri & Ismiyatun, 2020; Peck Palmer & Das, 2020).

It is still difficult to identify which women are at risk of getting preeclampsia due to the severe repercussions of this illness. There are now a number of interesting biomarkers that have been found that may be utilized to diagnose a patient early. Biomarkers are used as indicators of the biological response to exposure and are

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used to predict, diagnose, and monitor disease (Daniel et al., 2018). Pro-angiogenic factors like placenta growth factor (PIGF) and vascular endothelial growth factor (VEGF) as well as anti-angiogenic factors like soluble fms-like tyrosine kinase-1 (sFlt-1) and soluble endoglin (sEng) have shown some utility in the diagnosis and prediction of preeclampsia (Andalas & Harahap, 2017; Sello, 2019; Zulkarnain, 2018). Even though the choice of biomarkers as markers has been proven to be reliable in its role in showing the pathophysiology of disease, in terms of the costs that must be incurred by a client, the cost benefit is not appropriate. Therefore, uric acid levels are an indicator of preeclampsia in addition to high blood pressure and organ damage (Mark et al., 2018)

Increases in uric acid levels and blood pressure have long been recognized as indicators of preeclampsia, including indicating the severity of preeclampsia (Ganie et al., 2021; Sello, 2019). In uncomplicated pregnancies, serum uric acid levels decrease 25 to 35% due to hypervolemia, increased renal blood flow, glomerular filtration rate, and the uricosuric effects of estrogen (Abbas et al., 2020; Haribaik et al., 2022), which, at 35 weeks of gestation, will slowly increase to close to 5.1 $\pm$ 1.2 mg/dl until the end of the pregnancy period (Laughon et al., 2011; Amini et al., 2014).

The level of uric acid concentration that is considered to influence the activity of the renin-angiotensin system, which leads to an increase in blood pressure, is still a matter of debate (Mule et al., 2016; McMullan et al., 2017; Scheepers et al., 2017). Serum uric acid levels are important for monitoring high blood pressure in pregnancy, but they're not very reliable or predictive (Chen et al., 2016; Pecoraro & Trenti, 2020a). Some studies also suggest that proteinuria alone may not be a good predictor of the health outcome of preeclampsia (Dong et al., 2017; Henderson et al., 2017; Garovic et al., 2022). Because it is possible that there are other variables that could confound the conclusions of the results of checking uric acid levels, such as maternal age, gestational age, BMI, kidney disease/disorder (Norden et al., 2000;

Haribaik et al., 2022; Hong C et al., 2022; Colmenares-Mejia et al., 2023).

In recent times, there have been suggestions that the hyperuricemia linked to preeclampsia could also be attributed to elevated oxidative stress and reactive oxygen species production (Kumari, 2021; Niyongabo Niyonzima et al., 2021). However, because uric acid interacts with proinflammatory cytokines, elevated uric acid levels in preeclamptic patients' plasma may suggest that the acid directly contributes to the pathophysiology of this disease by inducing inflammation (Dakhil et al., 2023; Zha X et al., 2022). However, in clinical practice, to date, at both primary and tertiary health care levels, the majority of patients with gestational hypertension will be diagnosed with preeclampsia based on the presence of proteinuria.

The description above shows that there is still a diagnostic dilemma because proteinuria can reflect other conditions of pregnant women such as chronic hypertension, kidney disorders or diseases, or whether it is pure preeclampsia. The aim of this study was to examine the increase in uric acid levels during pregnancy, its predictive value in identifying the possibility of preeclampsia in pregnant women with IUGR and pregnant women in terms of age, gestational age, BMI, and maternal blood pressure.

METHOD

A prospective observational study was conducted to investigate the behavior of serum uric acid levels during pregnancy and determine their predictive utility in predicting the development of preeclampsia. This approach was chosen because the researcher will only observe without providing intervention, and the data obtained will have to go through an observation process from time to time. The study involved 258 pregnant women by using quota sampling technique. Women with chronic hypertension, comorbid diseases and multiple pregnancies were not included in this study. All subjects provided written informed consent. This research was carried out at the Wonoasih and Jorongan

Community Health Centers from March to June 2023.

Uric acid levels in pregnant women without comorbidities will change after the gestational age enters the second and third trimesters of pregnancy, namely around more than 20 weeks of gestation (Ayu & Isaac, 2019). To examine the rise in uric acid levels throughout pregnancy, we divided pregnant women based on maternal age, gestational age, BMI, increase in blood pressure. In addition, pregnant women will be grouped based on the onset of preeclampsia.

Each pregnant woman's serum samples were collected during pregnancy and kept at 20-25°C for analysis (Intantri & Aliviameita, 2023; Palupi, 2021). Gestational hypertension and Preeclampsia were defined on the basis of the following criteria Hypertension in Pregnancy Clinical Guideline – Women's Helath and ACOG (ACOG, 2019; Women's Health, 2018).

Pregnant women who initially had normal blood pressure but after 20 weeks of gestation experienced persistent high diastolic blood pressure increases of 140 mmHg and/or 90 mmHg on two separate occasions (at least 6 hours apart after the 20th week of pregnancy) without proteinuria. Preeclampsia was defined as systolic blood pressure (140 mmHg) or diastolic blood pressure (90 mmHg) with proteinuria ($\geq$ 0.3 g/d) or 2 ++ (on urine dipstick test) after 20 weeks of pregnancy previously without hypertension.

Serum uric acid was measured using an enzymatic diagnostic kit and urine dipstick test, according to the manufacturer's protocol. The reference value for women is 2.4–5.6 mg/dL Changes in uric acid according to standard uric acid levels in pregnant women without complications (Ghanavati et al., 2009; Grünebaum, 2019). Meanwhile, blood pressure will be measured with an aneroid sphygmomanometer (Bhatt et al., 2016).

The results of checking blood pressure and uric acid levels of pregnant women are recorded on an observation sheet which will then be analyzed using SPSS with a two-

sample T test and if the data does not meet the requirements for a T test, the Wilcoxon signed rank test will be used. This test is carried out to compare two independent groups whether they have statistically significant different results. The correlation between pregnant women's variables: maternal age, gestational age, BMI, increase in blood pressure and uric acid levels will be tested using descriptive analysis and analysis using the Chi-Square technique and to determine the strength of the association between variables measured by conducting independence tests on the size of the association, namely: phi coefficient (Φ) and Pearson contingency coefficient (P). The significance level was set at P < 0.05.

RESULTS

Of the 258 pregnant women who had their pregnancies checked at the Jorongan and Wonoasih Community Health Centers: From of all the pregnant women who returned and had to be excluded because they met the inclusion criteria 107 were pregnant women without pregnancy complications, 59 were pregnant with gestational hypertension, 83 were preeclampsia, and 8 were disturbed fetal growth and development (**table 1 & 2**).

Researchers assessed the amount of uric acid in serum during pregnancy. Serum uric acid levels in women with preeclampsia increase drastically compared to pregnancies that did not previously suffer from hypertension. The increase in uric acid levels in pregnant women with gestational hypertension at a gestational age of more than 37 weeks is not significant. Pregnant women with IUGR fetuses also did not show a significant increase in uric acid levels compared to pregnant women without complications (**table 1**). This is different from research results which state that uric acid levels in pregnant women have a significant correlation with the incidence of IUGR (Le et al., 2019; Liu et al., 2019).

There was no correlation between Uric Acid and parity (p=0.256) or women's BMI (p=0.303).

Table 1. Population Characteristics

	Uncomplicated pregnancies	Gestational hypertension	Preeclamsia	IUGR without preeclampsia
n	107	56	78	8
Maternal age (years)	19.54 ± 5.71	24.6 ± 7.6	20.87 ± 7.9	30.6 ± 6.54
Gestational age (weeks)[1]	36.72 ± 3.44	33.85 ± 2.88	38.1 ± 2.03	35.7 ± 1.05
Birth weight (g)	3138.9 ± 455.6	2803.6 ± 778.3	2826.0 ± 781.3	2041.6 ± 659.22***
Body mass index (BMI), kg/m2	25.1 ± 5.9	28.6 ± 7.9	29.21 ± 8.9	24.13 ± 5.44
Systolic blood pressure (mmHg)	110.0 ± 4.1	152.6 ± 6.7***	155.10 ± 5.3***	140.2 ± 4.5
Diastolic blood pressure (mmHg)	75.1 ± 1.5	100.0 ± 3.8***	101.1 ± 8.4***	67.3 ± 5.2
Proteinuria[2]	Negative	+	Negative	Negative

Table 2. Characteristics based on the incidence of preeclampsia

Preeclampsia	n	Gestational age (weeks)	Birth weight (g)
Gestational age <34 wks	23	23.07 ± 1.48	2422.6 ± 501.4
Gestational age between 34 & 37 wks	33	38.88 ± 1.68	2530.0 ± 201.0
Gestational age >37 wks with IUGR	5	27.08 ± 0.75	2105.8 ± 94.9
Gestational age >37 wks without IUGR	17	34.42 ± 1.62	3299.7 ± 472.7

Likewise, the correlation between uric acid and maternal age is shown by the results of the Phi coefficient statistical test (0.090) and the contingency test (0.087) even though the p value is 0.009.

In this study, uric acid levels were found to be higher than 1.5 in pregnant women with gestational hypertension and pregnant women who experienced preeclampsia. If seen based on when the first clinical symptoms appeared; So the group of mothers who experienced preeclampsia before 34 weeks of gestation and the group of mothers who experienced preeclampsia after 37 weeks of gestation with IUGR were the groups that had the highest uric acid levels (**Table 3**). Meanwhile, in the gestational age group of more than 37 weeks with IUGR or without IUGR, uric acid levels only increased after gestational age above 30 weeks (**table 4**).

Table 3. Uric acid ratio (UAr)

	Uric Acid ratio (UAr)		
	Stage 2/1	Stage 3/1	Stage 4/1
Uncomplicated pregnancies	1.12 ± 0.02	1.22 ± 0.02	1.31 ± 0.03
Preeclamsia	1.63 ± 0.18	1.79 ± 0.21	2.17 ± 0.22
Gestasional Hyperetension	1.32 ± 0.18	1.49 ± 0.17	1.67 ± 0.22
IUGR without PE	1.14 ± 0.07	1.36 ± 0.02	1.37 ± 0.11

The table above states that if a pregnant woman has been diagnosed with preeclampsia since the beginning of pregnancy, then her uric acid level will exceed 1.5. And if a pregnant woman suffers from gestational hypertension, her uric acid level will be higher than 1.5 at the end of pregnancy. However, in pregnancies without complications and healthy fetuses, the uric acid level value is lower than 1.5 in pregnancy.

The results of data analysis show that uric acid can be a tool to diagnose preeclampsia in pregnant women diagnosed with preeclampsia at a gestational age of more than 34 weeks with a statistical test value of 0.918 [95% confidence interval (CI): 0.858–0.979) for the preeclampsia group and 0.955 (95% CI: 0.908–1.000) for the group of pregnant women who had been diagnosed with preeclampsia at <34 weeks' gestation.

Table 4. Uric acid ratio (UAr) in females with various preeclamptic presentations.

	Uric Acid ratio (UAr)		
	Stage 2/1	Stage 3/1	Stage 4/1
Uncomplicated pregnancies	1.22 ± 0.12	1.25 ± 0.18	1.80 ± 0.20
PE Gestational age <34 wks	1.85 ± 0.47	2.33 ± 0.47	0.46 ± 0.12
PE Gestational age between 34 & 37 wks	1.38 ± 0.62	1.91 ± 0.38	1.68 ± 0.26
PE age >37 wks with IUGR	1.83 ± 0.56	1.96 ± 0.58	2.78 ± 0.68
PE Gestational age >37 wks without	1.40 ± 0.36	1.72 ± 0.28	2.12 ± 0.58

Statistical test results show the uric acid ratio in the uric acid analysis test which is used as a diagnostic tool to help confirm the diagnosis of preeclampsia, showing differences in uricemia between pregnant women who do not experience complications and those who experience preeclampsia complications. However, the accuracy of the uric acid level test results in helping to establish preeclampsia is better in the group of pregnant women who are suspected of suffering from preeclampsia at a gestational age of <34 weeks.

DISCUSSION

Elevated uric acid levels have long been believed to pose serious health risks for pregnant women. These risks are very detrimental to the mother and fetus, such as gestational hypertension, preeclampsia, gestational diabetes mellitus, premature birth, and IUGR.

Preeclampsia is the most severe occurrence of hypertension in pregnancy. Preeclampsia According to ACOG guidelines, occurs when: the patient meets or exceeds the criteria for hypertension and has a protein level in the urine of more than 300mg or 1+ on urine protein examination with a dipstick (ACOG, 2019).

In vitro research, elevated uric acid decreases endothelial cell proliferation and migration, which could lead to poor placental development, and ultimately preeclampsia (Hu et al., 2022).

In vivo mouse trials, it was concluded that an increase in serum uric acid could cause hypertension through activation of ENaC (epithelial sodium channel) and regulation of ERC (ENaC Regulatory Complex) expression (Xu et al., 2016).

Renin-angiotensin system activation along with uric acid-mediated renal vasoconstriction, which was caused by a decrease in nitric oxide levels in endothelial cells, led to the development of hypertension. Although we showed that maternal renal function has a significant impact on hyperuricemia, we did not go into this association in further detail in our study.

The use of uric acid levels as a prognostic tool for preeclampsia is approved in many studies, but there are also those who argue that the positive dignostic value is low (Chen et al., 2016; Abbas et al., 2020; Ugwuanyi et al., 2021); other research indicates that high urat kadar is a predictor that cannot be used to predict the outcomes of parents and fetus (Pecoraro & Trenti, 2020b).

In the current investigation, we found that in women with straightforward pregnancies, uric acid levels started out lower—between 25 and 35%—than in women who were not pregnant. They subsequently gradually grew and reached their peak at the end of the pregnancy. similar principles as women who are not expecting. Experimental research; estrogen-progesteron can significantly reduce serum uric acid levels (Jung et al., 2017).

Calculating serum uric acid levels before and after 20 weeks of gestation needs to be done considering the variability of uricemia because if the ratio is greater than 1.5 then it is necessary to pay attention to the possibility of preeclampsia (Meena et al., 2019).

This is a prospective study to evaluate the diagnostic results of uricemia as a diagnostic tool for preeclampsia. However, one of our biggest research challenges is the lack of pregnant women as research subjects, especially in various subgroups. We found that all pregnant women diagnosed with preeclampsia had increased serum uric acid levels. However, the rate of increase in uric acid levels depends on the severity of the disease. So, in women who experienced preeclampsia before 34 weeks of gestation or in women who experienced preeclampsia after 37 weeks of gestation with IUGR, uric acid levels were found to increase significantly. Meanwhile, in pregnant women who experience preeclampsia after 34 weeks of gestation without IUGR, uric acid levels increase at the end of pregnancy.

In pregnant women without complications of preeclampsia and fetuses experiencing IUGR, uric acid levels are within normal limits. and this is in accordance with research which states that increased uric acid levels are associated with maternal endothelial dysfunction and worsen the systemic inflammatory response in preeclampsia (Redman et al., 2022).

For this reason, it is necessary to add other supporting examinations such as

ultrasound and other biochemical examinations in monitoring pregnant women with preeclampsia and IUGR.

Based on the curve in Figure 1, it is shown that a uricemia ratio of less than 1.5 is a parameter that has high sensitivity for diagnosing preeclampsia in pregnant women. There's more and more evidence indicates that high blood and uric acid during pregnancy have a role in the pathophysiology maternal and fetal as a marker of preeclampsia.

CONCLUSIONS

With knowledge of the effects of uric acid on the endothelium, oxidative stress, inflammation and the pathogenesis of preeclampsia; strengthens the belief that monitoring uric acid levels can help prognosticate preeclampsia.

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ORIGINAL RESEARCH

ANXIETY LEVELS AND PERCUTANEOUS CARDIAC INTERVENTION (PCI) IN STEMI AND NSTEMI PATIENTS AT BANGIL HOSPITAL

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ABSTRACT	Keywords
According to the World Health Organization, coronary heart disease, including STEMI and NSTEMI, is the leading cause of noncommunicable disease-related mortality worldwide. First treatment for STEMI-NSTEMI patients was reperfusion with Percutaneous Coronary Intervention (PCI). Anxiety increases the difficulty of controlling cardiac disease in patients with a diagnosis of STEMI and NSTEMI who will undergo PCI surgery. This study employs a cross-sectional correlation analysis methodology. Patients with coronary heart disease diagnosed with STEMI and NSTEMI who are receiving treatment at Bangil Hospital constituted the population. Forty respondents were selected using a technique called purposive sampling. Percutaneous Coronary Intervention (PCI) is the independent variable. While apprehension levels are the dependent variable. At a Sig (2-tailed) value of 0.05, Ho was rejected and H1 was accepted, indicating that there was a correlation between preparation for surgery (Giving Informed Consent) Percutaneous Coronary Intervention and anxiety levels in STEMI - NSTEMI patients at Bangil Hospital. Consent was obtained prior to the decision to perform PCI. If the patient agrees to informed consent, the procedure will continue; if the patient refuses, the procedure will not be performed. The conclusion of this study is that Percutaneous Coronary Intervention (PCI) procedures are associated with a lower level of anxiety the better the preparation for surgery (providing informed consent) is.	*Operational Preparation, Giving Informed Consent, PCI, Anxiety*

INTRODUCTION

Coronary heart disease (CHD) or Coronary Artery Disease (CAD) is a disease caused by narrowing and blockage of the heart's blood vessels (Khan et al., 2020). The World Health Organization determines coronary heart disease such as STEMI and NSTEMI as a non-communicable disease that causes the highest number of deaths in the world (World Health Organization, 2021). Reperfusion with Percutaneous Coronary Intervention (PCI) is the first treatment for STEMI-NSTEMI patients. Control of heart disease with diagnoses of STEMI and NSTEMI who will undergo Percutaneous Coronary Intervention (PCI) surgery is worsened by the emergence of psychological problems (Gooding et al., 2020). Preparation for surgery (giving informed consent) for Percutaneous Coronary Intervention (PCI) can be hampered by the emergence of psychological problems, one of which is anxiety. (Meng et al., 2020).

Based on data from the World Health Organization, 17.9 million people die every year due to coronary heart

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disease (World Health Organization, 2021). Based on 2018 Basic Health Research (Riskesdas) data, the incidence of heart and blood vessel disease is at least 15 out of 1000 people, or around 2,784,064 individuals in Indonesia suffer from coronary heart disease (Indonesian Ministry of Health, 2019). Meanwhile, data in East Java province shows that the prevalence of coronary heart disease is still high compared to the average prevalence in Indonesia, which is 1.5% (Indonesian Ministry of Health, 2019). The process of preparing for surgery (giving informed consent) for Percutaneous Coronary Intervention (PCI) in coronary heart disease can affect the patient's physiological and psychological condition. One of the serious psychological disorders is anxiety and stress (Nabila et al., 2020). Psychological problems experienced by patients with coronary heart disease are caused by intrinsic and extrinsic factors. Psychological problems are caused by several factors such as daily hassles, personal stressors and appraisal. Meanwhile, anxiety is caused by heredity factors, environmental factors and precipitation factors. (Allabadi et al., 2019). Patients who will undergo surgery will experience various kinds of stressors that cause anxiety and fear, even the waiting time can cause anxiety (Brahmbhatt et. al, 2021).

Apart from that, anxiety also makes clients aggressive and they always ask for continuous attention from the nurse. Clients can also become nervous and worried about the operation they will undergo (Wondmieneh, 2020). Anxiety with reasonable intensity can be considered to have positive value as motivation. If the intensity is very strong and negative, it will actually cause harm and can disrupt the patient's physical and psychological condition (Suryanto et al., 2021). If this anxiety does not receive adequate treatment from doctors, nurses or family, it is possible that the anxiety will get worse, resulting in the patient not

being ready to undergo surgery (Salzmann et. al, 2021).

The problem of anxiety when preparing for surgery (giving informed consent) for Percutaneous Coronary Intervention must be handled immediately properly and in the right way. Nurses as professional health workers have a role to provide comprehensive nursing care by helping patients meet holistic and unique basic needs for changes in health or in critical situations (Yuan & Yuan, 2021). Interpersonal communication is the core of a nurse's work. All nursing tasks revolve around the need for nurses to be effective providers of information, one of which is providing informed consent. Based on the problems above, the author is interested in conducting research with the title "The Relationship between Preparation for Surgery (Providing Informed Consent) for Percutaneous Coronary Intervention (PCI) with the Level of Anxiety in Stemi-Nstemi Patients at Bangil Regional Hospital".

RESEARCH METHODS

The design used in this research is a non-experimental quantitative research design with a correlation analysis method. The research approach used is cross sectional. The population studied was all coronary heart disease patients diagnosed with STEMI and NSTEMI who were undergoing treatment at Bangil Regional Hospital. The samples that met the inclusion and exclusion criteria were 40 coronary heart patients diagnosed with STEMI and NSTEMI who were undergoing treatment at Bangil Regional Hospital. The sampling technique in this research uses nonprobability sampling with the sampling technique "Purposive Sampling".

The research instrument used was the Preparation for Surgery (Providing Informed Consent) Percutaneous Coronary Intervention (PCI) questionnaire. The questionnaire for PCI operations uses the Informed Consent reference provided by Bangil Regional Hospital. The Amsterdam preoperative anxiety and information scale (APAIS) is an instrument used to measure

preoperative anxiety that has been validated, accepted and translated into various languages in the world.

RESEARCH RESULT

Table 4.1 Characteristics of respondents based on gender in Stemi – Nstemi patients at Bangil Regional Hospital

No.	Gender	N	Persentase (%)
1.	Man	21	52.5
2.	Woman	19	47,5
	Amount	40	100

Sumber : Data Primer (2023)

Based on table 4.1 Characteristics of respondents based on gender in Stemi - Nstemi patients at Bangil Regional Hospital, the results showed that the majority of respondents were male, namely 21 people (52.5%).

Table 4.2 Characteristics of respondents based on age for Stemi – Nstemi patients at Bangil Regional Hospital

No.	Age	N	Persentase (%)
1.	17 – 25 year	0	0
2.	26 – 35 year	0	0
3.	36 – 45 year	5	12.5
4.	46 – 55 year	19	47.5
5.	56 – 65 year	11	27.5
6.	> 66 year	5	12.5
	Amount	40	100

Source: Primary Data (2023)

Based on table 4.2 characteristics of respondents based on patient age for Stemi - Nstemi patients at Bangil Regional Hospital, the results showed that almost half of the respondents were aged 46 - 55 years, namely 19 people (47.5%).

Table 4.3 Characteristics of respondents based on education for Stemi - Nstemi patients at Bangil Regional Hospital

No.	Education	N	Persentase (%)
1.	No school	5	12.5
2.	Elementary school	1	2.5
3.	Junior high school	3	7.5
4.	Senior high school	24	60
5.	D3 / S1	7	17.5
	Amount	40	100

Sumber : Data Primer (2023)

Based on table 4.3 Characteristics of respondents based on education of Stemi - Nstemi patients at Bangil Regional Hospital, it was found that the majority of respondents had a high school education, namely 24 people (60%).

Table 4.4 Characteristics of respondents based on work for Stemi – Nstemi patients at Bangil Regional Hospital

No.	Work	N	Persentase (%)
1.	Doesn't work	4	10
2.	Private	18	45
3.	Self-employed	12	30
4.	Civil servants	6	15
	Amount	40	100

Sumber : Data Primer (2023)

Based on table 4.4 Characteristics of respondents based on work for Stemi - Nstemi patients at Bangil Regional Hospital, the results showed that almost half of the respondents worked in the private sector, namely 18 people (45%).

Table 4.5 Identification of surgical preparation (giving informed consent) for Percutaneous Coronary Intervention (PCI) in Stemi – Nstemi patients at Bangil Regional Hospital

No	Operation Preparation Criteria	N	Persentase (%)
1.	Agree	28	70
2.	Reject	12	30
	Amount	40	100

Sumber : Data Primer (2023)

Based on table 4.5, identification of preparation for surgery (giving informed consent) to Stemi - Nstemi patients at Bangil Regional Hospital, the results showed that the majority of respondents agreed to the informed consent that had been submitted with a total of 28 people (70%).

Table 4.6 Identification of anxiety levels in Stemi – Nstemi patients at Bangil Regional Hospital

Sumber : Data Primer (2023)

Based on table 4.6, identification of the level of anxiety in Stemi - Nstemi patients at Bangil Regional Hospital, the results showed that the majority of respondents had a mild level of anxiety, namely 23 people (57.5%).

Table 4.7 Crosstab results of the relationship between surgical preparation (giving informed consent) for percutaneous coronary intervention (PCI) with the level of anxiety in Stemi – Nstemi patients at Bangil Regional Hospital

Preparation for surgery (giving informed consent)	Tingkat Ansietas											
	There isn't any		Light		Currently		Heavy		Panic		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Agree	0	0	23	82.1	4	14.3	1	3.6	0	0	28	100
Reject	0	0	0	0	0	0	10	83.3	2	16.7	12	100
Amount	0		23		4		11		2		40	
Spearman Rho	*Sig (2-tailed) = 0.000 < 0.05*											

Sumber : Data Primer (2023)

Based on the results of the crosstab data, it was found that of the respondents who agreed, almost all of the respondents had a mild level of anxiety, namely 23 people (82.1%). Meanwhile, for respondents who refused, the results showed that almost all respondents had severe stress levels, namely 10 people (83.3%).

DISCUSSION

Identify surgical preparations (giving informed consent) for Percutaneous Coronary Intervention (PCI) in Stemi – Nstemi patients at Bangil Regional Hospital

Based on the results of the research conducted, it was found that the majority of respondents agreed to the informed consent for Percutaneous Coronary Intervention (PCI) which was submitted by 28 people (70%). Meanwhile, 12 respondents (30%) refused the informed consent for

No.	Anxiety Level Criteria	N	Persentase (%)
1.	No anxiety	0	0
2.	Mild Anxiety	23	57.5
3.	Moderate Anxiety	4	10
4.	Severe Anxiety	11	27.5
5.	Panic	2	5
	Amount	40	100

Percutaneous Coronary Intervention (PCI). Based on theory, preparation for surgery by providing informed consent for Percutaneous Coronary Intervention (PCI) is

an integral assessment of the patient's function including physical, biological and psychological function through written consent regarding the Percutaneous Coronary Intervention (PCI) procedure which will be carried out by the doctor with the patient's permission (Filia, 2019).

Preparation for surgery (giving informed consent) for Percutaneous Coronary Intervention (PCI) in Stemi – Nstemi patients at Bangil Regional Hospital is influenced by several factors such as age and education. In the first factor, namely age, the research results showed that almost half of the respondents were aged 46 - 55 years, namely 19 people (47.5%).

At this age, individuals have maturity in terms of both physical and psychological growth which is characterized by mental maturity and strength, ability to think, ability to understand, and ability to remember (Evans et al., 2020). In the second factor, namely education, the research results showed that the majority of respondents had a high school education, namely 24 people (60%). A person's level of education will influence the individual's knowledge about environmental health and knowledge of disease. The lower the level of education causes the individual's knowledge about the disease process to be less (Nedesa et al., 2020). The higher an individual's education, the easier it is for that individual to receive information, and ultimately the more knowledge he or she has. On the other hand, if a person's level of education is low, it will hinder the development of a person's attitude towards acceptance, information and newly introduced values (Al-Hanawi et al., 2020).

Identify the level of anxiety in STEMI – NSTEMI patients at Bangil Regional Hospital

Based on the results of the research conducted, it was found that the majority of respondents had a mild level of anxiety, namely 23 people (57.5%). Respondents who had a severe level of anxiety were 11 people (27.5%). Respondents who had a moderate level of anxiety were 4 people (10%). And respondents who had panic

anxiety levels were 2 people (5%). Anxiety is a mental condition full of worry and fear about what might happen, whether related to limited problems or strange things (Alnazly et al., 2021).

Based on the research results, it was found that the majority of respondents had a mild level of anxiety, namely 23 people (57.5%). This is due to several factors including age and education

In the first factor, namely age, the research results showed that almost half of the respondents were aged 46 - 55 years, namely 19 people (47.5%). Physiologically, the growth and development of respondents in this research was described in terms of increasing age. As age increases, it is expected that there will be growth in motor and sensory abilities in accordance with growth and development which is synonymous with high idealism, high enthusiasm and excellent energy (Hu et al., 2021). In the second factor, namely education, the research results showed that the majority of respondents had a high school education, namely 24 people (60%). A person's level of education has an influence on responding to something that will come from both inside and outside. Individuals who have higher education will provide more rational responses than those with lower education or those with no education (Wang et al., 2022). Education can be a predisposing factor for excessive anxiety.

The relationship between surgical preparation (giving informed consent) for Percutaneous coronary intervention (PCI) with the level of anxiety in STEMI – NSTEMI patients at Bangil Regional Hospital

Based on the results of the crosstab data, it was found that of the respondents who agreed, almost all respondents had a mild level of anxiety, namely 23 people (82.1%). Meanwhile, for respondents who refused, the results showed that almost all respondents had severe stress levels, namely 10 people (83.3%). Most patients who agree to PCI have a mild level of anxiety because

informed consent decision making is based on a good individual mindset and coping mechanisms (Pietrzykowski & Smilowska, 2021). The preoperative phase begins when the decision for surgical intervention is made using informed consent and ends when the patient is sent to the operating table (Jenie & Yuni Lestari, 2019). If the patient agrees to informed consent then the operation will continue, if they refuse then the operation will not be carried out (Filia, 2019).

When facing Percutaneous Coronary Intervention surgery, patients will experience various stressors, while the time span waiting for surgery will cause fear and anxiety in patients (Hidayat & Siwi, 2019). However, in this study there was one respondent who agreed to PCI but had a severe level of anxiety. Based on the assessment, it was found that the patient was 65 years old, did not go to school and did not work. When observing the patient and the patient's family through interviews with researchers, the patient initially refused to undergo PCI. Meanwhile, when the patient refused PCI, many of the patient's families came and provided support. So that the patient, even though he is in a state of severe anxiety, changes his mind and agrees to undergo PCI.

Based on theory, someone who enters old age will experience a physical and psychosocial setback or decline which can cause the elderly to have poor self-acceptance. Meanwhile, anxiety in the elderly occurs due to psychological changes including short-term memory, frustration, loneliness, fear of losing freedom, fear of facing death, changes in desires, depression and anxiety. In general, elderly people experience a decline in cognitive and psychomotor function. From a mental-emotional perspective, pessimistic feelings often arise, feelings of insecurity and anxiety arise, acute mental confusion, feeling threatened by an illness or fear of being abandoned because they are no longer useful (Kim et al., 2021). Meanwhile, at the education level, respondents did not attend school. A person's level of education will influence the individual's knowledge about environmental health and knowledge of disease.

In this study, there was one respondent who was the oldest, namely 72 years old, male, not at school and not working. Respondents refused PCI action and had a level of panic anxiety. Based on theory, someone who enters old age will experience a physical and psychosocial setback or decline which can cause the elderly to have poor self-acceptance. Elderly people have a higher chance of experiencing anxiety disorders than depression. Meanwhile, anxiety in the elderly occurs due to psychological changes including short term memory, frustration, loneliness, fear of losing freedom, fear of facing death, changes in desires, depression and anxiety. Meanwhile at the level of education, a person's level of education will influence individual knowledge regarding environmental health and knowledge. against disease. The lower the level of education causes the individual's knowledge about the disease process to be less (Nedesa et al., 2020).

CONCLUSION

Based on data tabulation and crosstabs, the results obtained from all respondents who had undergone preparation for surgery (giving informed consent) for percutaneous coronary intervention (PCI), the majority of respondents agreed to percutaneous coronary intervention (PCI) with a total of 28 respondents (70%), next from Of the 28 respondents who agreed, almost all respondents had a mild level of anxiety, namely 23 people (82.1%). Meanwhile, of the respondents who refused, 12 people (30%) found that almost all respondents had a severe level of anxiety, namely 10 people (83.3%).

Based on the spearmen test table with correlation coefficient results of 0.868 and sig. (2-tailed) 0.000 shows that there is a very strong and significant relationship between preparation for surgery (giving informed consent) for percutaneous

coronary intervention (PCI) in STEMI – NSTEMI patients and the level of anxiety with a positive relationship direction, which means the better the preparation for surgery (giving informed consent) agree that percutaneous coronary intervention (PCI) will reduce the anxiety level of respondents diagnosed with STEMI-NSTEMI at Bangil Regional Hospital.

SUGGESTION

1) For Respondents

For patients to seek information regarding percutaneous coronary intervention (PCI) procedures, one way is to read the leaflets that have been prepared by researchers in order to increase their knowledge, ask for family support and pray a lot so that they can reduce anxiety levels. Respondents can also use other methods by listening to music, reading the Koran, doing dhikr and asking for guidance from a spiritual teacher

2) For Research Sites

Bangil Hospital can improve the surgical preparation process (providing informed consent) for percutaneous coronary intervention (PCI) STEMI - NSTEMI, for example by making leaflets, videos about percutaneous coronary intervention (PCI) procedures so that it is hoped that all patients will understand and agree to the operation and reduce anxiety levels.

The preparation of standard operational procedures for providing informed consent is expected to be in accordance with the latest Minister of Health Regulation (RI Minister of Health Regulation Number 290/MENKES/PER/III/2008)

3) For Educational Institutions

Educational institutions are expected to hold regular seminars or workshops related to the diagnosis of Stemi and Nstemi along with percutaneous coronary intervention (PCI) procedures.

4) For Further Researchers

Future researchers should expand the scope of the research, considering that the research carried out cannot fully describe the factors that can influence anxiety levels.

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ORIGINAL RESEARCH

ADOLESCENT'S SEXUAL BEHAVIOR AND ITS CORRELATES: A SYSTEMATIC REVIEW

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ABSTRACT	Keywords
Adolescents aged 13-15 years are a group vulnerable to risky sexual behavior. Many studies have been conducted to find the factors that influence it. This paper aims to analyze scientific evidence of factors that influence adolescent sexual behavior from various research results. The study design was a systematic review on the adolescent population with PICOS Framework. Researchers conducted a literature search from empirical studies spanning the years 2017-2022 identified through the Scopus, Ebscohost, Science direct, Sage, Proquest, Springer Link and Google Scholar databases. The initial search found 8399 articles, which were narrowed down to 14 articles through inclusion criteria and exclusion criteria. The study includes research with various quantitative and qualitative designs taken from several countries. The data were analyzed using a qualitative synthesis approach. The results of the analysis show that there are many factors related to risky sexual behavior in adolescents. These factors are grouped into 4 major groups. Interpersonal factors (the role of peers), social environmental factors (economic activities, tourist interests, social norms,), individual factors (biological responses, ignorance, knowledge, lack of information, religious understanding, attitudes, self-esteem, motivation, use of social media), family factors (social economy, closeness of parents, communication between parents and children).	*Systematic review, sexual behavior, adolescents*

INTRODUCTION

Risky sexual behavior, defined as behavior that increases a person's risk of contracting an sexual transmitted infection (STI) and having an unwanted pregnancy (Masa et al., 2020). The proportion of adolescents aged 15-19 years is currently in the worrying category because they have engaged in risky sexual behavior. This can significantly affect the quality of health in society and the country in general (Srahbzu & Tirfeneh, 2020). The research data showed the prevalence of sexual involvement was 3.6%, the majority aged 16-17 years (58.5%). The average age at first

sexual intercourse was 16.8 ± 1.27 years, with a minimum age of 14 years (Lian et al., 2020). Factors such as lack of social support, living apart from family, experiencing parental neglect, and using alcoholic beverages are risk factors that increase the likelihood of risky sexual behavior in adolescents aged 15-19 years. Another factor that also affects adolescents is their peers. Peer influence is positively correlated with risk-taking behavior in adolescents, where those who understand the behavior and activities of their peers are more likely to participate in risky activities. They justify their own behavior by using

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their perceptions of their peers' participation in risky behavior (Siraj et al., 2021).

Adolescents begin the dating phase of their relationship when they are in their early teens. They learn about the opposite sex through courtship, spending time together, and traveling together. Dating relationships become the basis for teens to start experimenting with new behaviors and identities. This behavior then encourages adolescents to have sex before marriage. The process by which risky behavior leads to sexual intercourse takes place in three stages, namely the experience and behavior of the subject at risk of dating, the opportunity to have sexual intercourse, and finally sexual activity (Ibnu et al., 2020). Conducting a systematic review related to the factors that encourage adolescents to engage in sexual behavior will provide an overview of the reasons why adolescents in various parts of the world perform these behaviors. By knowing the reasons, all sectors can find ways to prevent adolescents from engaging in unhealthy sexual behavior.

METHOD

This study is a systematic review to determine factors related to adolescent sexual behavior. The framework used in searching for articles uses the PICOS framework. 1) Population/problem, The population to be reviewed is adolescents and the problem to be reviewed is adolescent sexual behavior and related factors. 2) Intervention, No intervention 3) Comparation, The articles used are based on empirical studies of the last 5 years. 4) Outcome, The purpose of conducting a review is to find out factors related to adolescent sexual behavior 5) Study design selected articles that use design prospective observational study, survey study, correlation analitic, descriptive and qualitative study.

Tabel 1. Inclusion criteria and exclusion criteria in article search using the PICOT scheme

Criteria	Inklusion	Exclusion
Population/Problem	Adolescent	Married adolescent
Intervention	No intervention	No intervention
Comparation	No comparation	No comparation
Outcome	The factors corelate of dolescent sex behavior	
Study design	Prospective observational study, survey study, correlation analitic, descriptive and qualitative study	Literature riview
Year of Publication	2017-2022	before 2017
Language	English and Bahasa	Other than English and Bahasa

Search Result and Study Selection. The authenticity of the research was carried out by reviewing several published literatures. Literature search using database searches from Scopus, Ebscohost, Sciencedirect, Sage, Proquest, Springer Link and Google Scholar from 2017 to 2022. The keywords and bolean operators used are "factors" AND "sex behavior" OR "risky sex" OR "risky sex behavior" AND "adolescent" AND "health promotion". The flow of the literature search is shown in Figure 1 Systematic Review Flowchart.
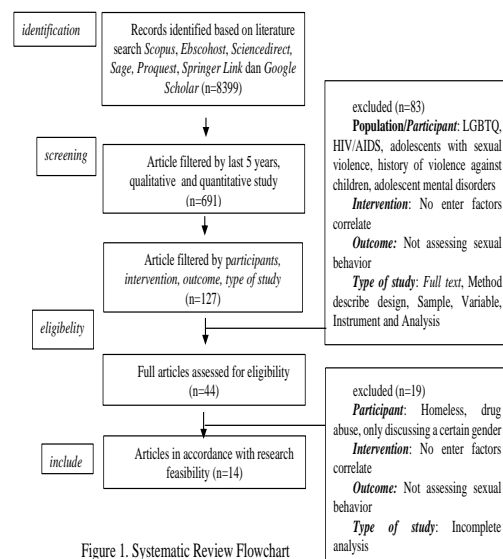

Figure 1. Systematic Review Flowchart

RESULTS

Searching and Screening

From the ScienceDirect, EBSCOhost, PubMed, SAGE, ProQuest, Google Shoolar and Scopus databases, all the 8399 articles obtained were imported to Mendeley for further processing. Subsequently, a further checking was conducted based on the article's title. The study found that 691 articles were similar articles. Then re-screening was taken and the study found that some articles were irrelevant as their titles were not about coping. After the first screening stage, of 691 articles' abstracts read, 127 articles were found irrelevant because they discused Homeless, drug abused, and discussed about selected gender. After the second screening stage, of 44 articles read for the whole text, and finally the study selected 14 articles which were relevant and suitable for further review.

Characteristics of Research and Review.

This review included 14 articles: Malaysia, Brunei Darussalam, Korea, Ghana, six from Indonesia, Bohemia, two from Ethiopia, and Slovakia respectively. The research designs reviewed were four qualitative and ten quantitative studies (three cross-sectional studies, two intervention studies, five metha analisys). The selected 14 articles reported the study results with quantitative and qualitative designs, consisting of four themes. The theme correlates to adolescent sex behavior are interpersonal factors, individual factors, social environmental factors and family factors. The complete review results are presented in Table 2.

Table 2. Review Results: Factors corelates with adolescent sexual behavior

No	Author	Year	Country	Sample	Study Design	Result
1	Mengesha Srahbzu and Enguday Tirfeneh (Srahbzu & Tirfeneh, 2020)	2019	Ethiopia	659 teens, 15-19 years old	Analitic Correlation with cross-sectional study	This study states that an alarming proportion of adolescents aged 15-19 years have participated in risky sexual behavior. This can significantly affect the quality of health in society and the country in general. Factors such as lack of social support, living outside the family, experiencing parental neglect, and using alcoholic beverages are risk factors that increase the likelihood of risky sexual behavior in adolescents aged 15-19 years
2	Oktriyanto & Alfiasari (Oktriyanto & Alfiasari, 2019)	2019	Indonesia	41.885 teens 15-24 years old	Analitic Secondary Data	The results of the analysis show that male respondents who have girlfriends are higher than women who have girlfriends. On average, the age of the first date is 15.5 years. The most frequent activities during dating are holding hands, kissing lips, touching and stimulating sensitive body parts. Boys are more permissive about premarital sex than girls. Furthermore, boys admit to having sexual intercourse three times higher than girls. Teenagers who are dating have a higher chance of having premarital sex than teenagers who are not dating. Chances of premarital sex tend to increase if teens hold hands, kiss on the lips, and touch sensitive body parts on dates.
3	Pengpid, Supa Peltzer, Karl (Pengpid & Peltzer, 2021)	2021	Brunei Darussalam	2.599 teens	Analitic secondary data GSHS Brunei Darussalam	The study found that among a national sample of school adolescents in Brunei Darussalam, the overall prevalence of having had sexual intercourse in the last 12 months was 11.3%, 13.2% for boys, and 9.4% for girls. The unsafe sexual behavior found in this study may be related to a lack of information about disease transmission or neglect of preventive behavior. In unadjusted analyses, older age, current tobacco use, current alcohol consumption, history of attempted suicide and bullying victimization were associated

No	Author	Year	Country	Sample	Study Design	Result
						with having had sexual intercourse. Protective factors (school attendance, having close friends, positive peer support, parental or guardian supervision, connectedness and bonding).
4	Ibnu, Indra Fajarwati Wahjuni, Chatarina Umbul Devy, Shrimarti Rukmini (Ibnu et al., 2020)	2020	Indonesia	3 teens: 2 male and 1 female, 17-19 years old	Naratif Qualitatif from verbal history based on reflection story and individual experiences	The results showed that the three subjects started to have an interest in the opposite sex in their early teens. The courtship behavior shown by the subject included holding hands, kissing, and hugging which were one of the risk factors. Dating relationships provide the basis for adolescents to begin experimenting with new behaviors and identities. This behavior then prompted the three subjects to have sexual intercourse before marriage. The process by which risky behavior leads to sexual intercourse takes place in three stages, namely experience and risky dating behavior, opportunity to have sexual intercourse, and finally sexual intercourse activity.
5	Lian, Cheah Whye Awang, Halimah Thon, Chang Ching Yun, Low Wah Ting, Tong Wen Kaushal, Dev Nath Hassan, Hamizah Mohd (Lian et al., 2020)	2022	Malaysia	1.462teens, 13-19 years old	Analitic correlational	The prevalence of sexual involvement is 3.6%, the majority are 16-17 years old (58.5%). The mean age at first sexual intercourse was 16.8 ± 1.27 years, with a minimum age of 14 years. Respondent's age, knowledge of SRH, risk behavior, peer risk behavior, negative self-evaluation, cognitive efficiency, perceived lack of motivation, religious beliefs and family support were significantly related to sexual involvement. Logistic regression shows that age, respondent's risk behavior and peer involvement in sexual relations are significant risk factors of sexual involvement whereas strong religious belief is a significant protective factor.
6	Maulida, Desi Safrida, Safrida (Maulida & Safrida, 2020)	2020	Indonesia	4 mother and 4 teens	Qualitatif study	Lack of attention, busyness and awareness of parents related to education or understanding of premarital sex in adolescents can further strengthen the emergence of deviant behavior in adolescents, including the practice of premarital sex. Understanding of sex and moral education from parents is lacking, then teenagers look for it from various other sources, both from the internet, friends, and the surrounding environment. This results in adolescents interpreting sex information by themselves, thus giving rise to greater curiosity, trying things that are considered to present good value from their friends as teenagers who are up-to-date and literate about today's youth trends, including carrying out violating behavior that is considered brave, such as the practice of premarital sex.
7	Puspita, Ivana Anggun Agusybana, Farid Dharminto, (Puspita et al., 2019)	2019	Indonesia	127student of SMK grade XI	Explanatory Research with quantitative cross sectional study	The results of the correlation analysis found that there was no significant relationship between the level of knowledge and sexual behavior, religious understanding and sexual behavior, self-esteem and sexual behavior with a significance value. There is a significant relationship between: attitudes and risky sexual behavior; use of social media with risky sexual behavior; and the role of peers with risky sexual behavior. The variables of attitude, use of social media and the role of peers together have an effect of 84.3% on risky sexual behavior.

No	Author	Year	Country	Sample	Study Design	Result
8	Damtie, Yitayish C, Nigus F, Habtamu K, Bereket A, Elsabeth Y, Melaku A, Mastewal A, Metadel A, Bezawit K, Assefa AA, Aregash Ayele, Fanos Yeshanew. (Damtie et al., 2022)	2022	Ethiopia	32 articles with 18.354 teens	Metha analisys	The pooled prevalence of premarital sex among young people in Ethiopia is 33.59%. Teens who experience peer pressure are three times more likely to have premarital sex than their peers. As shown by the results of the crude analysis, there is a significant relationship between viewing pornography (sex films) and premarital sexual practices. However, after conducting a trim-and-fill analysis, the publication-adjusted ORs showed no significant association between viewing pornography and premarital sex. The proportion of premarital sex among young individuals in Ethiopia remains high. Peer pressure has a statistically significant relationship with premarital sexual practices. However, OR publication bias suggests no significant association between viewing pornography and premarital sex.
9	Lee, Gyu Young Lee, Da Ye (Lee & Lee, 2020)	2018	Korea	62.000 student of Yunior high school and senior high school	Analisys secondary data	The results of this study showed that the experience of consuming alcohol increased the likelihood of students engaging in risky sexual behavior by 4.40 and 3.57 times, respectively, while the experience of using drugs increased the risk by 9.42 and 5.00 times, respectively. Personal factors (eg gender and academic achievement) and social environmental factors (eg school type and perceived economic status) were also found to influence adolescent sexual risk behavior, although, not to the same extent as sexual education or sexual health risk behavior.
10	Appulembang, Yeni Anna Fajar, Nur Alam Tarigan, Angeline Hosana Zefany (Appulembang et al., 2019)	2019	Indonesia	144 student male/female	Study comparative causal	There is no role of family function on adolescent premarital sexual behavior. The role and function of the family as an institution of socialization and affection has undergone changes. This causes disruption of the process of socialization of children in the family.
11	Jariyah, Ainun Arliatin, Hartati S. Asrida A (Jariyah et al., 2022)	2022	Indonesia	6 teens did premarital sex, Parent and Public person 4	Kualitatif	This study shows that the source of information on adolescent knowledge about premarital sex is dominated by peers through stories and discussions among them. This research also shows that the majority of adolescents have premarital sex at home when they are in an empty house without parental supervision and a small proportion are in hotels and boarding houses. The results of the study indicate that parents need to increase supervision of adolescent attitudes and behavior through intensive and quality communication without limiting children's rights to interact with their environment and the need for the role of the Education Office in developing adolescent reproductive health curriculum.
12	Krugu, John K. Mevissen, Fraukje E.F. Van Breukelen, Gerard Ruiter, Robert A.C. (Krugu et al., 2018)	2018	Ghana	1822 teens, 892 boys and 930 girls	RCT	SPEEK is effective in increasing risk-sex prevention, however, implementing peer-led interventions at the national level will have cost and sustainability implications, and cost-effectiveness should be weighed against teacher-led interventions. The results of the study also showed that the SPEEK program could not change students' behavioral intentions in using condoms. Evidence shows that it is more difficult to change intentions regarding safe sex, especially intentions to use condoms.

No	Author	Year	Country	Sample	Study Design	Result
13	Šaffa, Gabriel Duda, Pavel Zrzavý, Jan (Šaffa et al., 2022)	2022	Bohemia	128 person of nonindustrial area	*Qualitatif Study ethnographic*	A society that is intolerant of sex outside of marriage as well as arranged marriages by parents, marital fidelity and parental conflict are identified as possible mechanisms for limiting premarital sex. The results also emphasize the importance of social roles, rather than stereotyped sex roles, as a more useful approach to understanding the evolution of restrictions on premarital sex
14	Pavelová, Luboslava Archalousová, Alexandra Slezáková, Zuzana Zrubcová, Dana Solgajová, Andrea Spáčilová, Zuzana Krištofová, Erika Slamková, Alica (Pavelová et al., 2021)	2021	Slovakia	438 teens, 12-15 years old (186 boys dan 252 girl)	*Quasy experiment*	The results showed that there were no differences regarding the sources of information about sexuality between female and male adolescents. Significant differences exist in who is competent to provide sexual education, female adolescents prefer sexologists, and practitioners, teachers are considered incompetent. In Slovakia, the position of school nurse, whose job description could also be that of a sex education provider, is not defined. Research has found that girls and boys have the most public information about sexuality from their parents and friends. They don't often get information from teachers, but in the future they will be interested in talking to teachers in this area as well. Peers and the mass media are important sources of information for sexually active adolescents, in contrast to adolescents who do not have sexual experience. Important sources of information are teachers and parents.

Interpersonal factors related to adolescent sexual behavior

Peer involvement in sexual relations is a significant risk factor for sexual involvement. The findings indicated that the predictors of sexual involvement were age, respondent's risky behavior, and peer involvement in sex. Teenagers are considered capable enough to determine their attitude every time they do something. In fact, it is common for teenagers to be unstable, easily influenced by things that are not necessarily good, easy to imitate from those who are considered a reference group such as peers, and tend to want to try new things based on the results of a cursory observation. (Siraj et al., 2021).

Social environmental factors related to adolescent sexual behavior

Predisposing and protective factors for risky sexual behavior, most are due to factors leading to risk, and others are related to protective influences. These factors are social environmental factors, economic activity, insecurity, the tourism industry, school environmental factors including those who are still in school and students dropping out. These factors coexist or influence each other at various ecological levels (Ssewanyana et al., 2018). Strong religious beliefs are a significant protective factor for adolescents in preventing risky sex.

Individual factors related to adolescent sexual behavior

The results of a literature search on age, knowledge of reproductive health, negative self-evaluation, cognitive efficiency, perception, lack of motivation, religious beliefs and use of social media are significantly related to sexual involvement. The age range of teenagers engaging in risky sexual behavior is around 15-16 years (Oktriyanto & Alfiasari, 2019; Srahbzu & Tirfeneh, 2020). Logistic regression shows that the respondent's age and risk behavior are significant risk factors of sexual involvement whereas strong religious belief is a significant protective factor (Lian et al., 2020). Individual factors include indifference, coping and biological responses, behavioral problems,

problems negotiating for safe sex. Personal resources such as self-efficacy can encourage adolescents to communicate and negotiate safer sexual practices with their partners (Masa et al., 2020). Teenagers who frequently use social media (social applications/networks) have greater opportunities for all sexting activities. Sexters are more likely to have only penetrative sex (oral, vaginal, and anal sex). Half of the participants reported parental access to social media profiles. Female participants had a higher chance of parental access to online profiles, and having discussions for that access. They discuss about privacy settings. Opportunities for risky sexual behavior are lower in the use of SMS. The use of social media with sexting is associated with an increase in all types of sexual behavior, where sexting itself is associated with life and sexual partners (Romo et al., 2017).

Family factors related to adolescent sexual behavior

Family factors include family welfare, closeness of parents, communication between parents and adolescents. The results of another study stated that negative communication between parents and adolescents had a 59.3% percentage risk of supporting adolescents to have premarital sex. Gender is significantly related to parent-adolescent communication (Widyatuti et al., 2018a). Sexual communication between adolescents and caregivers influences adolescents' sexual behavior. It is believed that low adolescent-caregiver communication in Unguja has something to do with an increase in risky sexual behavior among adolescents. Topics rarely discussed with teenagers are safer sex and contraceptive use (Seif et al., 2018). Parental involvement with adolescents in discussing sexuality issues can also be seen from the ease with which parents can access their child's social media. Parent-child discussions about privacy settings are protective of the child. Parents should be aware of the influence of social media on adolescent sexual behavior. The results showed that half of the participants reported that parents had access to their child's social media profiles. Female participants were

higher in providing opportunities for parents to access online profiles, conduct discussions for access and privacy settings on their social media. They discuss about privacy settings. Social media makes it easy for teenagers to do various things related to sexual behavior. The use of social media for sexting is reported to be associated with an increase in all types of sexual behavior. Sexting is also associated with life and sexual partners in the present (Romo et al., 2017).

DISCUSSION

The results of the study state that the use of social media is one thing that significantly influences adolescent sexual behavior. Considering that the world has just been freed from the pandemic period which forced all activities to be carried out at home, and mostly done online. Increasing access to internet use risks increasing access to pornographic content by adolescents. Efforts to prevent adolescent sexual behavior can be started by strengthening comprehensive sexual health education and the importance of religious belief at both the school and community levels to reach all adolescent age groups, including those who are no longer in school. Nurses can follow up in the form of health counseling on how to maintain good communication with adolescents. Communication must be aligned with the developmental tasks of adolescents. Lack of attention and awareness of parents related to education or understanding of premarital sex in adolescents can further strengthen the emergence of deviant behavior in adolescents, including the practice of premarital sex (Maulida & Safrida, 2020). This is because many teenagers who have not or are not even equipped with an understanding of sex and moral education from their parents then look for it from various sources, both from the internet, friends and the surrounding environment. Parent-child communication about sexual issues in rural communities is limited to messages warning against pregnancy. It is also loaded with cultural idioms which are not well explained. The school sexual health curriculum also fails to adequately equip

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youth to make informed decisions about sexual matters (Mpondo et al., 2018).

The role of parents is also very important, especially when the Covid-19 pandemic hit, teenagers who usually prefer to be with their peers, they also inevitably have to always be with their families at home. However, the busyness of parents in meeting economic needs which are increasingly difficult during the pandemic requires parents to find ways to solve family problems. The busyness of parents is also one of the reasons for not conveying a specific understanding of sex to children. Most parents tend to give choices to teenagers in behaving with a warning that they must still do positive things and as long as they are not considered detrimental. All of this opens up opportunities for adolescents to receive inaccurate information, to access the internet more to fulfill their curiosity, as a result, adolescents interpret sex information by themselves. Parent-adolescent discussions about privacy settings in terms of using social media must make it clear to teenagers that the intent and purpose is to protect them. Parents should be aware of the influence of social media on sexual behavior and discuss restrictions so that their teen's activities outside the home are monitored (Romo et al., 2017).

Greater curiosity also makes teenagers try things that they think will bring more value than their friends as teenagers who are up-to-date and follow today's youth trends, including committing violating behavior that is considered brave, such as sexual practices. premarital. Peer influence is positively correlated with risk-taking behavior in adolescents. Adolescents who are highly aware of the behavior and activities of their peers are more likely to participate in risky activities. They justify their own behavior by using their perceptions of their peers' participation in risky behavior (Siraj et al., 2021).

Nurses can also create health promotion programs on parent-adolescent communication topics (Widyatuti et al., 2018a). Peers and the social media are important sources of information for sexually active adolescents, in contrast to adolescents who have no sexual experience, important sources of information are teachers and parents. Girls are more receptive to school nurses as a source of information than boys for sex education purposes (Pavelová et al., 2021). The results of this research can be an illustration of who is most suitable in providing sexual reproductive health education to adolescents, whether from school nurses, psychologists, parents, or teachers. The results of the study show that encouraging good relationships with adults at school as well as providing specific career support at school can assist adolescents not only in preventing involvement with risky behavior but also in the transition out of engaging in risky behavior. (Animosa et al., 2018). The success of a program must be supported by funding, staff resources, and community attitudes so that the program can be sustainable. The form of intervention that will be implemented as an effort to prevent adolescent sexual behavior in further research must be easy to implement in the field, acceptable to all groups, and with efficiency in funding.

The programs that have been studied to reduce the incidence of risky sexual behavior in adolescents are SBHC and SPEEK. Studies show students with access to SBHC are more likely to receive reproductive health information from care providers, be screened for STDs, receive pregnancy and disease prevention care, and receive and use contraception at their last sexual encounter. Studies also show lower pregnancy rates in schools with SBHC, and reduced rates of STDs in adolescents (McCann et al., 2020). Peer counseling services, sex education, and behavior change communication should be strengthened to address factors associated with premarital sexual practices. It is necessary to strengthen comprehensive sexual health education and the importance of religious belief both at the school and community levels to reach all adolescent age groups, including those who are no longer in school (Widyatuti et al., 2018b).

Adolescents who have traditionally been classed as "bad boys," think of themselves at some point in the past, can and do change if

given the right support. It highlights some very important aspects of the experience of today's youth living in high-risk urban settings. Factors of parental support, peer influence, and school support are factors that are considered as important assets that influence adolescents in sexual behavior. The results show that encouraging good relationships with adults at school as well as providing specific career support at school can help adolescents not only prevent involvement with risky behavior but also in the transition out of engaging in risky behavior. Research has also found that adolescents perceive their environment as a source of motivation, often portrayed with strong emotions, and help adolescents make positive behavioral transitions. (Animosa et al., 2018).

CONCLUSIONS

The factors are grouped into 4 major groups. Interpersonal factors (the role of peers), social environmental factors (economic activities, tourist interests, social norms), individual factors (biological responses, ignorance, knowledge, lack of information, religious understanding, attitudes, self-esteem, motivation, use of social media), family factors (social economy, closeness of parents, communication between parents and children). The study used a systematic review method, which analyzes the results of research that has been carried out by other researchers, various research designs used, thus allowing for errors in perceiving research results.

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EDUCATIONAL PACKAGE TO COPING INEFFECTIVE BREASTFEEDING IN PRIMIPAROUS MOTHERS

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ABSTRACT	Keywords
Breastfeeding is the best way for maternal health as well as healthy growth and development of the baby. However, not all postpartum mothers succeed in breastfeeding smoothly. Various problems are encountered by mothers after giving birth related to breastfeeding, such as delayed breast milk production, engorged nipples, flat nipples, and even issues where the baby finds it difficult to latch onto the mother's nipple. One of the solutions for breastfeeding issues is providing an educational package. **Objective**: The aim of the nursing analysis is to apply an educational package to effectively address breastfeeding problems in postpartum primiparous mothers. **Method**: The study employs a case study on three primiparous postpartum clients who are facing breastfeeding challenges. The nursing process approach is used along with evidence-based practice. **Results**: The nursing intervention was conducted through four visits with the three primiparous mothers facing breastfeeding problems. The results showed improvement in their breastfeeding status. However, there was one indicator that was not achieved, which is direct breastfeeding. The educational package includes health education, a pocket-sized booklet, direct guidance on correct breastfeeding and attachment techniques for mothers with flat nipple issues, counseling, oxytocin massage, and Hoffman exercises to address flat or inverted nipple problems. The study **concludes** that an educational package can be applied effectively to address breastfeeding problems in postpartum primiparous mothers.	*Primiparous mothers, breastfeeding problems, educational package*

INTRODUCTION

Newborn babies should be breastfed as soon as possible, as breast milk holds numerous benefits for both the baby and the mother. The benefits of breast milk for babies include enhancing their immune system, preventing infections, supporting growth and development, guarding against chronic illnesses, protecting against allergies, and promoting cognitive development. On the other hand, the advantages of breast milk for mothers include weight loss, reducing postpartum bleeding, and fostering a stronger bond with the baby. Successful breastfeeding provides mothers with the opportunity to establish a strong and unique bond with their infants (Keevash et al., 2018).

Exclusive Breastfeeding coverage The global coverage of exclusive breastfeeding is only around 38%. Meanwhile, in Indonesia, according to data from the Ministry of Health, the percentage of exclusive breastfeeding for infants aged 0-6 months was 69.7% in the year 2021. This achievement already surpasses the 2021 target of 45% (Ministry of Health of the Republic of Indonesia, 2021). The promotion of exclusive breastfeeding should continue to be encouraged in accordance with the recommendations from the World Health Organization (WHO) and UNICEF, which call upon governments and all partners to support and protect mothers in providing optimal breastfeeding.

Breastfeeding is the best way to promote the health of both mothers and the growth and development of healthy infants. However, not all mothers succeed in breastfeeding smoothly. Many issues are encountered by mothers after giving birth that are related to breastfeeding. Breastfeeding problems are frequently reported by mothers in the early stages of childbirth, ranging from delayed milk production, engorged nipples, to difficulties in the baby's ability to latch onto the mother's breast for feeding. Research findings (Tokat et al., 2015) from a study involving 334 mothers indicated that 101 mothers (30.2%) experienced breastfeeding problems, including difficulties in the baby's latch for breastfeeding (72 cases, 21.6%), nipple issues (24 cases, 7.2%), and insufficient breast milk supply (6 cases, 1.8%).

A systematic review study conducted by (Karaçam & Sağlık, 2018) between October 2016 and February 2017, analyzing 27 articles and 7 theses, showed that the most frequently reported problems included breastfeeding issues (24.5%), inadequate infant weight gain (15.7%), lack of knowledge and experience about breastfeeding/need for education and support (17.8%). Other issues included flat/small nipples (7.7%), pain/sensitivity (3.9%), engorgement (10.8%), redness (28.8%), cracks/wounds/bleeding (26.1%), and mastitis (5.6%).

Another study involving 1437 mothers with full-term singleton babies revealed that 40% of mothers had experienced early breastfeeding problems, including 40% who faced issues with infant latching and 38% who experienced sore, cracked, and painful nipples(Feenstra et al., 2018). Problems related to nipple pain, breast discomfort, inadequate breastfeeding information and support, inconsistent information, societal and cultural pressures to breastfeed, and excessive exposure to formula milk advertisements also put mothers at a higher risk of early weaning (Keevash et al., 2018). Furthermore, mothers who give birth via cesarean section, young women especially those under 25 years old, and first-time mothers (primipara) are more likely to perceive themselves as having insufficient breast milk supply (Hobbs et al., 2016), leading to a tendency to discontinue breastfeeding earlier (Mangrio et al., 2018).

Failure in the breastfeeding process often arises due to various problems, both related to the mother and the baby. Some mothers may choose to feed breast milk through a bottle when the baby refuses to latch, causing confusion when attempting to breastfeed later, leading to nipple confusion and breastfeeding refusal. Breastfeeding issues in the early postpartum period can result in the cessation of breastfeeding, which consequently affects the coverage of exclusive breastfeeding. Infants who are not exclusively breastfed have a 3.94 times greater risk of death from diarrhea compared to those who receive exclusive breastfeeding (Ministry of Health, 2010).

Breastfeeding problems commonly occur in the initial postpartum period because it's a time of adaptation between the mother and the baby while going through the breastfeeding process. This often leads to painful breastfeeding

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experiences, emphasizing the need for healthcare professionals to prepare mothers for potential breastfeeding problems after childbirth.

Breastfeeding is actually a skill that can be learned, but during the first month, many mothers and babies encounter challenges that require time and practice to overcome. Addressing breastfeeding problems presents a good opportunity to establish a stable milk supply and continue breastfeeding for a longer duration (Garbin, 2020).

There are various methods that can be employed to tackle breastfeeding problems, including prenatal education, counseling, motivation, and follow-up, strong motivation, proactive lactation management, social support, warm compress application, the use of breast milk and olive oil, and the utilization of breast shields. These strategies have been reported as effective in both quasi-experimental studies and case studies based on systematic reviews (Karaçam & Sağlık, 2018).

Breastfeeding counseling is an intervention provided to enhance breastfeeding rates and exclusive breastfeeding. Breastfeeding counseling is conducted through face-to-face sessions and continued via telephone both before and after childbirth(McFadden et al., 2019). Antenatal education, postpartum support, direct breastfeeding guidance, peer support, postpartum follow-up through telephone, and combinations of these interventions are employed(CDC, 2013).

A systematic review and meta-analysis conducted by (Wong et al., 2021) indicate that educational and supportive interventions have been proven effective in increasing exclusive breastfeeding rates at 2 and 6 months, as well as partially breastfeeding rates. These interventions also enhance self-efficacy in breastfeeding at 2 months.

The success of breastfeeding also requires support and education for both parents throughout pregnancy, during hospital stays, postpartum, and the early stages of the newborn's life. First-time mothers (primipara) should be encouraged to engage in skin-to-skin contact with their baby, hold the baby in a comfortable breastfeeding position, establish a good latch, and provide breastfeeding on demand whenever the baby shows hunger cues. Assistance from nurses, midwives, or lactation consultants is crucial to ensure comfortable breastfeeding, increase the mother's confidence, and evaluate the baby's positioning, latch, sucking, and swallowing during breastfeeding (Wesley, Sherin E.; Allen, Erin; Bartsch, 2022).

Considering the complexity of breastfeeding issues, especially in primiparous mothers, it is necessary to employ an appropriate approach to address breastfeeding problems. A series of interventions is needed to support breastfeeding success, as the success of breastfeeding is influenced by various factors ranging from the smoothness of breast milk production, breast anatomy, infant's sucking ability, to the mother's confidence in the breastfeeding process.

Addressing breastfeeding problems in postpartum primiparous mothers requires more than just a single intervention. It's important to combine various interventions packaged within an educational framework. This educational package could include health education about the benefits and correct techniques of breastfeeding, direct guidance on proper breastfeeding techniques, methods to enhance breast milk production such as evidence-based practices like oxytocin massage, and the necessity of a support system to prepare mothers psychologically and boost their confidence in the breastfeeding process.

Through this approach, primiparous mothers would receive adequate information, hands-on training in proper breastfeeding practices, and the necessary support to overcome challenges that might arise. By integrating and tailoring interventions to individual needs, it's expected that breastfeeding problems can be more effectively managed. Mothers can then feel more comfortable and confident in providing breast milk to their infants.

METHOD The method used is descriptive analysis in form of a case study conducted focused on particular case to be observed using a nursing care approach. In this case study there were 3 subjects of postpartum primiparous who experience breastfeeding problems. This educational package includes: Health Education, breastfeeding counseling and guidance, oxytocin massage, and the provision of a support system. The instrument for this case

study method uses blood pressure meter, weight scale, thermometer.

RESULTS

Based on the results of the assessment conducted by the author, the data presented in tabular form are as follow. The assessment of three postpartum primiparous patients with experience breastfeeding problems with main problem breast milk had not come out.

Tabel 1. Patient assessment

Name	Age	Pregnancy history	assessment
Mrs.S,	21	P1A0 postpartum on the 11th day after a cesarean section	The breastfeeding has not been smooth, and the baby refuses to suckle at the breast. On the first day, breast milk did not come out; on the second day, colostrum came out only from the right breast, and on the third day, breast milk came out from the left breast. The baby is constantly crying. On the fifth day, breast milk is pumped with a yield of about 15 cc, on the sixth day, 20-25 cc, and on the seventh day, 40 cc, causing concern for the mother. Physical examination reveals small and flat nipples, black and dirty areolas, and soft breasts.Assessment of the baby: The baby urinates less than 8 times in 24 hours, the baby's birth weight was 3022 grams, and on the seventh day, the baby's weight is 2850 grams. The baby appears jaundiced on the face and sclera.
Mrs. L,	24	P1A0 postpartum on the 11th day after a cesarean section	The baby consistently cries and refuses to breastfeed due to flat and large nipples. On the second day, a small amount of breast milk starts to come out. The baby is given both breast milk and additional formula milk through a nipple/bottle. On the eleventh day, breast milk is pumped, yielding 40-50 ml. The mother is confused because the baby cries every time during feeding, and the breast feels soft upon palpation. The assessment shows that the baby urinates less than 8 times in 24 hours, the birth weight was 3300 grams, and on the eleventh day, the baby's weight is 3200 grams.
Mrs. R,	24	P1AO postpartum on the 10th day after a cesarean section	The baby refuses to breastfeed on the left breast due to flat nipples, and breast milk has not started flowing smoothly. The baby often cries. On the fifth day, the client experiences fever, and the right breast becomes swollen, preventing the provision of breast milk to the baby. Breast examination reveals flat nipples on the left breast, black-colored areola, minimal milk production, and soft breasts. The baby urinates less than 8 times in 24 hours, with a birth weight of 3500 grams and a weight of 3400 grams on the tenth day.

Nursing Diagnosis: Based on the results of the assessment that has been carried out in 3 managed cases, nursing diagnosis of ineffective Breastfeeding related to inadequate milk supply and breast anomaly (flat nipples).

Implementation Nursing

Implementation was carried out based on the previously formulated plan for 10 days, from April 12th to April 22nd, 2022, during 4 home visits to the clients. The nursing interventions provided to the clients included:

During the first visit, a comprehensive assessment and physical examination were conducted on all three clients to identify breastfeeding-related issues, including examining the condition of their breasts and nipples. Additionally, the readiness of the clients to receive information and their willingness to breastfeed were identified. The response observed was that all three clients had issues with flat nipples. Another action taken was to assess the mothers' knowledge about breastfeeding and the challenges they faced while breastfeeding. All three clients mentioned that they had no prior breastfeeding experience, leading to limited knowledge about breastfeeding. They also expressed their issues, such as the baby not latching properly and even refusing to breastfeed, as well as insufficient milk production. During this visit, the clients were advised to perform Hoffman's Exercises to address the issue of flat or inverted nipples. Subsequently, discussions were held with the clients to determine an appropriate

time for health education sessions and to prepare educational materials, such as pocket-sized booklets.

Actions taken during the second visit included conducting a 30-minute health education session for both the clients and their families. The session covered the benefits of breastfeeding, breastfeeding problems, addressing flat nipple issues, and techniques to enhance breast milk production. The response observed from all three clients was that they were pleased to receive this breastfeeding education. As a second action, proper breastfeeding techniques and proper latch were taught and demonstrated to the clients. The third action involved requesting husbands and family members to provide support to the mothers during breastfeeding. Support could be in the form of motivation or assisting the mothers in fulfilling their household duties.

For the fourth action, the demonstration of oxytocin massage to enhance breast milk production was performed. Family members were encouraged to practice this massage daily. The response from all three clients was positive, as they were able to explain the technique of enhancing breast milk production, and their families were willing to demonstrate the oxytocin massage again.

The fifth action involved recommending the use of a spoon and cup to feed breast milk to the baby, as the baby had not yet latched properly onto the breast. Actions taken during the third visit involved providing support to the mothers during breastfeeding and ensuring that the baby's latch onto the breast was correct. As a second action, different breastfeeding positions were taught, such as sitting, lying down, and standing positions. Signs of adequate breastfeeding were also explained, and the response from all three clients was positive as they could explain the signs, such as increased body weight, more than 10 urinations, and non-concentrated urine color.

The next action included discussions with the mothers regarding their breastfeeding challenges. The author also recommended using a spoon and cup to feed breast milk. During the fourth visit, the author conducted an evaluation of the nursing care provided. This evaluation was performed by directly asking the clients and observing the mothers' breastfeeding abilities, the

condition of the nipples, breast milk production, baby's latch, adequacy of breast milk, and weighing the baby's body weight.

Client 1:

The client expressed that Alhamdulillah, breast milk production is now smooth. Each pumping session yields around 100-120 ml of breast milk from both breasts, and the client can even store breast milk in the refrigerator. The client mentioned that the baby still faces difficulty in breastfeeding directly from the breast. The client stated that they have now stopped using formula milk. Nipple protrusion has improved, baby's body weight has increased to 3000 grams, and urination frequency is around 10-12 times per day. Assessment: Partial resolution of the issue. Planning: Encourage the mother to continue trying breastfeeding. Advise to continue direct breastfeeding to the baby.

Client 2:

The client reported that breast milk production is now smooth. Each pumping session yields about 150 ml of breast milk from both breasts. However, due to the absence of a refrigerator, the client pumps breast milk right before feeding. The client mentioned that the baby is no longer supplemented with formula milk. The baby still refuses to latch onto the breast, preferring to do so when waking up, but only briefly. The baby appears to struggle with sucking, nipple protrusion has improved slightly, baby's body weight has increased to 3400 grams, and urination frequency is around 10-12 times per day. Assessment: Partial resolution of the issue. Planning: Encourage the mother to continue trying breastfeeding. Advise not to lose hope and remain persistent in breastfeeding the baby.

Client 3:

The client mentioned that the breast is no longer swollen, breast milk production is now smooth. However, the baby still tends to be fussy when breastfeeding on the left breast, showing a preference for the right breast. The baby appears to struggle with sucking on the left breast, nipple protrusion has improved slightly, baby's body weight has increased to 3600 grams, and urination frequency is around 10-12 times per day. Assessment: Partial resolution of the issue. Planning: Encourage the mother to continue

trying breastfeeding. Advise not to lose hope and remain persistent in breastfeeding the baby.

DISCUSSION

The discussion of the case study begins with an analysis of the assessment results. The assessment results for the three clients revealed several common data points. Among the shared data are that all three clients are postpartum primiparous mothers with a history of giving birth cesarean section. Primiparous mothers are those who are giving birth for the first time. These mothers lack experience in breastfeeding, which can lead to confusion and anxiety when facing breastfeeding issues. Consequently, they might make hasty decisions, such as using bottles and providing formula milk. Research findings indicate that mothers who undergo cesarean section, especially young women under 25 years old and primiparous mothers, are more likely to perceive themselves as having insufficient breast milk supply (Hobbs et al., 2016), leading to a tendency to discontinue breastfeeding earlier (Mangrio et al., 2018).

Another shared data point is that all three clients mentioned that their breast milk production was not yet smooth. Breast milk production is expected to become established around the third day postpartum. However, during the assessment on the 7th day (for Client 1), they were able to pump around 40 ml every 2-3 hours, on the 11th day (Client 2) about 40-50 ml every 2-3 hours, and for Client 3 on the 11th day postpartum, she expressed that her breast milk production was still not smooth, though not pumped. This could be due to an irregular breastfeeding schedule due to the use of pumping and a lack of knowledge on how to effectively increase breast milk production.

All three clients also expressed that they were unable to breastfeed their babies properly, as their babies refused to latch onto the breast and became fussy every time they attempted breastfeeding. Upon further examination, it was discovered that the reason behind the babies' refusal to latch onto the breast was that all three clients had introduced bottle feeding with formula early on, even before their breast milk production became well-established. This led to a phenomenon known as "nipple confusion," where the baby struggles to transition between breast

and bottle feeding. Nipple confusion occurs when a baby has difficulty latching onto the breast directly for breastfeeding due to early exposure to bottle feeding. The decision of these clients to introduce bottle feeding was influenced by the fact that they had flat nipples and their babies were reluctant to latch onto the breast.

The assessment results indicate that all three clients are experiencing issues related to breast anatomy, specifically with their nipple structure, as they are all facing the problem of flat nipples. Nipples play a crucial role in the breastfeeding process. The assessment findings reveal that the first client has small and nearly flat nipples, the second client has flat nipples and large breasts, and the third client has flat nipples on her left breast. Anatomical variations in the breast, especially nipple-related problems, can create difficulties for babies in latching onto the nipple and areola, hindering effective milk transfer. This can result in babies being unwilling to breastfeed.

Mothers with flat or inverted nipples often encounter challenges in breastfeeding due to improper latch, leading to inadequate milk transfer. This situation can cause frustration for the mother, leave the baby feeling unsatisfied, and potentially lead to early cessation of breastfeeding (Nabulsi et al., 2022).

The three clients also experience psychological distress in the form of anxiety due to the inadequate flow of breast milk and the fussiness of their babies during breastfeeding. This anxiety leads them to worry about their babies' well-being, prompting them to resort to using bottles and supplementing with formula milk. Another common observation is that when breastfeeding, the babies seem to struggle with achieving proper latch-on to the breast. Correct latch-on, where the baby's mouth properly covers the areola, is crucial for effective breastfeeding. It ensures that the baby sucks slowly, rhythmically, and without making a clicking sound, while also preventing nipple soreness. Client 3 faced a unique issue compared to the other two clients. On the fifth day after giving birth, she experienced fever and breast engorgement accompanied by pain. Consequently, she was reluctant to breastfeed.
Nursing Problem Analysis

Based on the assessment data from the three clients, the author formulates the nursing diagnosis of ineffective breastfeeding related to inadequate milk supply and breast anomaly (flat/non-prominent nipples). This diagnosis is established referring to the Indonesian Nursing Diagnosis Standards, which state that major data for validating a diagnosis are found at approximately 80 - 100%, while minor data are not mandatory to be present, yet can support the diagnosis determination(Tim Pokja SDKI DPP PPNI, 2017).

Based on the assessment results of the three clients, the gathered data support the establishment of the diagnosis of ineffective breastfeeding. Ineffective breastfeeding is a condition where both the mother and the baby experience dissatisfaction or difficulties in the breastfeeding process. The data from the three clients align with the major symptoms and signs of ineffective breastfeeding, including subjective data like maternal anxiety, and objective data such as the baby's inability to latch onto the breast, no milk dripping or squirting, less than 8 times urination in 24 hours, and continuous soreness or nipple pain beyond the second week ((Tim Pokja SDKI DPP PPNI, 2017). To address the issue of ineffective breastfeeding, the author proceeds to develop an action plan. This plan is formulated based on the Indonesian Nursing Intervention Standards (Tim Pokja SIKI DPP PPNI, 2019). The expected outcome of addressing ineffective breastfeeding is an improved breastfeeding status.

The expected nursing outcome components resulting from the ineffective breastfeeding issue after a 10-day nursing intervention with four visits include an improved breastfeeding status with the following outcome criteria: improved baby's latch onto the mother's breast, mother's ability to position the baby correctly, more than 8 urinations by the baby per 24 hours, increased baby's weight, increased dripping/squirting of breast milk, adequate breast milk supply, increased maternal confidence, baby's improved sleep after breastfeeding, increased baby's sucking ability, prominent breast nipple, and reduced maternal anxiety.

To achieve these goals, several actions are taken, including identifying the condition of the breast and nipple. Identifying the condition of the breast and nipple is crucial to determine whether there are any abnormalities that could hinder the breastfeeding process. While a flat nipple plays a vital role in breastfeeding, having flat nipples doesn't necessarily mean that a mother cannot provide breast milk to her baby.

Another action is to encourage the client to breastfeed her baby more frequently. Flat nipples can naturally protrude with the help of the baby's sucking motion; it just requires patience and extra effort during breastfeeding. Therefore, mothers are advised to continue breastfeeding because the more frequent breastfeeding sessions, the more the baby's suction will help draw out the nipple. Flat nipples should not be a major concern as long as the baby can properly latch onto the breast during breastfeeding.

The next step is to identify the mother's knowledge about breastfeeding and the challenges she faces during breastfeeding. This is crucial to assess the extent of the mother's understanding of breastfeeding, which plays a role in the success of breastfeeding. Early recognition of breastfeeding issues allows for swift resolution. Addressing breastfeeding challenges presents a favorable opportunity to establish a strong milk supply and continue breastfeeding for a longer duration (Garbin, 2020).

The author also suggests that husbands and other family members provide support to the mother. Breastfeeding is not solely the mother's responsibility; husbands and other family members should also offer support for successful breastfeeding. The assessment results indicate that the level of family support varies among the three clients. Client 1 lives with her mother, but her husband is in Jakarta. Client 2 lives alone as her husband works and returns home late, while client 3 lives with her in-laws. Research findings indicate that spousal support enhances a mother's breastfeeding self-efficacy. Mothers who receive support from their husbands are ten times more likely to report confidence in breastfeeding compared to those who don't receive such support (Nepali & Shakya, 2019). Breast milk production is influenced not only by physical factors like diet, rest, or breastfeeding frequency but also by the mother's psychological well-being.

Psychological issues such as anxiety experienced by breastfeeding mothers can hinder

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the let-down reflex. The let-down reflex ensures that breast milk is ready to be released from the breast. The milk ejection reflex can occur when a mother hears, sees, or even just thinks about her baby. Breastfeeding mothers should maintain positive thoughts and affirmations and should strive to stay happy, as happiness triggers the release of oxytocin hormones, which facilitate milk ejection. Encouraging mothers to provide breast milk using a spoon is done with the hope that the baby can transition away from the bottle.

Numerous research findings have proven effective in addressing breastfeeding problems, such as the use of oxytocin massage to boost milk production, the Hoffman technique to address flat nipples, and health education to enhance maternal knowledge. There isn't a single solution that can address all breastfeeding-related issues comprehensively. Therefore, to tackle issues like ineffective breastfeeding, a combination of various evidence-based interventions can be compiled into an educational package. This educational package might consist of health education, the Hoffman technique, oxytocin massage, breastfeeding support, and counseling, whether in-person or through platforms like WhatsApp.

The health education provided to the clients focuses on addressing the issue of inverted nipples and improving breast milk production. The educational material is presented through the "Happy Package" Pocket Booklet for successful breastfeeding. This booklet not only covers techniques for addressing flat nipples and boosting milk production but also provides comprehensive information on various aspects of breastfeeding, including the concept of breast milk, its benefits, proper breastfeeding techniques, troubleshooting breastfeeding issues, breast milk storage, and more. The pocket booklet serves as a structured educational tool to address health-related problems.

Research findings indicate that the systematic use of educational tools like pocket booklets and flip charts significantly influences the success of early breastfeeding initiation (Fatmasari et al., 2020).

This pocket booklet is provided to the clients with the hope that they can reread contents and enhance their knowledge about breastfeeding. This is important because the health education sessions are limited in time, typically lasting around 30-40 minutes. Furthermore, the breastfeeding process itself is a long-term commitment, extending from exclusive breastfeeding for the first 6 months to continued breastfeeding until the child reaches 2 years of age. Hence, having adequate knowledge about breastfeeding is essential.

All three clients expressed their satisfaction with receiving comprehensive information about breastfeeding and During pregnancy, in the midst of a pandemic situation and limited visiting hours, information, especially regarding breastfeeding, is not obtained. Consequently, these clients felt that they lacked information, especially about breastfeeding, during their pregnancies. The next step is to perform the Hoffman exercise to address the issue of flat or inverted nipples. The Hoffman exercise is a manual technique that can help break the adhesions at the base of the nipple that cause it to be inverted (Youssef Ahmed Abd-Ella & Fouad Mohammed, 2021).

The Hoffman exercise involves placing the thumb and index finger of one hand around the nipple, facing each other, and then applying gentle pressure while pulling the nipple out. The fingers are then rotated in a clockwise direction, maintaining the same action of pressing and pulling the nipple out. This exercise is repeated five times a day, and clients can be encouraged to perform it themselves. The Hoffman exercise is considered more advantageous compared to other methods for addressing flat or inverted nipples, as it is deemed safer, simple, and painless. Additionally, it can be performed by the mother at any time without requiring healthcare assistance (Youssef Ahmed Abd-Ella & Fouad Mohammed, 2021).

The next step is to enhance breast milk production through oxytocin massage. Oxytocin massage involves gentle massage along the back, specifically along the spine, as an effort to facilitate the flow of breast milk from the nursing mother's breasts. Oxytocin massage can become more effective when performed regularly and with gentleness and affection. This massage is believed to trigger an increase in the production of the hormone oxytocin. Oxytocin is a hormone that assists the body in the process of milk ejection.

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Oxytocin massage can boost breast milk production by stimulating neurotransmitters in the spinal area, sending signals to the medulla oblongata. This, in turn, prompts the medulla oblongata to send direct messages to the hypothalamus in the posterior pituitary gland, leading to the release of oxytocin hormone and the let-down reflex. This oxytocin hormone aids in milk production. Research findings indicate that primiparous postpartum mothers who perform oxytocin massage are eight times more likely to experience faster and smoother breast milk production compared to those who do not (Seri Usman, Sudarto, 2019).

Clients' responses after undergoing oxytocin massage show that all three clients reported practicing the massage and experienced an increase in breast milk production. Client 1 obtained 100-120 ml of breast milk per pumping session, client 2 obtained around 150 ml, and client 3 obtained approximately 130 ml.

The author also provided guidance to the three clients through a series of 4 home visits. This guidance included teaching proper breastfeeding techniques and introducing various nursing positions. This was done because breastfeeding failures often stem from incorrect positioning and attachment of the baby, leading to sore nipples that make the mother hesitant to breastfeed, a decrease in milk production, and a baby's reluctance to nurse. Proper breastfeeding techniques stimulate the hormone prolactin, produced by the anterior pituitary gland, and oxytocin, produced by the posterior pituitary gland, resulting in smoother breast milk flow (Himalaya & Maryani, 2021). Comfortable and safe breastfeeding positions are crucial for both the mother and the baby. Breastfeeding positions can be done while lying down, sitting, or even standing.

The author also emphasized the need to increase breast milk production by encouraging adequate hydration, consuming plenty of green vegetables, and getting sufficient rest to ensure smooth milk production. Additionally, the author recommended pumping breast milk to ensure that the baby receives breast milk rather than formula.

The author conducted counseling sessions with the three clients directly during home visits and through WhatsApp. This approach aimed to provide a platform for the clients to express all their breastfeeding-related issues, allowing for a discussion of alternative solutions. A systematic review and meta-analysis study conducted by (Wong et al., 2021) indicated that educational and supportive interventions have been effective in increasing the rate of exclusive breastfeeding at 2 months and 6 months, as well as partial breastfeeding rates, and enhancing maternal breastfeeding self-efficacy at 2 months. The WhatsApp Bidan Breastfeeding Support Line also had a positive impact on the breastfeeding process during the early postpartum period and on infant anthropometric measurements (Burcu Yurtal; Oznur Hasdemir, 2022). The response from the three clients indicated that they were pleased to have a nurse provide guidance for consulting about breastfeeding issues. They felt more comfortable sharing their problems and engaging in discussions, which made them more informed, calm, and motivated to breastfeed their babies.

The implementation of the education package is provided to address the issue of ineffective breastfeeding due to the interconnected nature of the underlying causes. For instance, if a mother is not providing her breast milk to the baby due to a problem with flat or inverted nipples, it can lead to difficulties in the baby's ability to latch on effectively. This could cause the mother to become anxious and introduce bottle feeding, which can result in nipple confusion when the baby is put to the breast. The mother might then become hesitant to breastfeed directly, leading to a decrease in the frequency of breastfeeding and consequently a reduction in milk production. Moreover, the anxiety experienced by the mother can affect the let-down reflex, which plays a role in milk ejection.

Achieving successful breastfeeding goes beyond having good maternal knowledge; it requires practical skills from the mother as well. The challenges of breastfeeding need to be addressed comprehensively, considering both the physical aspects, like the baby's latch and the mother's nipple condition, as well as the psychological aspects, such as the mother's confidence and emotional state. This holistic approach ensures that both the mother's and baby's needs are met, enhancing the likelihood of successful breastfeeding.

The evaluation results of the ineffective breastfeeding problem show an improvement in breastfeeding status with the following indicators: increased baby attachment to the mother's breast, improved positioning of the baby by the mother, more than 8 urinations by the baby per 24 hours, increased baby weight, enhanced breast milk production, boosted maternal self-confidence, prominent nipple appearance, and increased maternal tranquility. For all three clients, most of these indicators have been achieved. However, client 1 and client 2 have reported that their babies are still unwilling to breastfeed from the breast. As for client 3, the baby is willing to breastfeed from the right breast, but not yet from the left breast

Referring to the data, it can be concluded that the issue of ineffective breastfeeding has been partially addressed, as there are outcome indicators that have not been achieved, namely the baby's unwillingness to breastfeed directly from the breast. The problem of nipple confusion experienced by all three babies has not been fully resolved since the babies were introduced to the bottle early on. It takes a long time for babies to adapt to breastfeeding directly from the breast. When sucking breast milk from the mother's breast, a baby needs to work hard by using around 40 facial muscles, while when using a bottle, the baby doesn't need to exert much effort. The baby simply needs to open its mouth and apply slight pressure, and the bottle will release milk immediately. Babies facing nipple confusion don't easily transition to breastfeeding or proper latching onto the mother's breast, especially if they have been introduced to a bottle from the beginning.

Patience and extra effort from the mother are required to overcome nipple confusion. Techniques such as skin-to-skin contact, breastfeeding with the correct positioning (especially proper latch), feeding the baby before they become very hungry, and maintaining the mother's calmness are all essential to address the issue of nipple confusion.

The journey to successful breastfeeding involves multiple factors, and each baby's response will vary. The process of transitioning from bottle feeding to direct breastfeeding can take time, and it's important for mothers to remain patient, consistent, and supportive during this phase. Overcoming nipple confusion requires both physical adjustments and emotional support, with the ultimate goal of establishing a successful and comfortable breastfeeding relationship between the mother and baby.

CONCLUSION

For postpartum primiparous mothers experiencing issues with ineffective breastfeeding, after receiving care during 4 visits with the implementation of an educational package, it can be concluded that their breastfeeding status has improved, with most of the established indicators being achieved.

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ORIGINAL RESEARCH

THE RELATIONSHIP OF THE ROLE OF CADRES AND THE VISIT OF THE ELDERLY IN PARTICIPATING THE POSYANDU FOR THE ELDERLY

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ABSTRACT	Keywords
The role of cadre holds a major role in running health services in posyandu to realize optimal health status, so that all activities conducted by cadre leads to the purpose and purpose of posyandu. The research aimed to know the relationship of role of cadres with elderly visit in follow elderly posyandu in Kemendung hamlet Penanggungan village, Trawas sub-district, Mojokerto regency. Research design used correlational analytics with cross sectional approach,The population of elderly people in Kemendung Hamlet aged 60-74 years of 120 elderly. Sampling technique used by means of Total Sampling to get a sample of 120 elderly. Data were collected using questionnaires instruments for cadre and KMS roles to find out elderly visits. Data analysis using cross tabulation.The result of the research shows that from 49 respondents who evaluated the role of positive cadres in their active visit were 24 respondents (49.0%) and from 71 respondents who assessed the role of negative cadres in the visit that never was 44 respondents (62.0%). It can be included that there is a relationship between the Relationship Role of Cadres with Elderly Visit to Elderly Posyandu In Dusun Kemendung Village Penanggungan District Trawas Mojokerto Regency. It is because the role of cadres can affect the liveliness of the posyandu elderly visit. The better the role of cadres in running posyandu, the higher the liveliness of visit in posyandu elderly.	*Role of Cadre, Elderly, Elderly Posyandu*.

INTRODUCTION

As the elderly population increases, the government has formulated various elderly health service policies aimed at improving health status through health services in the form of elderly in Posyandu (Sunaryo et al., 2016) . However, in its implementation, there are still problems that influence the low number of elderly Posyandu visits, one of which is the lack of cadres. The role of Community-Resourced Development Effort institutions such as Integrated Service Posts (Posyandu) plays an important role in providing basic health services to the elderly.

Utilization of Posyandu has a dominant role in improving the health elderly if followed by optimal utilization by the community assisted by health workers and cadres so that all elderly Posyandu activities carried out by cadres lead to the aims and objectives of the Posyandu (Ismawati, Proverawati, & Pebriyanti, 2010).

According to data from the Central Statistics Agency, the number of elderly people in Indonesia in 2020 is estimated to reach 28.8 million (11.34%). The elderly population in Indonesia in 2016 was around 22.6 million, equivalent to 8.03%. World Population Prospects data, the 2012 Revision

of the elderly population in Indonesia and the world in 2013, 2050 and 2100 has increased with the percentage of the elderly group from 2013 (8.9% in Indonesia and 13.4% in the world) until 2050 (21, 4% in Indonesia and 25.3% in the world) and 2100 (41% in Indonesia and 35.1% in the world). The life expectancy of the Indonesian population since 2004-2015 showed an increase from 68.6 years to 70.8 years. In 2030-2035 it will reach 72.2 years(Statistik, 2015). The results of population projections for 2010-2035, Indonesia will enter the elderly period, where 10% of the population will be aged 60 years and over, in 2020. Data on the percentage of the elderly population in Indonesia by province in 2015 was 8.5% and in East Java 11.5% (Indonesian Ministry of Health, 2015). The number of elderly women is greater than that of men, namely 9.0% of elderly women compared to 8.0% of elderly men. Meanwhile, 10.87% of elderly people live in rural areas, more than 9.37% of elderly people live in urban areas. The population in Mojokerto Regency in 2012 was 1,049,967 people with 270,750 elderly people (25.79%) consisting of 131,457 elderly men and 139,293 women (Mojokerto District Health Office, 2013). Based on the Java Health Service Report Timur obtained data based on the level of development of Posyandu from year to year showing an increase. In 2011 (50.29%) in 2012 (54.07%) and 2013 (60.28%) Posyandu, so there was an increase of 6.21% from 2012 to 2013. However, according to the Health Service, Posyandu coverage should have reached 80 %-90%. It is hoped that by increasing the implementation of posyandu, posyandu can achieve the coverage recommended by the Health Service.

According to data from the Tamantirto Village Health Center, the number of elderly people is quite large, namely 11.3% of the population, but the coverage of elderly posyandu visits below 50% is still 66.7%.(Prasetya, Yanti, & Swedarma, 2019). According to research conducted by Sumiati in 2012 regarding the use of posyandu for the elderly. The average number of visits to Posyandu for elderly people who come to receive health services in a month in the two posyandu groups is 91 people or 19.53% of 466 people (100%) while the coverage target is 70%(Sumiati & Ramdan, 2012). Another research conducted by Atika regarding a phenomenological study of the level of attendance of elderly people at elderly posyandu in the working area of the Kesesi I Community Health Center, Pekalongan Regency, revealed that the role of cadres is one of the factors that increases the presence of elderly people at elderly posyandu.(Atika, Samino, & Sari, 2022).

A cadre is someone who is chosen or appointed by the community to lead the development of posyandu in a place or village and the role of the cadre is an effort to increase the community's ability to help themselves to achieve optimal levels of health. Apart from that, cadres also play a role in developing the community in the health sector through activities that carried out at the posyandu by approaching government officials and community leaders. Apart from mobilizing the community, the role of cadres is always to make themselves available to make home visits to elderly people who do not attend the posyandu due to physical limitations and distance from the elderly posyandu. (Rasmiati et al., n.d.) Posyandu cadres have an important role because they are health providers who are located near the posyandu's target activities and the frequency of face-to-face contact with cadres is more frequent than other health workers. (Meilani, n.d.).

Factors that influence the elderly to come to the elderly posyandu, namely, there are many factors that influence the interest of the elderly in the elderly posyandu, determined by 3 main factors, namely, predisposing factors which include knowledge, attitudes, supporting factors (enabling factors) which include facilities and facilities. health, posyandu distance and reinforcing factors which include family support, the role of cadres (Notoatmodjo, 2007).

The low number of visits to elderly posyandu to attend posyandu for the elderly is one of the reasons for the lack of cadres' role. In order for the posyandu to run well and to overcome the various problems that surround it, it needs support from cadres. For this reason, cadres provide assistance or guidance for elderly posyandu activities to encourage elderly people to come to elderly posyandu by

providing health promotion, counseling and collaborating with the community, placing elderly posyandu locations that are easily accessible to all elderly people, advocating to community leaders to obtain support for the formation and sustainability of posyandu for the elderly, as well as completing standard facilities and infrastructure for posyandu activities for the elderly to support health checks as stated in the KMS. That's why cadres are required to have the ability to develop, guide and be supported by skills and experience. In this way, the health status of the elderly will increase so that a happy and prosperous old age can be achieved (Ma'rifatul, 2011).

RESEARCH METHODS

This research uses a correlation analytical design type with the research using a cross sectional study approach. The population in this research is all 120 elderly people in Kemendung Hamlet, Mojokerto Regency in Trawas District. This research uses the Total Sampling technique. The sample in this study was 120 elderly people in Kemendung Trawas Hamlet, Mojokerto. This research uses questionnaires and observation instruments. The data formed is processed and analyzed using a frequency distribution table

RESEARCH RESULT

1. Characteristics of respondents based on cadre role

Table 1 Distribution of respondents based on cadre role in Kemendung Hamlet, Penanggungan Village, Trawas District, Mojokerto Regency

No	Cadre Role	Frequency(f)	Persentage (%)
1	Positive	49	40,8
2	Negative	71	59,2
Total		120	100

Based on table 1 above, it shows that the majority of respondents have a negative cadre role, namely 71 respondents (59.2%)

2. Characteristics of respondents based on elderly visits

Table 2 Distribution of respondents based on elderly visits in Kemendung Hamlet, Penanggungan Village, Trawas District, Mojokerto Regency

No	Elderly Visitation	Frequency(f)	Persentage (%)
1	Never	51	42,5
2	Not Active	33	27,5
3	Active	36	30,0
Total		120	100

Based on table 2 above, it shows that the majority of respondents had never attended an elderly Posyandu, namely 51 respondents (42.5%)

3. **Relationship between the role of cadres and visits from the elderly in attending Posyandu for the elderly in Kemendung Hamlet, Penanggungan Village, Trawas District, Mojokerto Regency**

Table 3 Cross Tabulation of the Relationship between the Role of Cadres and Visits of the Elderly in Attending Posyandu for the Elderly in Kemendung Hamlet, Penanggungan Village, Trawas District, Mojokerto Regency

Cadre Role	Visit						Total	
	Never		Not Active		Active			
	F	%	F	%	F	%	F	%
Positive	7	14,3	18	36,7	24	49,0	49	100
Negative	44	62,0	15	21,1	12	16,9	71	100
Total	51	42,5	33	27,5	36	30,0	120	100

Based on table 3 above, it can be seen that of the 49 respondents in the positive cadre role category with never visits there were 7 respondents (14.3%), those who made inactive visits were 18 respondents (36.7%) and those who made active visits were as many as 24 respondents (49.0%). Meanwhile, of the 71 respondents in the negative cadre role category with never visits, 44 respondents (62.0%), 15 respondents (21.1%) made

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inactive visits and 12 respondents (16.9%) made active visits.

DISCUSSION

1. Characteristics of Respondents Sased on Cadre Role

Based on table 1, it shows that the majority of respondents have a negative cadre role, namely 71 respondents and 49 respondents have a positive cadre role.

A role is everything a person or group of people do in carrying out an activity because of the position they have (Cahyaningtyas, 2013). The cadre role in question is a way to express the cadre's activities in practice, where the cadre has received training, the knowledge and skills carried out must be adapted to the cadre's duties in developing health programs in the village where the cadre's role is able to participate in efforts to increase the community's ability to achieve health status. the optimal one(Angraeni, 2014) . The role of cadres in increasing the active role of the elderly is by inviting the community to get involved in carrying out activities at the posyandu by visiting the elderly (Cahyaningtyas, 2013)

Factors that influence the role of cadres include work. The work environment can enable a person to gain experience and knowledge both directly and indirectly. If a cadre works, he will not have enough time to carry out posyandu activities. That one of the criteria for cadres is a man or woman who has sufficient time to carry out all the cadre tasks that have been determined, where posyandu activities are usually carried out on working days and hours. Based on the results of research on respondents, it shows that the elderly state that posyandu cadres have a role The majority of negative cadres have never visited a posyandu for the elderly, as many as 44 respondents (62.0%). Based on filling out the questionnaire, 71 respondents found the role of negative cadres. Cadres who do not invite the elderly to come to the elderly posyandu do not have enough information about the activities of the elderly posyandu, so that the elderly do not know

where activities are held and the benefits of the elderly posyandu. This is because the positive role of posyandu cadres will always monitor the elderly and always tell them everything related to the elderly posyandu, the cadres will also invite the elderly to come to the posyandu whenever there are activities, this of course makes the elderly feel encouraged to come to the posyandu and have their health checked. However, from the research results it was also found that there were 12 elderly respondents with a negative cadre role but who were active in participating in posyandu activities (16.9%). This can happen because of encouragement from the family to always encourage the elderly to have their health checked at the posyandu or also because of invitations from friends who invite them to go to the posyandu.

From the research results, it was also found that 49 respondents had a positive cadre role, but 18 respondents (36.7%) did not actively visit the elderly posyandu. This happens because there are no friends who come together to the posyandu, especially for elderly people who are lazy to travel alone, or also elderly people who are unable to come to the posyandu because there is no family to take them to the posyandu and the distance of the posyandu from home is too far, around >500 meters According to the elderly, the distance is so far that the elderly feel tired from coming to the posyandu. The role of the cadre in question is a way to express the cadre's activities in practice, who have received education and training from the puskesmas. These posyandu cadres have an important role because they are health services located near the posyandu's target activities. Where someone carries out their rights and obligations in accordance with their position, they are said to be carrying out a role. For this reason, the role of cadres in encouraging people to come to the posyandu for the elderly must have the skills to provide education about the importance of visiting the posyandu for the elderly. In its implementation, cadres also need support from various parties, because

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cadres themselves only play an important role as intermediaries in conveying information to the community so that cadres have a positive influence on increasing the activeness of the elderly in participating in Posyandu activities. This is very necessary to improve cadres in carrying out their duties better. , remembering that cadres carry out their duties voluntarily. Support from community leaders and Community Health Center officers can increase cadres' confidence in carrying out their duties so that the cadres' role can be even better.

2. Elderly Visits to Participate in Posyandu for the Elderly

Based on table 2, it shows that the majority of respondents have never attended an elderly posyandu, namely 51 respondents (42.5%), inactive, namely 33 respondents (27.5%), active, namely 36 respondents (30.0%).

Posyandu for the elderly is a vehicle for services for the elderly which is carried out from, by and for the elderly which focuses on promotive and preventive efforts, without neglecting curative and rehabilitative efforts. (Notoatmodjo, 2007). Health services for the elderly group include physical and mental emotional examinations. The Health Care Card (KMS) for the elderly as a recording and monitoring tool to find out in advance the disease they are suffering from or the threat of health problems they are facing, and record developments in the Health Care Manual Book (BPPK) for the elderly or records of health conditions used at the Community Health Center. The aim of the elderly posyandu is to improve the health status and quality of life of the elderly to achieve a happy and efficient old age in family and community life in accordance with their existence. (Nursinah, Serli, Tondok, Tafor, & Hairuddin, 2023).

Several factors influence elderly posyandu visits including age, gender, education, occupation, distance and information. Based on research, it was found that the majority of respondents were aged 60-65 years, namely 73 respondents (60.8%). This shows that age influences elderly posyandu visits because as a person ages there will be physical and psychological aspects. According to researchers, physical factors in old age mean that most people are unable to carry out existing activities. As for other factors, it was found that the majority of respondents did not go to school, namely 72 respondents (60.0%). This shows that education can influence community participation and participation in organizing posyandu. The higher the education, the easier it is to receive information so that the more knowledge one has. According to a low level of education, it indicates a lack of knowledge and understanding of respondents about health. Respondents with low education have lower knowledge so they are less aware of the benefits of posyandu for the elderly. The educational level of highly educated respondents is considered to understand and know about nutrition and health sciences as well as the importance of visiting posyandu for the elderly. Therefore, the low level of education must be balanced by providing health knowledge so that the health insight of the elderly is further increased, for example by health education.

From the research results, it can be seen that the majority of respondents who never visited the elderly posyandu were 51 respondents (42.5%). There are several reasons why visits are never made by the elderly, including the long distance from home. In the research, this was related to the distance from the respondent's home. Based on the research, it was found that the majority of respondents were far from home to the posyandu, namely 74 respondents (61.7%). This shows that the farther the respondent has to travel from home to the elderly posyandu, the lower the level of visits to the elderly posyandu. The close distance of the posyandu will make it easy for elderly people to reach the posyandu without having to experience fatigue or physical fatigue due to decreased endurance or physical strength of the body. According to researchers, there are still many respondents whose house is far from

the posyandu, so many elderly people have experienced a decrease in visits to the posyandu for the elderly, it is better if the posyandu is located in a place that is easily accessible to the community and determined by the community itself

The results of further research showed that 33 respondents (27.5%) had inactive visits. This is because the elderly do not understand the importance of visiting posyandu for the elderly, so the majority of respondents visit the posyandu for the elderly but are still inactive. In the research, this is related to work. Based on the research, it was found that the majority of respondents worked as farmers, namely 62 respondents (51.7%). This shows that there are still many respondents who think that they do not have time to visit posyandu for the elderly regularly or regularly because the elderly are busy working, namely as farmers and there are many obstacles that arise in trying to visit posyandu for the elderly due to the work that a person does every day in life. to meet life's needs. Working elderly is one of the reasons why many elderly people do not visit the elderly posyandu regularly and optimally but still make elderly posyandu visits even though they are still in the inactive category. Meanwhile, 36 respondents (30.0%) made active visits. In this study, working elderly people still managed to make good posyandu visits because they still had free time and the opportunity to make elderly posyandu visits or because the elderly deliberately took the time to make good elderly posyandu visits for routine monthly health checks (check ups).

3. Relationship between the role of cadres and elderly visits to Posyandu

Based on the research, it can be seen that of the 49 respondents who have a positive cadre role with never visits, there are 7 respondents (14.3%), those who make inactive visits are 18 respondents (36.7%) and those who make active visits are 24 respondents (49.0%). Meanwhile, of the 71 respondents who had a negative cadre role with never visits, 44 respondents (62.0%), 15 respondents (21.1%) made

inactive visits and 36 respondents (16.9%) made active visits.

From the results of the analysis using cross tabulation, it was found that there was a relationship between the role of cadres and elderly visits to elderly posyandu in Kemendung Hamlet, Penanggungan Village, Trawas District, Mojokerto Regency. The results of the analysis mean that the relationship between the role of cadres and elderly visits has a strong connection, the direction of the relationship is positive, meaning that the higher the role of cadres, the higher the level of elderly visits in attending the elderly posyandu. This means that the role of cadres is very important in providing information to the elderly to improve the health status of the elderly. To further increase the level of attendance of elderly people visiting Posyandu for the elderly, it is necessary to provide information regarding the schedule and location of the posyandu and also provide information about the benefits of the Posyandu for the elderly to the community so that the public, especially the elderly, know about the benefits of the Posyandu program for the elderly in order to improve the welfare of the elderly. In its implementation, cadres also need support from various parties. This is very necessary to improve the performance of cadres in carrying out their duties better, considering that cadres carry out their duties voluntarily. In accordance with the theory that support from community figures, Puskesmas officers can increase cadres' confidence in carrying out their duties so that the cadres' role can be even better. The good service provided at the Posyandu for the elderly will increase the interest of the elderly in visiting the Posyandu for the elderly (Nilasari & Farich, 2012).

From the analysis it can be seen that of the 49 respondents who had a positive cadre role with never visits, there were 7 respondents (14.3%). This happens because the elderly are sometimes lazy to go to the posyandu because the location of the posyandu is far away, so they are lazy to come to the posyandu. Respondents who made inactive visits were 18 respondents

(36.7%). This happens because many respondents still believe that they do not have time to visit posyandu for the elderly regularly or regularly because the elderly are busy working, namely as farmers. Meanwhile, those who have a positive cadre role, most of the visits to the posyandu for the elderly are classified as active visits, namely 24 respondents. (49.0%). This is caused by the respondent receiving information well. Elderly people who assess the role of cadres are positive in general because the elderly want to understand and understand how to maintain their health by coming to the posyandu. Then, based on the role of negative cadres, the majority of visits to elderly posyandu were in the never category, namely 44 respondents (62.0%). This was due to the lack of information obtained by respondents both from health service settings and from various media about the importance of elderly people visiting posyandu. elderly. Those who made inactive visits were 15 respondents (21.1%). This is because most of the elderly are reluctant to come to attend the elderly posyandu because the distance between home and the location of the elderly posyandu is far and because of the age factor which causes the elderly to not be physically strong enough to walk long distances and those who make active visits are 12 respondents (16.9%) . This is because cadres who do not invite the elderly to come to the posyandu do not have enough information about the activities of the elderly posyandu, so that the elderly do not know when the elderly posyandu is held and the benefits of the elderly posyandu. According to researchers, the better the role of cadres, the better the level of elderly posyandu visits. It would be better for cadres to increase their knowledge of the benefits of posyandu by providing counseling to the elderly about how to live a healthy life. This will certainly make the elderly feel encouraged to take part in elderly posyandu activities to check their health.

So, based on the description above, it can be concluded that the better the role of the cadres, the higher the number of elderly visits to the elderly posyandu in Kemendung Hamlet, Penanggungan Village, Trawas District, Mojokerto Regency. The role of cadres who come from local community members who are elected and appointed by the community and can work voluntarily to help the community in maintaining and improving health status

CONCLUSION

Results of research that has been carried out. It can be concluded that H1 is accepted, which means there is a relationship between the role of cadres and visits by the elderly in attending Posyandu for the elderly in Kemendung Hamlet, Penanggungan Village, Trawas District, Mojokerto Regency. This is because the role of cadres can influence the activeness of elderly posyandu visits. The better the role of cadres in running the posyandu, the higher the activity of visits to the elderly posyandu.

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ORIGINAL RESEARCH

FAMILY SUPPORT AND KNOWLEDGE INFLUENCE MENARCHE READINESS

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ABSTRACT	Keywords
Menarche is the first menstruation which can make some young women feel afraid and anxious. There are still teenagers who think menstrual bleeding is scary and painful. Family support in preparing teenagers for menarche is also still lacking. The aim of this research is to analyze the relationship between knowledge and family support and readiness to menarche. This research design uses correlation analytics with a cross sectional approach. Population is female teenagers in grades V and VI at elementary school. The sampling technique used probability sampling with a simple random sampling, obtaining 86 respondents. Data was collected by distributing questionnairs. The research instrument used a questionnaire on knowledge, family support, and menarche readiness. Data analysis using the Spearman rho test. The results showed that 53 respondents (61.6%) had moderate knowledge. Family support was in the high category for 69 respondents (80.2%). The readiness of young women in the medium category was 42 respondents (48.8%). There is a relationship between knowledge and readiness of young women (ρ value = 0.001). There is a relationship between family support and menarche readiness (ρ value = 0.014). The implication of this research is that it is hoped that families will increase their support in preparing for menarche. Families and related parties such as schools are expected to provide more education regarding preparation for menarche.	*Knowledge, Family Support, Readiness, Menarche*

INTRODUCTION

Many teenagers consider menarche to be scary because menarche will cause discomfort, pain, dizziness. The dominant psychological symptom of menarche is anxiety related to this physiological process. Teenagers usually cry, are embarrassed, anxious, worried, uncomfortable with this condition, and some children are reluctant to accept reality (Delima et al., 2020). Teenager girls are confused when they experience their first menstruation or menarche because they don't know how they should adjust to their activities and routines with the arrival of menstruation. Parents should be a place to ask questions about these problems. However, in reality, not all mothers can provide adequate information to their daughters. Some mothers are reluctant to talk about menarche openly (Hidayah & Palila, 2018). Many of the female students at elementary school Al Kautsar Surabaya don't understand and most of them don't know about menarche and they say they don't know what they will do when they experience menstruation for the first time. According to them, their parents and other family members have never provided detailed information about menstruation.

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UNICEF stated that 86.3% of teenagers who have not experienced menarche will experience stress and anxiety. Adolescents consider the first menstruation (menarche) to be frightening for young women (Sanjiwani et al., 2020). 72.3% of the world's adolescent population stated that most of the female adolescent population who have not yet experienced menarche will feel stressed. The average age of menarche is 12 – 13 years (Nurul Yuda Putra et al., 2016). Based on the Indonesian Demographic and Health Survey in 2017, 9.0% of teenagers in Indonesia who do not know about menarche will feel afraid and anxious. As many as 7% aged 10-11 years have reached menarche, 23% aged 12 years, 89% aged 12-15 years. Knowledge about readiness to menarche can be realized by providing information and education to young women experiencing menarche. The role of the family, especially mothers, is very important so that young women are ready to face menarche (Hidayah & Palila, 2018). Family members are the closest people to teenagers so communication on sensitive matters will be more open (Salangka et al., 2018). The family has a big role in providing information about development in adolescents, therefore the family is expected to provide emotional support so that adolescents feel comfortable and are not afraid to experience development, especially for adolescent girls, namely with the arrival of menarche (Salangka et al., 2018).

METHODS

This research design was to determine the relationship between knowledge and family support to the readiness to menarche using a cross sectional design. The population of class V and VI female students at elementary school Al Kautsar Surabaya are 109 students. The sampling technique uses probability sampling with a simple random sampling approach method. Based on the sample size calculation using the Slovin formula, a sample of 86 people was obtained. The time of the research was carried out on June 6 - 12 2022. The questionnaire used was a questionnaire on young women's knowledge about menarche, which was a modification of Yunita's 2019 research. The family support questionnaire from Mardilah in 2014 consisted of 10 questionnaire items. Readiness of Young Women Facing Menarche compiled by Dedi Satriawan Siregar (2018). The research instrument for the readiness of young women to face menarche consists of 10 statements, using two categories in the form of yes (score 1), no (score 0). Young women are said to be ready to face their first menstruation (menarche) if the total score is 0 – 5 they are said to be not ready, if the score is 6-10 they are ready. With the instrument value, the value of r = 0.713. Because the calculated r value > table r, the instrument is declared reliable. In this study, the Spearman test was used.

RESULT

Table 1. Characteristics of Respondents

No	Grade	Frequency (f)	Percentage (%)
1.	5	46	53,5
2.	6	40	46,5
Total		86	100

Table 1 shows that of the 86 female students at SD Al Kautsar Surabaya, there are 46 (53.5%) grade 5 students and there are 40 (46.5%) grade 6 female students.

Table 2 Knowledge about Menarche

No	Knowledge	Frequency (f)	Percentage (%)
1.	Low	10	11,6
2.	Moderate	53	61,6
3.	High	23	26,7
Total		86	100

Table 2 shows the distribution of respondents based on the type of knowledge of 86 female students at SD Al Kautsar Surabaya, showing that the female students with high knowledge were 23 respondents (26.7%), with moderate knowledge were 53 respondents (61.6%), and with low knowledge were 10 respondents (11.6%).

Table 3 Characteristics of Respondents based on family support in facing menarche

No	Family Support	Frequency (f)	Percentage (%)
1.	Low	13	15,1
2.	Moderate	4	4,7
3.	High	69	80,2
	Total	86	100

Table 3 shows the distribution of respondents based on the type of family support for 86 female students at SD Al Kautsar Surabaya. It shows that the support given to female students is high family support, 69 respondents (80.2%), and moderate family support, 4 respondents (4.7%).), while family support was low for 13 respondents (15.1%).

Table 4. Table of Respondent Characteristics based on the readiness of young women to face menarche

No	Young Women's Readiness	Frequency (f)	Percentage (%)
1.	Low	5	5,8
2.	Moderate	42	48,8
3.	High	39	45,3
	Total	86	100

Table 4 shows the distribution of respondents based on the readiness of young women among 86 female students at Al Kautsar Elementary School, Surabaya. It shows that there is high readiness of young women, 39 respondents (45.3%), medium readiness of young women, 42 respondents (48.8%) and high readiness of young women. low level girls amounted to 5 respondents (5.8%).

Table 5. Relationship between Knowledge and Readiness of Young Women

Knowledge	Young Women's Readiness							
	Low		Moderate		High		Total	
	f	%	f	%	f	%	N	%
Low	1	1,2	5	5,8	4	4,7	10	11,6
Moderate	4	4,7	32	37,2	17	19,8	53	61,6
High	0	0,0	5	5,8	18	20,9	23	26,7
Total	5	5,8	42	48,8	39	45,3	86	100

Spearman Rho 0,001 *(p≤0,05)*
r = 0,340

Based on the Spearman Rho test, it was found that ρ value = 0.001 and r value = 0.340, meaning that there is a relationship between knowledge and readiness for menarche.

Table 6: Relationship between family support and readiness of young women

Family Support	Young Women's Readiness							
	Low		Moderate		High		Total	
	F	%	F	%	F	%	N	%
Low	2	2,3	6	7,0	5	5,8	13	15,1
Moderate	1	1,2	2	2,3	1	1,2	4	4,7
High	2	2,3	34	39,5	33	38,4	69	80,2
Total	5	5,8	42	48,8	39	45,3	86	100

Spearman Rho Test 0,014 *(p≤0,05)*
r = 0,264

Based on 6, the Spearman Rho statistical test shows ρ value = 0.014 and r value = 0.264, so there is a relationship between family support and the readiness of young women to menarche at SD Al Kautsar Surabaya.

DISCUSS

1. **The relationship between knowledge and the readiness of young women to face menarche**

Based on the results of the Spearman Rho statistical test, it was found that ρ value = 0.001, indicating that there is a relationship between knowledge and the readiness of young women to face menarche at Al Kautsar Elementary School, Surabaya. Knowledge is needed as a psychological encouragement to grow oneself as well as encouragement of attitudes and behavior every day, so it can be said that knowledge is a stimulus for one's actions (Mukhorottin, 2016). Menarche is the most important event in young women as a sign that the fertile cycle has begun. At the age of 8 to 9 years, the anterior pituitary gland begins to secrete gonadotropin hormones namely follicle stimulating hormone (FSH)

and luteinizing hormone (LH) under the pulsating secretion of gonadotropin-releasing hormone (GnRH) from the hypothalamus. Menstruation occurs due to activation of the ovaries by gonadotropins from the anterior pituitary causing the production of estrogen by the ovaries (Gumanga and KwameAryee, 2012). The production of estrogen in sufficient quantities acts on the endometrium resulting in endometrial proliferation resulting in first menstruation (Menarche) (Gumanga and Kwame-Aryee, 2012). Signs and symptoms of menarche include: a). Bleeding that is often irregular; b) Anovalatoir, menstruation 1-2 years or more before regular ovulation, but not in all teenagers because there are some teenagers who have ovulated before regular menstruation; c) The blood that comes out is lighter and brighter in color and not too much (spotting); d) Duration of bleeding 4-7 days or less; e) Sometimes accompanied by cramps in the lower abdomen (dysmenorrhea). In Indonesia, the age at which a girl starts menarche varies greatly, starting at 8 years old, and there are also those who start their cycle at 16 years old. However, on average Indonesian children get their first menstruation at the age of 12 years (Ade, W. (2014).

The factor that influences knowledge regarding menarche is age. Data shows that 10-11 year olds who are in grade 5 are 53.5% less likely to understand the meaning and readiness for menarche, while 46.5% of 11-12 year olds who are in grade 6 are more likely to understand menarche.

The readiness of young women to face menarche at SD Al Kautsar is in the medium category at 48.8%. This is because young women say they are afraid and anxious when they hear the word menstruation, they explain that many of them don't know about menarche because they haven't been taught about menarche at school and at home. However, there are also 45.3% of young women who have high readiness. This is often found in teenagers who are in grade 6. Most of them are ready because they already know a lot of insight about menarche.

2. **Relationship between family support and the readiness of young women to face menarche**

Based on statistical tests, it shows that there is a relationship between family support and the readiness of young women to menarche at SD Al Kautsar Surabaya. The role of the family, especially mothers, is very important in teaching about menarche so that young women are ready to face it (Hidayah & Palila, 2018). Family support given to teenagers will influence the anxiety and readiness of these young women. Family support is very influential in the readiness of young women to face a situation such as the arrival of their first menstruation. If the child is not given family support, whether emotional, assessment, instrumental or informational support, it will affect the readiness of the young woman to menarche (Kharunia, Khazani, 2015). This is because family members are the closest people to teenagers so communication on sensitive matters will be more open (Salangka et al., 2018). The family has a big role in providing information about development in adolescents, therefore the family is expected to provide emotional support so that adolescents feel comfortable and are not afraid to experience development, especially for adolescent girls, namely with the arrival of menarche (Salangka et al., 2018). The readiness of young women to face menarche is a condition that the young women are ready to reach physical maturity, namely the arrival of the first menstruation (menarche) (Lutfiya, I., 2017). The readiness of young women to accept menarche depends on several things, including social support and the availability of information. Social support is a form of comfort that a person gets from other people such as parents, partners, siblings, friends, teachers or medical staff. This support can be in the form of expressions of empathy, care,

concern, assistance with money or goods, advice, suggestions or feedback. The social support a person receives can make that person feel loved, cared for and can increase positive feelings. The social support that young women receive regarding menarche will cause young women to feel that they are receiving attention, information, love, affection and a sense of comfort, thereby helping them prepare themselves to face menarche (Susilowati, Y. A., Setyowati, & Afiyanti, Y., 2018).

The results of the research show that the majority of families have high levels of support, indicating that parents or guardians of young women at SD Al Kautsar Surabaya provide a lot of insight to young women. Researchers assume that family support is the most influential factor in the adolescent development process. Family support and teenagers' readiness to face menarche are closely related because if teenagers are educated from as early as possible, teenage girls will be more understanding and prepared when they experience puberty, so they will know what to do when they experience menstruation. Parents can play an active role in providing understanding about menarche, because this is a very early thing for a teenager. With this understanding, it is hoped that young women will know the steps that must be taken if they experience menarche, so that they are able to carry out personal care and hygiene such as changing sanitary napkins at least twice a day because cleanliness of the reproductive or sexual organs is the beginning of efforts to maintain the health of the genitalia. Families look for solutions that can help individuals in carrying out activities.

Family support is the social environment closest to adolescent development. It is hoped that adolescents will be accompanied and controlled for puberty knowledge so that they have more insight so that adolescents are not confused if they experience their first menstruation. When dealing with menarche, young women need to make behavioral adjustments that they cannot always make on their own, especially if there is no support from their parents, especially their mother. Support from parents, especially mothers, is very necessary to help young women understand about menarche. The mother as the closest person in the family has responsibility for the child's future development. The mother as someone who has experienced menarche is expected to be a place to share experiences for her children in understanding menarche. Nearly half of the sources of information about menarche come from parents, this happens because parents are the first people who are told by young women when they first experience menstruation.

Parents can provide supervision, provide guidance, and give children the opportunity to talk about their sexual experiences. Because there are only one thing that a young woman experiences (menarche) that she doesn't understand and needs support from her parents to give her direction. Usually children prefer to be reluctant to ask their parents about menstruation, so this is where parents should play a role, they usually ask about what menstruation is, how to use sanitary napkins, how to deal with pain during menstruation. The knowledge that must be given to children about menstruation is about the meaning of menstruation, the physiology of menstruation, menstrual disorders, maintaining cleanliness of the genitals during menstruation, and other information about menstruation that children need.

The relationship between family support and adolescents' readiness to face menarche is closely related due to one of the factors explained in the previous paragraph, namely the social environment closest to adolescents is the family. So the role of the family is very important because, if family support provides good support, automatically

the teenager's readiness to face menarche will also be good.

CONCLUSIONS

There is a relationship between family support, knowledge and readiness of young women. The implication of this research is that it is hoped that families will increase their support in preparing for menarche. Families and related parties such as schools are expected to provide more education regarding preparation for menarche.

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ORIGINAL RESEARCH

EARLY ASSESMENT ON COMMON MENTAL DISORDERS OF PREGNANT WOMEN USING SELF-REPORTING QUESTIONNAIRE (SRQ-20)

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ABSTRACT	Keywords
During pregnancy, women may experience physical and psychological changes that can make them vulnerable to mental health disorders, also known as CMD. This can have a significant impact on both the mother and the child's health, making it a public health concern. To address this issue, a quantitaive descriptive study was conducted on pregnant women attending classes at the Arosbaya Community Health Center, where 25 pregnant women participated in prenatal class activities. The study used the Self-Reporting Questionnaire (SRQ-20) to collect data on CMD. The results showed that 40% of pregnant women suffer from CMD, with decreased energy and anxiety being the most common symptoms. It is crucial for healthcare professionals to prioritize the mental well-being of pregnant women and take steps to alleviate the symptoms of psychological disorders.	*Pregnancy, CMD*

INTRODUCTION

According to (Rahardjo Putri et al., 2022), pregnancy typically lasts around 9 months or 40 weeks. Throughout this period, expectant mothers may go through a range of physical and psychological changes and adaptations. While many hope for a smooth and pleasant pregnancy experience, some may find it challenging to adjust to bodily changes, which can make them more susceptible to stress, anxiety, and other mental health concerns. Common Mental Disorders (CMDs) are non-psychotic mental health conditions that can impact daily functioning, including depression, anxiety, adaptation, and somatoform disorders, as described by (Jha et al., 2018)

Research conducted by Fisher has revealed that mental disorders such as anxiety and depression are experienced by around 15% of pregnant women in developing countries (Do et al., 2023). The occurrence of Common Mental Disorders (CMDs) in pregnant women ranges from 1% to 37%. Depression and anxiety remain the most prevalent disorders, with rates ranging from 1% to 30% and 1% to 26%, respectively (Jha et al., 2018).. Recently, it has been found that mood or anxiety disorders affect up to 20% of women during pregnancy (Danti & Khasanah, 2020)

A preliminary investigation was carried out in January 2023 in the Pregnant Women's Class (KIH) in Berbeluk villages, the working area of the Arosbaya Community Health Center, which revealed that 40% of the ten pregnant women studied demonstrated signs of mental health issues. Psychological symptoms such as difficulty in thinking clearly and frequent crying, as well as general physical symptoms such as headaches, difficulty sleeping, and loss of appetite, were commonly reported by most pregnant women.

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During pregnancy, the hormone progesterone is produced at higher levels which can cause psychological changes in pregnant women. However, a mother's personality and psychological vulnerability also play a significant role in determining psychological changes and adaptation during the antenatal period (Setiawati et al., 2021). Factors such as low socio-economic conditions, partner violence, previous history of mental disorders, family history of mental illness, and unmarried status are commonly associated with mental/psychological disorders (Jha et al., 2018)

Changes in a pregnant woman's psychological condition can have an impact on their physical well-being during and after pregnancy (Purwaningsih, 2020). Mental health in pregnant women is a significant public health concern as it can affect the health of both the mother and child. Mothers with mental/psychological disorders often neglect pregnancy check-ups and face difficulties in gaining weight or may even become obese. They are also at risk of premature birth, prolonged labor, immune disorders, and metabolic disorders.

Additionally, pregnant women experiencing stress, anxiety, or depression may give birth to children with low weight, motor and cognitive delays, poor nutrition, and stunting (Do et al., 2023; Rahardjo Putri et al., 2022).

The implications of psychological disorders in pregnant women are far-reaching and can have significant consequences for both the mother and the child. Maintaining the health of both the mother and fetus during pregnancy is crucial, which is why detecting any potential mental disorders is very important. Therefore, it is necessary to identify these disorders as early as possible to mitigate their effects by this research. So we can provide accurate and informative knowledge about this issue and contribute to the broader body on this topic. The Self-Reporting Questionnaire (SRQ-20), developed by the World Health Organization (WHO), is a screening tool consisting of 20 questions that can identify non-psychotic symptoms of mental disorders in expectant mothers. (Van

der Westhuizen et al., 2016; WHO, 1994). This study focuses on early detection of mental disorders in pregnant women at the Arosbaya Health Center in Kab. Bangkalan, utilizing the SRQ-20 screening tool.

METHOD

This research focuses on the psychological and mental condition of pregnant women using quantitative descriptive research. The study aims to describe the symptoms and problems that tend to occur in the body during the last 30 days of pregnancy. The research was conducted in two villages, namely Lajing, and Berbeluk in Arosbaya, Bangkalan, Madura, where 25 pregnant women participated in prenatal class activities. The data for this study was collected in June and July 2023 using the Self-Reporting Questionnaire (SRQ-20) instrument, which is designed to detect non-psychotic disorders. The questionnaire consists of 20 questions to identify the mental problems of pregnant women. The research subjects were asked to fill out the questionnaire themselves and accompanied by the researcher. The data analysis used univariate analysis to identify the indications of mental problems in pregnant women. The SRQ-20 has a Cronbach's Alpha reliability value of 0.87, which has been proven to be effective and is recommended for screening psychological/psychiatric disorders in pregnant women in Vietnam (Danti & Khasanah, 2020; Do et al., 2023).

RESULTS

Tabel 1. Characteristics of pregnant women who participate in Prenatal Class in the working area of Arosbaya Health Center (2023)

Characteristics	f	%
Age		

	f	%
<20 years	4	16
20-35 years	18	72
>35 years	3	12
Total	25	100
Occupation		
Housewife	20	80
Private worker	1	4
Government employees	4	16
Total	25	100
Pregnancy		
1st pregnancy	7	28
2nd – 4th pregnancy	17	68
>4th pregnancy	1	4
Total	25	100
Gestation weeks		
1st trimester	2	8
2nd trimester	10	40
3rd trimester	13	52
Total	25	100

Source : Primary data (2023)

Based on the data presented, it is clear that 72% of women who are pregnant and fall between the ages of 20-35 are currently participating in the study. Furthermore, 80% of these women are homemakers and a significant majority have previous pregnancy experience (multigravida). The majority of attendees in the class are currently in their third trimester of pregnancy.

Table 2. Characteristics of Pregnant Women Based on Identification of Pregnancy Problems/Risk Factors

Risk Factors	f	%
Identified	6	**24**
Not identified	19	**76**
Total	**25**	**100**

Source : Primary data (2023)

According to the information in Table 2, most pregnant women do not have any pregnancy-related issues or risk factors. However, the data indicates that a considerable number of women, precisely 6 out of 25 pregnant women (24%) had risk factors like pre-eclampsia or had

experienced unsuccessful pregnancies before.

Table 3. Results of initial assessment/screening for psychiatric problems (Common Mental Disorder) of pregnant women with SRQ-20

Characteristics	f	%
Indicated psychological problems (CMD)	10	40
Not indicated psychological problems (CMD)	15	60
Total	**25**	**100**

Source : Primary data (2023)

According to data in table 3, a significant 44% of pregnant women who participated in the Pregnancy Class at the Arosbaya Community Health Center's working area were found to be exhibiting signs of mental health issues, specifically Common Mental Disorder.

Table 4. Psychiatric problems (Common Mental Disorder) distribution in pregnant women based on symptoms

Symptomps	f	%
Depression	10	40
Anxiety	17	68
Somatic	15	60
Deacreased Energy	18	72

Source : Primary data (2023)

According to the data presented in table 4, it is evident that pregnant women in Arosbaya commonly experience symptoms of decreased energy (70%), followed by

anxiety (68%) and somatic symptoms (60%). However, only 40% of them experience symptoms of depression.

Table 5: Number of pregnant women reporting symptoms of Common Mental Disorders

Q	Symptomps	Answer Yes	Answer No
	Symptomps of Depression		
9.	Are you unhappy?	3	22

14.	Is it difficult for you to play a big role in your life?	0	25
15.	Do you feel like you have lost interest in something enjoyable?	3	22
16.	Do you feel like a useless human being?	3	22
17.	Have you ever thought about ending your life?	0	25
Symptomps of Anxiety			
3.	Do you have trouble sleeping?	12	13
4.	Do you get scared easily?	8	17
5.	Are your hands shaking?	5	20
6.	Do you feel nervous, tense, or anxious?	5	20
10.	Are you crying more than usual?	3	22
Symptomps of Somatic			
1.	Do you often have headaches?	8	17
2.	Has your appetite decreased?	6	19
7.	Has your digestion worsened?	4	21
19.	Do you have discomfort in your stomach?	9	16
Symptomps of Decreased Energy			
8.	**Do you find it difficult to think clearly?**	4	21
11.	**Do you find it difficult to enjoy daily activities?**	3	22
12.	**Do you have difficulty making decisions?**	1	24
13.	**Does daily work feel like a burden?**	4	21
18.	**Do you always feel weak?**	8	17
20.	Do you feel tired easily?	17	8

Source : Primary data (2023)

Based on the findings outlined in Table 5, it appears that the majority of pregnant women did not exhibit signs of depression, where it is known by the answer "No" to questions regarding symptoms of depression. Nonetheless, a small number of three pregnant women noted feelings of dissatisfaction, disinterest, and inadequacy who answered "Yes" to questions number 9, 10, 15, and 16.

As for anxiety symptoms, approximately 12 or almost half of pregnant women answered "Yes" to question number 3, which might show us that 48% of pregnant women reported difficulty sleeping. Apart from that, around 8 pregnant women (32%) felt easily frightened.

In addition, between 8-9 pregnant women (32-36%) answered "Yes" to question number 1 and 19 which indicates that they experienced symptoms of headaches and abdominal discomfort.

Regarding decreased energy levels, 68% of pregnant women answered "Yes' to question number 20 which indicated feeling fatigued/tired easily. And roughly 8 out of

25 pregnant women (32%) feeling persistently weak.

DISCUSSION

Research conducted in Lajing and Berbeluk, the working area of Arosbaya Community Health Center, has shown that over 50% of the expectant mothers who participated in the prenatal class did not exhibit any signs of mental health issues, as evidenced by a SRQ-20 score of less than 5. While it is common for pregnant women to experience physical and psychological changes during pregnancy, these changes are typically considered normal. However, some women may be more vulnerable to common mental disorders like depression, anxiety disorders, adaptation disorders, and somatic disorders due to the changes brought on by pregnancy and their new role as a mother (Carter & Kostaras, 2005). This study found that 10 out of 25 expectant mothers (40%) were indicated to be experiencing mental health issues.

During pregnancy, women frequently contemplate the ways in which their lives will transform after childbirth, including changes to familial relationships

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and potential physical complications. In addition, anxiety about potential issues during pregnancy may arise. If these concerns are not addressed, the likelihood of developing CMD during pregnancy may rise. A Vietnamese study discovered that 50% or half of pregnant women living in rural areas who took part in the research experienced CMD symptoms at least once during pregnancy, while approximately six women experienced persistent CMD throughout their pregnancy. (Fisher et al., 2013).

This research indicates that pregnant women who are diagnosed with CMD often have risk factors such as being under 20 years old, experiencing pre-eclampsia, and having had unsuccessful pregnancies in the past. Other studies suggest that factors like age at the time of pregnancy, current pregnancy complications, lack of social support, living in a densely populated area, low employment status, and a history of psychological treatment may also increase the likelihood of developing CMD. (Faisal-Cury et al., 2009)

It has been observed that pregnant women who have pre-eclampsia often experience anxiety due to the potential risks to themselves and their babies (Trisiani et al., 2016). Furthermore, women who have experienced unsuccessful pregnancies in the past may be at risk of developing trauma due to negative experiences. Research conducted in Japan on CMD rates and influential factors has indicated that personal traumatic events during pregnancy can significantly impact the occurrence of CMD. (Usuda et al., 2016).

According to research, pregnant women who participate in prenatal classes at the Arosbaya Community Health Center working area often experience symptoms of decreased energy, which is a common symptom of CMD. A survey analysis revealed that many pregnant women experience fatigue and weakness, particularly during the 1st and 3rd trimesters. Hormonal changes, including an increase in estrogen, progesterone, and HCG, are believed to be linked to these symptoms. Additionally, the body works harder during pregnancy to support fetal growth and development, leading to physical discomfort such as uterine enlargement, weight gain, leg cramps, low back pain, fetal movement, and frequent urination. Moreover, adaptations like changes in metabolism, increased heart rate, and hemodilution also contribute to fatigue in pregnant women. (Muzakir et al., 2021; Widjayanti et al., 2019).

A meta-analysis study also found that fatigue experienced by pregnant women during pregnancy may be a result from combination of physiological, psychological, and situational factors. Such factors include insufficient levels of ferritin and hemoglobin, inadequate sleep quality, adapting to a new role, and attending to household responsibilities, all of which may contribute to maternal fatigue.. (Liu et al., 2020)

Expectant mothers may experience exhaustion and physical weakness, which could affect their capacity to tend to their needs and perform routine tasks or daily activities. These sensations can trigger emotions of powerlessness, and consequently, intensify symptoms of CMD. To promote their overall well-being, the American College of Obstetricians and Gynecologists (ACOG) recommends that pregnant women engage in 20-30 minutes of moderate to strenuous physical activity daily. Additionally, light exercise can help alleviate fatigue during pregnancy..(Liu et al., 2020)

Apart from symptoms of decreased energy, in this study, the symptoms of CMD that were most often felt by pregnant women were symptoms of anxiety. Out of the 25 women surveyed, 17 reported experiencing symptoms of anxiety, making up 68% of the group. The most common symptoms of anxiety reported were difficulty sleeping (12 women) and increased fear (8 women). Some of the women mentioned having trouble sleeping at night and being unable to take naps during the day. These symptoms tend to occur more frequently as pregnancy progresses, particularly during the third trimester. This can have a negative impact on the quality of rest and sleep.

Other studies have shown a strong link between sleep quality and symptoms of

common mental disorders (CMD) in pregnant women. Poor sleep quality, particularly daytime dysfunction (β = 0.37 p = 0.006) and sleep disturbance (β = 0.23 p = 0.047), are associated with psychological distress such as depressive symptoms, anxiety, and stress during the second trimester (Teoh et al., 2021). A study in China found that 87% of a total of 4545 pregnant women experienced sleep disorders (PSQI value >5). Factors that may influence sleep quality during pregnancy include prenatal depression, maternal age, and gestational age. (Yang et al., 2018)

Based on this study, certain pregnant women were found to be experiencing CMD (common mental disorders) wih a somatic symptomps and depression. Amongst the reported somatic symptoms, stomach discomfort and headaches were observed. Specifically, out of the 25 expectant mothers who were examined, 36% experienced abdominal discomfort, which was primarily attributed to bloating and constipation. This discomfort can be linked to the heightened progesterone levels during pregnancy, which cause the intestinal muscles to relax and lead to reduced motility, flatulence, and constipation. Such symptoms can be quite distressing for pregnant women and may require medical attention to alleviate the discomfort.(Baron et al., 1993; Sembiring, 2015)

Meanwhile, the symptoms of depression found in a small number of pregnant women are feelings of unhappiness, helplessness, and disinterest in enjoyable activities. There are several factors that can contribute to this condition, including a lack of self-confidence, feelings of loneliness, and inadequate support from family and friends. (Sudirman, 2016)

To ensure the best possible outcomes for both mother and child, it is essential to detect and address any mental health concerns as early as possible. This can be achieved through regular screenings performed by healthcare professionals. Additionally, pregnant women can be taught alternative methods to help manage their symptoms, such as practicing yoga or engaging in pregnancy-specific exercises. Prioritizing psychological well-being during pregnancy is of the utmost importance, and taking proactive steps to maintain mental health is an essential aspect of any healthy pregnancy. (Noviani & Adnyani, 2022).

CONCLUSIONS

According to research conducted at Arosbaya Community Health Center's working area, it has been found that 40% of expectant mothers who participate in prenatal classes display symptoms of mental health disorders or CMD. The symptoms mainly include decreased energy levels, easy fatigue, and feelings of weakness. Additionally, common anxiety-related symptoms, such as difficulty sleeping and being easily frightened, were also observed among the study group. These findings highlight the importance of addressing and providing support for mental health concerns among pregnant mothers, particularly those who are attending prenatal classes.

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ORIGINAL RESEARCH

THE EFFECT OF BOMB METHOD (BREASTCARE, OXYTOCIN MASSAGE, AND MARMET TECHNIQUE) ON BREAST MILK PRODUCTION IN POSTPARTUM MOTHERS

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ABSTRACT	Keywords
The smooth process of lactation or the production and release of breast milk is influenced by breast care, frequency of breastfeeding, mother's psychology, mother's health, and contraception. The decrease in milk production is also caused by a lack of the hormones prolactin and oxytocin which play a role in the lactation process. This study aims to determine the effect of BOM method on milk production in post partum mothers.Quasy experimental research design with a Static Group Comparison approach. The population in this study were all post partum mothers in the Working Area of the Melonguane Public Health Center, Talaud Islands Regency in December 2022-January 2023 as many as 34 people. Data collection used purposive sampling, so that a sample of 32 people was obtained. The research instrument used the SOP for the BOM method and a checklist for breast milk production. Data analysis using the Mann Whitney Test. The results showed that all milk production in the intervention group was good, as many as 16 respondents (100%), while in the control group, most were good, as many as 9 respondents (56.3%). The results of the Mann Whitney test showed that the p value (0.000) < α (0.05) so that Ho was rejected and H1 was accepted, meaning The BOM method has been proven to increase milk production in Post Partum Mothers so as to increase the degree of optimal growth and development for baby.	*Breastcare, Oxytocin Massage, Marmet Technique, Milk Production*

INTRODUCTION

Breastfeeding begins immediately after the baby is born while the baby is still awake. The stimulation of the baby's mouth will increase the work of the hormone oxytocin to stimulate milk production and the hormone prolactin to release milk. Babies should be given only breast milk until the age of 6 months and continue until the age of 2 years according to WHO recommendations (Winatasari & Mufidaturrosida, 2020).

Conditions in the field show different things because there are still many mothers who do not provide exclusive breastfeeding until the age of 6 months because they feel that breast milk production is lacking so that it is unable to meet the nutritional needs of the baby, this is because in the first week breast milk often does not come out smoothly so mothers help the baby's nutritional intake by giving formula

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milk (Asih, 2020).

Indonesian health profile data shows that 71.8% of infants are breastfed for less than 6 months, whereas the national exclusive breastfeeding target is 80%. Exclusive breastfeeding coverage in North Sulawesi Province is 60.1% (BPS, 2022)

The Talaud Islands Regency itself has exclusive breastfeeding coverage in 2021 of 32.9% and at the Melonguane Health Center of 50% (Talaud Islands Health Office, 2022).

Research results (Umarianti et al., 2018b) showed that respondents who had sufficient breast milk production were 53.3% after being given the BOM method, while 47.7% had insufficient breast milk production without being given the BOM method. This research is supported by research conducted by (Mega et al., 2020) which shows that 100% of respondents experienced non-fluent breast milk production before being given BOM therapy, while after being given BOM therapy, 80% of respondents had smooth breast milk production, while 20% were classified as not smooth.

If the baby is deprived of breast milk, the position of breast milk is replaced by other foods of lower quality. Increased chance of illness, because protective factors are reduced, other foods are not as pure as breast milk, other foods are more difficult to digest, and the possibility of getting pregnant soon is higher. Meanwhile, the consequences of delayed complementary feeding are that the child does not get the nutrients the body needs. Slow growth and development. Lack of substances needed by the body and malnutrition can occur (Mustika et al., 2018).

There are several ways that can be done to increase breast milk production, namely pharmacological (Domperidone and Metoclopramide) and non-pharmacological. Non-pharmacological methods to increase breast milk production can be obtained from plants or better known as family medicinal plants (TOGA) and some relatively simple methods such as acupressure, acupuncture, and massage or massage (N. Yuliani et al., 2021). One of the massage techniques that can increase breast milk production is the BOM method (Putri et al., 2022).

The BOM method (Breastcare, Oxytocin Massage, and Marmet Technique) is the stimulation of milk production and expression with respiratory protection, which means breast massage, oxytocin massage or spinal cord stimulation massage, and marmet technique, which means a combination of milking and breast massage. BOM massage is a combination of breast care, massaging the spine (spinal column) to the fifth or sixth rib and removing breast milk (ASI) so that breast milk comes out evenly and provides a sense of comfort and relaxation. postpartum mothers or mothers who have undergone the postpartum process (Umarianti et al., 2018b).

Based on this background, the researcher is interested in examining the effect of the BOM method on breast milk production in postpartum mothers in the Melonguane Health Center Working Area, Talaud Islands Regency.

MATERIALS AND METHODS

This research uses a "quasi-experimental" design. The experimental method in this study uses a type of research design with a two-group method, one for the control group and the other for the treatment group or called static Group Comparison. Each postpartum mother was analyzed on the effect of the BOM method on breast milk production, where different treatments were given between the control group in the form of measuring breast milk production and the intervention group in the form of being given BOM method treatment and measuring breast milk production. The subjects of this study were some postpartum mothers in the Melonguane Health Center Working Area of the Talaud Islands Regency in December 2022-January 2023 as many as 32 people. Data obtained from data collection were subjected to Mann Whitney bivariate test using SPSS 20.0.

RESULTS

Descriptive analysis

1. Characteristics of Respondents by

Age

Table 4. 1 Frequency Distribution of Respondents Based on Age in the Melonguane Health Center Working Area, Talaud Islands Regency in December 2022-January 2023

Age Characteristics	Intervention Group		Control Group	
	F	%	F	%
< 20 year	5	31,2	5	31,2
20-35 year	11	68,8	11	68,8
> 35 year	0	0	0	0
Sum	16	100,0	16	100,0

Table 4.1 shows that based on age characteristics, most respondents in the intervention group and control group were 20-35 years old, namely 11 respondents (68.8%).

2. Characteristics of Respondents Based on Education

Table 4. 2 Frequency Distribution of Respondents Based on Education in the Melonguane Health Center Working Area, Talaud Islands Regency in December 2022-January 2023

Education Charateristic	Intervention Group		Control Group	
	F	%	F	%
Elementary (elementary, junior hight)	5	13,2	7	43,7
Secondary (Senior Hight)	7	43,8	7	43,8
Collage	4	25,0	2	12,5
SUM	16	100,0	16	100,0

Based on table 4.2, it is known that almost half of the respondents in the intervention group and control group had secondary education (SMA), namely 9 respondents (56.2%).

3. Characteristics of Respondents Based on Occupation

Table 4. 3 Frequency Distribution of Respondents Based on Occupation in the Working Area of the Melonguane Health Center, Talaud Islands Regency in December 2022-January 2023

Occupation Charateristic	Intervention Group		Control Group	
	F	%	F	%
Housewife	7	43,8	8	50,0
privately	0	0	0	0
Self Employed	0	0	0	0
State civil apparatus	3	18,7	2	12,5
Farmers	6	37,5	6	37,5
sum	16	100,0	16	100,0

Table 4.3 shows that almost half of the respondents in the intervention group were housewives, namely 7 respondents (43.8%), and half of the control group respondents were housewives, namely 8 respondents (50%).

4. Characteristics of Respondents Based on Parity

Table 4. 4 Frequency Distribution of Respondents Based on Parity in the Melonguane Health Center Working Area, Talaud Islands Regency in December 2022-January 2023.

Pariarity Charateristic	Intervension Group		Control Group	
	F	%	F	%
Primipara	6	37,5	6	37,5
Multipara	10	62,5	9	56,3
Grandemultipara	0	0	1	13,2
Sum	16	100	16	100

Table 4.4 shows that based on the characteristics of parity, most respondents in the intervention group were mostly multiparous, namely 10 respondents (62.5%), and most of the control group were also multiparous, namely 9 respondents (56.3%).

5. Breast milk production in postpartum

mothers given the BOM method

Table 4. 5 Frequency Distribution of Breast Milk Production in Postpartum Mothers Given the BOM Method in the Melonguane Health Center Working Area,

Milk production	Frequency	Percentage (%)
good	16	100
Lack	0	0
sum	16	100

Talaud Islands Regency

Produksi ASI	Frekuensi	Persentase (%)
Baik	16	100
Kurang baik	0	0
Jumlah	16	100

Table 4.5 shows that breast milk production in the group given the BOM method was entirely good, namely 16 respondents (100%).

6. production in postpartum mothers who were not given the BOM method

Table 4. 6 Frequency Distribution of Breast Milk Production in Postpartum Mothers Who Were Not Given the BOM Method in the Melonguane Health Center Working Area, Talaud Islands Regency

Milk production	Frequency	Percentage (%)
Good	7	43,7
Lack	9	56,3
Sum	16	100

Table 4.6 shows that breast milk production in mothers who were not given the BOM method was mostly poor, namely 9 respondents (56.3%).

7. Differences in breast milk production between groups of postpartum mothers who were given and not given the BOM method

Table 4. 7 Differences in breast milk production between groups of postpartum mothers who were given and not given the BOM method in the Melonguane Health Center Working Area, Talaud Islands Regency.

Milk production	Intervention Group		Control Group	
	F	%	f	%
good	16	100	7	43,7
lack	0	0	9	56,3
Sum	16	100	16	100

Table 4.7 shows that breast milk production in the intervention group was entirely good, namely 16 respondents (100%), while in the control group most of them were less good, namely 9 respondents (56.3%).

The Mann Whitney Test results show that the p value for breast milk production is 0.000 or the value is $< \alpha$ (0.05) so that H1 is accepted, which means that there is an effect of the BOM Method on breast milk production in postpartum mothers in the Melonguane Health Center Working Area, Talaud Islands Regency.

DISCUSSION

Based on the results of the study, it is known that in the intervention group all respondents' breast milk production was classified as good, namely 16 respondents (100%). All indicators including frequency and characteristics of BAK, frequency and characteristics of defecation, sleeping hours, and weight gain all received a score of 1 because they were in accordance with the indicators of good breast milk production.

Smooth breast milk production can be known from the baby's indicators, which include the baby's BAK more than 6 times a day with clear yellow urine characteristics, the baby's defecation at least 2 times a day with golden yellow defecation characteristics, the baby sleeps at least 8 to 16 hours per day and the baby's weight has increased (Widyawaty & Fajrin, 2020).

Based on the results of the study in table 4.1, it shows that most of the respondents in the

control group were 20-35 years old, namely 11 respondents (68.2%). Women aged 20-35 years have more breast milk production than mothers who are older than 35 years. Age 20-35 years is a healthy reproductive age and a safe age for pregnancy, childbirth, and breastfeeding. Therefore, the age range of 20-35 years is a very good reproductive period and supports exclusive breastfeeding. Ages less than 20 years are still considered physically, mentally, and psychologically immature in the face of pregnancy, childbirth and breastfeeding, while ages over 35 years are considered dangerous, because the reproductive and physical organs of the mother have been much reduced and decreased (Sukriana et al., 2018). have just given birth to their first child because they do not have experience so that changes in the role of motherhood become a severe stressor for mothers which can interfere with breast milk production.

Based on the research results in table 4.2 which shows that half of the respondents in the control group had a secondary education (SMA), namely 9 respondents (56.3%). The higher a person's education, the higher the demand for health quality. However, one's level of education cannot be used as a guideline that one will be successful during the breastfeeding process, but the correct information received about the previous breastfeeding process will determine the success of the breastfeeding process (Sukriana et al., 2018).

The results of the study in table 4.3 show that in the control group half were housewives, namely 8 respondents (50%). Mothers who do not work may breastfeed more often, so that breast milk production increases. The more often the baby suckles on the mother's breast, the more milk production and release will be. Suction from the baby's mouth will stimulate the hypothalamus gland in the posterior pituitary. The anterior pituitary produces stimulation (prolactin) to increase the release of prolactin hormone to produce breast milk (Sukriana, 2018).

The results of the study in table 4.4 show that most of the respondents were multiparous, namely 9 respondents (56.3%). Mothers who

give birth to the second child and so on produce more breast milk than mothers who give birth to the first child. Another thing is the body mass factor Low birth weight babies (LBW) have a low ability to absorb breast milk compared to normal weight babies. The lower ability to absorb breast milk affects the frequency and duration of breastfeeding. Thus affecting the stimulation of prolactin and oxytocin hormones in milk production (Pramana et al., 2021).

Based on the results of the study, it is known that breast milk production in the intervention group is entirely good, namely 16 respondents (100%), while in the control group most of them are less good, namely 9 respondents (56.3%). The results of the Mann Whitney Statistical Test showed that the p value for breast milk production was 0.000 or the value was < α (0.05) so that H1 was accepted, which means that there is an effect of the BOM Method on breast milk production in postpartum mothers in the Melonguane Health Center Working Area, Talaud Islands Regency.

CONCLUSIONS

Breast milk production of postpartum mothers who were given the BOM Method in the Melonguane Health Center Working Area of the Talaud Islands Regency showed that all were good, and Breast milk production of postpartum mothers who were not given the BOM Method in the Melonguane Health Center Working Area of the Talaud Islands Regency showed that most were not good. So, there is an effect of the BOM Method on breast milk production in postpartum mothers in the Melonguane Health Center Working Area of the Talaud Islands Regency as evidenced by the results of the Mann Whitney test p value = 0.000.

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ORIGINAL RESEARCH

"LUDRUK SIAGA BENCANA" LUDRUK AS A STORYTELLING EDUCATION FOR FLOOD DISASTER PREPAREDNESS AT SDN BLEGA 1

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ABSTRACT	Keywords
Indonesia is a country that is prone to disasters. There are many impacts of disasters that can occur, starting from damage to buildings, houses, basic service facilities, schools and also health. Apart from that, it also causes casualties in various age groups. The low level of knowledge and community preparedness, especially the children's age group, is one of the things that needs attention. Children as a group vulnerable to disasters need to be given socialization in the form of education about flood disasters that generally occur. The aim of this activity is to increase students' knowledge, understanding and preparedness for disasters, especially floods. The activity method is carried out face to face using the Madurese ludruk method, an art of speaking using Madurese language packaged in the form of an arts drama. The activity was carried out at SDN Blega 1 with a total of 15 cadre participants. And a total of 75 students. The activity stages start from preparation, implementation, evaluation, and end with the preparation of reports and publication of activity results. Participants were also given a questionnaire to assess knowledge about flood disasters. The research method used is descriptive with the researcher acting as an observer. Documentation, observation and test methods are used to collect data. The results obtained show that Ludruk's "LUDRUK SIAGA BENCANA" method as flood preparedness education at SDN Blega 1 can be used to develop students' knowledge, flood management and cultural skills.	**Ludruk, Madura, preparedness, Flood, Elementary School**

INTRODUCTION

Indonesia is an archipelago that geographically has more ocean than land. In addition, Indonesia is located at the confluence of the three Pacific, Indo-Australian and Eurasian plates (Hutagalung et al., 2022). This has resulted in Indonesia becoming a country prone to and frequent disasters (Salsabila & Dinda, 2021). A flood is a natural disaster event that occurs when excessive water flow inundates land. The European Union flood briefing defines flooding as the temporary submersion by water of land that is not normally submerged in water. BNPB data shows that the number of disaster events has doubled in 2016 compared to 2007 where in 2016 there were 1,985 disaster events (Hafida, 2018). Primary school students are a vulnerable group that is a priority in disaster management due to the weakness of students' psychological aspects and understanding of disaster risk factors (Widjanarko & Minnafiah, 2018). In addition, the low level of knowledge, disaster preparedness plans, early warning systems and resource mobilisation in primary schools (<60%) led to the low level of disaster preparedness of students in these schools (Hafida, 2018). The same problem is also

experienced in fire disasters. Losses experienced can be in the form of building damage and also casualties. The age group of children is one of the noteworthy victims (Ashari et al., 2018).

The results showed that there are still many school students who do not know about the actions that must be taken in the event of an earthquake disaster, as well as the actions to avoid earthquake disasters that students must take when outdoors. In fact, the level of preparedness of school equipment in anticipating floods is still in the less prepared category as much as 73.3% and only 53.22% of students are knowledgeably prepared in dealing with disasters at school (Maidaneli & Ernawati, 2019). Another study also stated that the level of disaster preparedness of primary school teachers and students was still lacking (Ayub et al., 2020). This is certainly a concern considering the high disaster risk index in Indonesia, so it is necessary to have an approach to increase understanding of disasters early on to the community (Pahleviannur, 2019). Moreover, so far the focus and responsibility for disaster management has only been placed on the government. The community, especially children as one of the vulnerable groups, must also be able to anticipate disasters, have awareness and preparedness for disasters (Indriasari & Kusuma, 2020).

One of the efforts to reduce disaster risk is non-structural mitigation. This effort can be done by increasing community capacity through activities such as education, socialisation, and also disaster simulation (Arisona, 2020; Kemendikbud, 2015). SDN Blega 1 is one of the public primary schools located in Blega Sub-district, Bangkalan Regency, which is 43.4 km from Ngudia Husada Madura College of Health Sciences. According to BPBD Bangkalan, SDN Blega 1 is one of the schools where flooding occurred. Looking at its condition, SDN Blega 1 is located in Blega sub-district which consists of 6 villages, namely: Blega Village, Kajjan Village, Nyormanis Village, Karang Panasan Village, Karang Gayam Village, and Panjalinan Village where flooding often occurs. As well as many rivers that experience

silting and narrowing. So that it makes flood disasters occur, our community service team chose SDN Blega 1 to collaborate with teachers at the school in the preparedness of students and students during flood disasters. SDN Blega 1 in Blega Village, Blega Sub-district, Bangkalan Regency has 33 teachers and the principal is Mr Hadari S.Pd. Based on the results of coordination with teachers and the principal of SDN Blega 1, Mr Hadari S.Pd. said that flooding often floods the school when it rains heavily, on 8 January 2023 the flood had reached the height of an adult's knee even though it had been raised 175 cm in classrooms and other rooms while the school field was very high and it was not possible to pass because it could be drowned by flooding. As a result of the high floods, the students of SDN Blega 1 automatically cancelled their own school and can cause losses to the surrounding community, floods can cause damage to schools, houses and buildings around those affected by floods. In addition, the community cannot work and go to school if flooding occurs.

One way that can be used is by providing a role for students in flood disaster preparedness, especially for children. Students of SDN Blega 1 are expected to be able to practice on the basis of early awareness of the results of learning which makes children able to help themselves in the field of disasters and play an active role in realising flood disaster preparedness in the community. Students can become agents of change and empower the surrounding community. The prevalence of flooding is quite high and there is no proper handling of flood disaster preparedness at SDN Blega 1 which can have an alarming impact, where flooding will occur every year or it could be that every heavy rain will flood. Therefore, it needs proper handling to raise awareness from an early age about flood disaster preparedness. With this situation, it can be seen that the problems experienced by the partners have been agreed to optimise the students of SDN Blega 1 in an effort to accelerate the proper handling of flood disaster preparedness using Madurese-speaking educational media with the introduction and development of love for Madura culture, One of them uses the cultural

arts of LUDRUK MADURA through the art of telling Madura stories that we will package into education as well as physical exercise and increased stimulation by playing the role of ludruk madura. One of the educational media that we use is a traditional drama performed by students. This activity can increase the knowledge and readiness of the community, especially students, regarding flood preparedness so that they can handle and reduce the impact of disasters that can occur.

METHOD

This community service activity is carried out through direct face-to-face by implementing health protocols at SDN Blega 1, Bangkalan District. The implementation method is in the form of providing education and simulations about preparedness for earthquakes and fires in school buildings. This education and simulation activity. This activity consists of planning, preparation, community assistance, implementation, and reporting stages with details in Figure 1. Planning and preparation Team formation is needed in student creativity programme activities to carry out community service activities. With a solid team, the activities carried out will be easier to run according to the concept of the activity. The division of each task also adds to the effectiveness of the performance of this community service team. Before implementing a community service programme, it is very important to prepare by conducting a search of related partners. This facilitates the collection of data related to the above problems as an initial form of community service activities by finding targets. Community assistance method This method is intended as an effort to develop educational programmes to the community through patterns that are more oriented towards improving the quality of human resources who have high responsiveness and responsibility for their environment, assistance carried out at SDN Blega 1 in Blega sub-district takes "LUDRUK SIAGA BENCANA". The material provided is in the form of understanding, causes, management, training and flood disaster preparedness packaged in a cultural art storytelling LUDRUK MADURA as a preparedness effort. flood disaster and development and

efforts to love the country that is instilled early. Then feedback is given to find out how well students understand the flood disaster preparedness material. The goal is to create a Disaster Safe Education Unit (SPAB) at Blega 1 State Elementary School so that students are able to know about flood disaster preparedness.

The purpose of the cadre training method (alert cadres) is to help all students and students and the surrounding community socialise about flood disaster preparedness. The Community Service Team explained and provided training on preparedness before, during, and after a flood disaster packaged by using the cultural art of storytelling LUDRUK MADURA as the media to be used. Provide opportunities for cadres to ask questions and instruct all cadres to practice flood disaster preparedness. After the cadres understand about flood disaster preparedness, the cadres will be selected to be LUDRUK SIAGA BENCANA players and then will perform at the implementation of the art performance to socialise and provide education to all students and students of SDN Blega 1. Planning and design method of Ludruk Siagana Bencana. The planning of making the LUDRUK SIAGA BENCANA art performance was carried out by looking at the readiness of the alert cadres to perform it, this was planned and made in a simple way that met the criteria for performing art and flood disaster preparedness education that met the criteria and economic principles. this planning pattern also involves all teachers, students and students of SDN Blega 1 so that it is hoped that the benefits will be felt and can build a sense of love for local culture and can still be preserved. Thus, it is not difficult to involve the students and teachers of SDN Blega 1 in the planning, designing and production of the LUDRUK SIAGA BENCANA performance. students at SDN Blega 1 will be selected around 15 children who will be made cadres (alert cadres) who will be taught about the knowledge and training of flood disaster preparedness where the cadres will be trained to become performers of the Disaster Alert Ludruk which will be displayed in the art performance, the community service team takes education using Madurese ludruk media so that students and students can instil love

and can develop Madurese culture. so students and students can find out about flood disaster preparedness in accordance with the SOPs that have been displayed by the alert cadres in the LUDRUK SIAGA BENCANA art performance. Partner Participation in the Implementation of the Programme This community service programme is for students in grades 4 and 5, as many as 15 children to become change of agents for flood disaster preparedness. This aims to assist and provide education to students at SDN Blega 1 to cope with flooding through educational media activities in madura language as well as instilling love of culture from an early age, one of which is by packaging madura ludruk culture as an educational medium. Later, the cadres who have been selected can provide examples to other students at SDN Blega 1 under the auspices of the teachers at SDN Blega 1. Evaluation of programme implementation and sustainability in the field after the activity is completed Assessment of this activity is carried out by lecturers and students involved in the Ngudia Husada Madura College of Health Sciences directly in collaboration with Blega 1 SDN teachers and alert cadres by conducting health counseling movements about flood disaster preparedness. If the implementation of the disaster preparedness ludruk method is in accordance with the SOP and the community is able to implement it independently, this indicates that this community service activity has succeeded in influencing the community, especially children, in flood disaster preparedness. The achievement of programme targets in a study case cannot be used as an indicator of programme success in a broader framework. There are so many problems faced by the community, both social and physical environmental problems that have not been touched. In the long-term programme designed by the community service team in Blega Sub-district, they provide chain education through android.

RESULTS and DISCUSSION

This activity is a community service scheme based on novice community service carried out by lecturers and students of STIKes Ngudia Husada Madura, Bangkal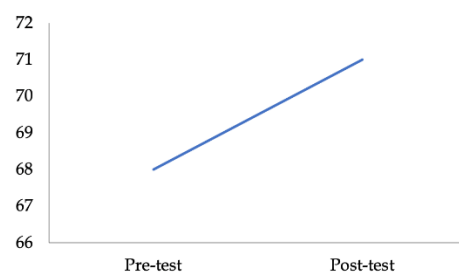an sub-district, Bangkalan district. Providing education about flood disaster preparedness is carried out starting from socialisation which will be carried out pre-test, providing preparedness material question and answer and providing post-test and flood disaster training 3 times and ludruk training 4 times training and art performances.

Providing education by conducting early socialisation in the education sector is important in minimising disaster risk in the community. This can help improve the community's understanding of disaster preparedness (Pahleviannur, 2019).

Table 1. Student Characteristics Based on Gender

Gender	Frequency	Percentage
Male	32	49,2%
Female	33	50,8%

The results of the activity in Graph 1 show an increase in the level of knowledge of students after being given education and simulations about flood disasters. The results of this activity were carried out on students based on gender as shown in Table 1 male 49.2% and female 50.8%.

Graph 1. Mean knowledge level of students before (pre-test) and after (post-test) given education and simulation.

The results of this activity are supported by the results of research conducted on children aged 8-13 years in North Luwu District. Before being given education, 82% of children had a poor level of knowledge and 83.6% of children had a negative attitude towards disasters. However, after being given education, the majority of children (90.6%) had a high level of knowledge with a positive attitude (Rustam et al., 2022).
This is in line with the results of research showing the effect of education on student

preparedness at SD No.7 Labuhan, South Aceh Regency. The results showed an increase in the level of student preparedness from 66.07 to 85.40 in the ready and very ready categories after being given counselling on disaster preparedness (Simeulu & Asmanidar, 2020).

Students have a role in flood disaster preparedness, especially for children. Students of SDN Blega 1 are expected to be able to practice on the basis of awareness from an early age from the results of learning which makes children able to help themselves in the field of disasters and play an active role in realising flood disaster preparedness in the community, it is hoped that students and students can become agents of change and empower the surrounding community. We use Madurese-speaking educational media with the introduction and development of love for Madurese culture, one of which uses the cultural art of LUDRUK MADURA through the art of telling Madurese stories that we will package into education as well as physical exercise and increased stimulation by playing the role of Madurese ludruk. One of the educational media that we use is a traditional drama performed by an art group performed on a stage by taking stories about everyday life interspersed with jokes and accompanied by gamelan as music using Madurese language because it can be a fun way and support children's growth and development, especially to stimulate language skills and several types of multiple intelligences. Active, innovative, creative, effective and fun learning methods can be done by using drama as a medium. The benefits or basic objectives of the teaching material will be conveyed indirectly through the course of the story from beginning to end, so there is no need to be too patronising to students.

Socialisation and simulation of disaster mitigation are also useful in training reflexes to rescue during a disaster and also the preparedness of elementary school students and teachers (Arisona, 2020). The implementation of disaster mitigation education in schools can have a positive impact on knowledge and preparedness.

CONCLUSIONS

The community service activities carried out went smoothly and well, which was marked by an increase in students' knowledge, response, and understanding of preparedness during flood disasters and even students could awaken the spirit of cultural love and preserve culture, especially Madurese Ludruk. During the education and simulation, students also showed positive interest and enthusiasm for the materials and experiences provided. The results of the activity obtained the average level of knowledge is still in the medium category so it needs to be improved again. Disaster simulation activities need to be carried out regularly to improve the knowledge and response and preparedness of school community, especially students in facing disaster.

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ORIGINAL RESEARCH

APPLICATION OF CURIOSITY TOWARD TODDLER POSITIVE THINKING ATTITUDE IN FACING THE ERA SOCIETY 5.0

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ABSTRACT	Keywords
Era 5.0 is an era of digitalization technology that can influence the development of toddlers because the development of cognitive function, the immune system, and physical growth occur rapidly. Including toddlers' high curiosity about technology, one of which is using mobile devices. The purpose of this research was to prove the influence of applying curiosity on toddlers' positive thinking attitudes in facing the era society 5.0 in East Wonoayu Hamlet, Dukuhmojo Village, Mojoagung District, Jombang Regency. The design of this research used a one-group pra-post test design. The population in this research were all mothers and toddlers in East Wonoayu Hamlet, Dukuhmojo Village, Mojoagung District, Jombang Regency totaling 47 children. The sampling technique used was total sampling. The samples in this research were all mothers and toddlers in East Wonoayu Hamlet, Dukuhmojo Village, Mojoagung District, Jombang Regency totaling 47 children. The instrument used to assess positive thinking attitudes is a questionnaire. Data processing starts from editing, coding, scoring, and data analysis was carried out using the cross table. The research results showed that there was an increase before the implementation of curiosity as many as 47 (100%) respondents had a moderate positive thinking attitude. And after implementing curiosity 17 (36%) respondents had a high positive thinking attitude. curiosity will motivate a person to continue looking for and knowing new things so that they can increase their knowledge and experience in the learning process.	**Curiosity, Positive Thinking Attitude, Era Society 5.0**

INTRODUCTION

As time goes by, technology created by humans continues to develop. One of them is Society 5.0. In this era, all modern-based technology (AI, Robot, IoT) is part of humans themselves, the internet is not only used to share information but to live life. Era 5.0 is a period where we are faced with things related to the development of digitalization technology (Anshori, 2022).

The era of society 5.0, can influence the development of toddlers because the development of cognitive functions, the immune system, and physical growth of toddlers occurs rapidly. This can also influence high curiosity about technology, one of which is using mobile devices. An important period in a child's growth and development is the toddler years. Because during this period basic growth will influence and determine the child's further development. During infancy, the development of language skills, creativity, and social, emotional, and intelligence awareness progresses very rapidly and is the foundation for further development (Soetjiningsih & Ranuh, 2016).

In a child's development, there is a critical period, where a useful stimulus is needed so that the potential develops well,

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therefore attention is needed, especially from parents. Parents must be able to become supervisors and guides seriously in communicating and explaining technology according to their children's needs so that children can follow and be able to use advanced technology as best as possible. Children need to be guided in using digitalization so that it is easier to master it.

Research result (Abu, Ruslin, Alhabsyi, & Hidayatullah, 2022) shows that character development in early childhood is carried out through the introduction of daily activities which are carried out through fun activities, playing, simulations, and creations.

Research result (Ningrum, Fajriyah, & Budiman, 2019) shows that in implementing literacy activities to form the curious character of fifth-grade students, it can also be concluded that curiosity has gone quite well when students like to read and ask questions.

Research result (Kholidah & Alsa, 2012) shows that positive thinking training is effective in reducing stress levels in students.

The results of a preliminary study in East Wonoayu Hamlet found that there were toddlers who used mobile devices to play. The children's parents said they gave them mobile devices because the children always asked to play on their cell phones so that the children would not be fussy.

Parents can develop their children's curiosity through the application of Curiosity. Curiosity is an attitude and action that always seeks to know more deeply and broadly about something they learn, see, and hear (Nawir & Hasnah, 2020). Curiosity will motivate a person to continue looking for and knowing new things so that they can increase their knowledge and experience in the learning process. Curiosity is very important because it is the only thing that can truly love learning. Success in finding big ideas is not only influenced by intelligence but is also influenced by high curiosity so that it can motivate you to continue looking for information and questioning everything (Purnama, Saputra, & Rinawati, 2021).

Curiosity can foster a positive thinking attitude, according to Susetyo (1998), positive thinking is a person's thinking ability to focus on the positive side of the situation of oneself, other people, and the situation at hand. Positive thinking will not come by itself but is a skill that must be learned. Whatever is done must be faced with positive thinking, because a positive frame of mind increases motivation to succeed and get what you want. One way to think positively in a family environment is to discuss things with each other, whether they like/dislike, and what the problem is directed using positive thinking to find a better solution. Through positive thinking in the family, a sense of warmth, togetherness, and motivation will flow, resulting in a prosperous and harmonious family (Nandy, 2021).

In 2030-2045 we know as the millennial era, where someone must have many advantages from the past. We must become a generation of innovators, able to process intelligence based on current developments, have positive attitudes and actions be tough in facing existing challenges, and be able to overcome them well.

Era Society 5.0 plays an important role in the family, national, or international sphere. Everything will be accessible in digital media via an online internet network. We must follow this technological development carefully so that everything we want can be done effectively and efficiently so that the 5.0 era has extraordinary benefits, it is easier and more enjoyable. Vice versa, if you can't keep up, you could be left behind with the times or find it difficult.

Efforts that can be made in facing the 5.0 era are mastering digitalization and utilizing this era to be full of digitalization technology intelligence in society which we know as a smart society and applying curiosity to children within the family sphere so that children have a positive thinking attitude and are ready to face the era of society 5.0.

METHOD

The research design is a one-group pre-post test design (Purnomo & Bramantoro, 2018). The independent variable in this research is the application of curiosity and the dependent variable is a positive thinking attitude. The population in this research were all mothers and toddlers in East Wonoayu Hamlet, Dukuhmojo Village, Mojoagung District, Jombang Regency are 47 children.

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The sampling technique used was total sampling. The sample of this research was all mothers and toddlers in East Wonoayu Hamlet, Dukuhmojo Village, Mojoagung District, Jombang Regency, totaling 47 children. The measuring instrument used is a questionnaire with test results 100% valid and reliable with = 0.848. This research was conducted at East Wonoayu Hamlet, Dukuhmojo Village, Mojoagung District, Jombang Regency in July 2023. Data collection was carried out by assessing (pre-testing) the positive thinking attitude of the respondents using a questionnaire (before application of curiosity). Then, the implementation of the application of curiosity, followed by an assessment of a positive thinking attitude after the application of curiosity (post-test). After the data was collected, editing, coding, scoring, and data analysis were carried out using the cross table.

RESULTS

Table 1. Frequency Distribution of Respondents by Gender at East Wonoayu Hamlet, Dukuhmojo Village, Mojoagung District, Jombang Regency in July 2023.

Gender	Frequency (F)	Percentage (%)
Male	20	43
Woman	27	57
Total	47	100

Based on Table 1, it is known that most of the 27 (57%) respondents are women.

Table 2. Frequency Distribution of Respondents by Age at East Wonoayu Hamlet, Dukuhmojo Village, Mojoagung District, Jombang Regency in July 2023.

Age	F	%
Baby	5	11
Todler	19	40
Pre School	23	49
Total	47	100

Based on Table 2, it is known that most of the 23 (49%) respondents are Pre School.

Table 3 Distribution of Frequency Based on Nutritional Status of Toddlers at East Wonoayu Hamlet, Dukuhmojo Village, Mojoagung District, Jombang Regency in July 2023.

Nutritional Status	F	%
Very less	3	6
Not enough	5	11
Normal	38	81
More	1	2
Total	47	100

Based on Table 3, it is known that most of the 38 (81%) normal toddlers have nutritional status.

Table 4 Distribution of Frequency Based on Education Level of Mother at East Wonoayu Hamlet, Dukuhmojo Village, Mojoagung District, Jombang Regency in July 2023.

Mother's Education Level	F	%
Did not finish elementary school	0	0
	0	0
Primary School	17	36
Junior High School	24	51
Senior High School	6	13
College		
Total	47	100

Based on Table 4, it is known that most of the 24 (51%) education levels of the respondents' mothers are in senior high school.

Table 5 Distribution of Positif Thinking Attitude Toddler at East Wonoayu Hamlet, Dukuhmojo Village, Mojoagung District, Jombang Regency in July 2023.

Positif Thinking Attitude	Before		After	
	F	%	F	%
Not positive thinking	0	0	0	0
Low	0	0	0	0
Currently	47	100	30	64
Tall	0	0	17	36
Total	47	100	47	100

Based on Table 5, it is known that before the application of curiosity as many as 47 (100%) respondents had a moderate positive thinking attitude. And after implementing curiosity, 17 (36%) respondents had a high positive thinking attitude.

DISCUSSION

Based on Table 5, it is known that before implementing curiosity, 47 (100%) respondents had a moderate positive thinking attitude. And after implementing curiosity, 17

(36%) respondents had a highly positive thinking attitude.

The era of Society 5.0 is a digital era where many people's activities are carried out through applications on cell phones or tablets, including working, studying, shopping, searching for information, and so on. This encourages people not to be away from cell phones, parents often use cell phones in front of their children so children also tend to use cell phones either for playing or studying. Toddlers will carry out activities that are often seen and heard and also have a high curiosity so that when using a cellphone they try to access it as desired

Thus, parents need to set rules for children about using cellphones wisely and parents also need to develop toddlers' curiosity so that a positive mindset can be created and they can grow and develop optimally.

In Facing the Era Society 5.0, parents need to apply Curiosity or their toddler's curiosity to hone a Positive Thinking attitude. Curiosity is a feeling of curiosity that arises and is possessed by humans about something for which they have not yet received an explanation or answer (Binus university, 2017).

The application of Curiosity can be done through the following activities; parents can show them the outside world by going for a walk, and accompanying their children when doing activities according to their interests such as singing, and sports. Parents get used to asking open questions, especially when children tell stories or after doing activities such as who, and what. Not always answering children's questions so that children think about looking for answers first. Create an interesting environment with educational toys, and provide opportunities for people to be themselves as they explore the environment safely.

The correct application of Curiosity makes children have a Positive Thinking attitude. According to Susetyo (1998), positive thinking is a person's thinking ability to focus on the positive side of the situation of oneself, other people, and the situation they are facing (Nandy, 2021).

Toddlers who have a Positive Thinking attitude will tend to accept positive criticism and not get angry easily. Always try

to spread positive things and choose positive things. Toddlers can take responsibility for the actions they have taken and are confident they can do anything.

CONCLUSIONS

There was an increase, before the implementation of curiosity, 47 (100%) respondents had a moderately positive thinking attitude. After implementing Curiocity, there were 17 (36%) respondents who had a high positive thinking attitude, meaning that there was an effect of implementing Curiocity on increasing Positive Thinking attitudes.

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ORIGINAL RESEARCH

RISK FACTORS FOR SEVERE PREECLAMPSIA AT DR. WAHIDIN SUDIRO HUSODO HOSPITAL MOJOKERTO CITY IN 2021-2022

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ABSTRACT	Keywords
Background: Preeclampsia and eclampsia are major causes of morbidity and mortality during the perinatal period. The change from preeclampsia to severe preeclampsia can progress rapidly. The case of severe preeclampsia in Dr. Wahidin Sudiro Husodo Hospital, is very high. **Purpose**: To analyze the risk factors for severe preeclampsia at Dr. Wahidin Sudiro Husodo Hospital, Mojokerto City. **Subjects and Methods**: This study was conducted using an observational analytic quantitative method with an case control design. The sampling method used consecutive sampling. This study involved a total of 150 samples from two groups, consisting of pregnant women and laboring women. **Results**: The variables that had a significant relationship with the incidence of severe preeclampsia were age variables (p-value: 0.000; OR: 4.330; CI: 1.972-9.507), history of obesity (p-value: 0.000; OR: 15.460; CI: 5.255-45.483), history of preeclampsia (p-value: 0.001; OR: 7.579; CI: 2.127-27.006), history of diabetes mellitus (p-value: 0.012; OR: 11.385; CI: 1.419-91.352), and history of chronic hypertension (p-value: 0.000; OR: 6.945; CI: 2.931-16.456) were all significantly associated with the incidence of severe preeclamsia . the variables of age, history of obesity, and history of chronic hypertension met the final modeling in multivariate analysis. **Conclusion**: The history of obesity being the most dominant variable.	**Severe preeclampsia, risk factors, history of obesity.**

INTRODUCTION

Preeclampsia and eclampsia are the leading causes of morbidity and mortality during the perinatal period (WHO, 2021). The most common cause of of death mothers in Indonesia based on the Death Registration System Litbangkes (2016) hypertension/ preeclampsia/ eclampsia,bleeding, and infection (Kementrian Kesehatan, 2021). Efforts to reduce the maternal mortality rate (MMR) to 70 per 100 ,000 live births which is target number 3 from global Sustainable Development Goals (SDGs) (WHO, 2021). East Java Province is a province with a high

maternal mortality rate in Indonesia (Kementrian Kesehatan,2021). Mojokerto City is one of the cities with the highest maternal mortality rate in East Java province, and in the last five years there has been an almost three-fold increase in maternal mortality cases in 2021, with the most common cause of death being hypertension/preeclampsia.

Preeclampsia is a health problem that occurs during pregnancy and is characterized by an increase in blood pressure (> 140/90 mmHg) and the detection of protein in the urine (+2), but there are certain situations

where preeclampsia is not always accompanied by proteinuria. This condition starts to appear after 20 weeks of pregnancy. Serious complications associated with preeclampsia, including severe preeclampsia, HELLP syndrome (Hemolysis, Elevated Liver Enzymes, Low Platelet Count), and eclampsia, occur in approximately 5-6 deliveries out of every 1000 pregnancies (Feroz et al., 2020). Women who experience severe preeclampsia have a risk of serious complications that increases 3 to 25 times (Godana et al., 2021).

Severe preeclampsia based on the guidelines of the American College of Obstetricians and Gynecologists (ACOG) is a condition of preeclampsia with blood pressure (> 160/110 mmHg) on two separate occasions, with an interval of at least 4 hours and / or characterized by a decrease in platelet count (thrombocytopenia), impaired liver function, renal impairment, pulmonary edema, and the appearance of headache and visual disturbances. Factors that increase the risk of severe preeclampsia are nulliparity, multifetal pregnancy, preeclampsia in previous pregnancies, pregnancy interval, chronic hypertension, gestational diabetes, thrombophilia, BMI> 30, vulnerable age group, kidney disease, use of assisted reproductive technology, and antiphospholipid antibody syndrome. (Lisonkova et al., 2021).

Based on data from the Mojokerto City Health Office in 2021 and 2022, there was an increase in cases of severe preeclampsia for 3 consecutive years. The number of cases of severe preeclampsia is still very high and still far from the safe category against preeclampsia. This is evidenced by several cases of maternal death due to severe preeclampsia, even to complications, including in 2019 and 2022 there were maternal deaths due to severe preeclampsia with pulmonary edema and in 2020 there were cases of maternal death due to eclampsia and chronic hypertension.

Based on medical record data, severe preeclampsia cases were recorded at the Dr. Wahidin Sudiro Husodo Regional General Hospital in 2021 50 cases, and in 2022 it increased to more than 70 cases. One of the problems seen in the medical record data is that mothers with severe preeclampsia are predominantly referred patients. This implies that there is an increase in severe preeclampsia cases, but there is no visible change towards a better condition. The General Hospital is the health facility with the highest cases of severe preeclampsia in Mojokerto city, this is because the General Hospital is the facility with the highest number of cases of severe preeclampsia.

As the main referral health service in Mojokerto city, research on risk factors for severe preeclampsia at Dr. Wahidin Sudiro Husodo Regional General Hospital, is needed to serve as a reference for efforts to reduce maternal mortality (MMR) caused by severe preeclampsia in Mojokerto city.

METHOD

The research method used was an analytical observational study approach with an unmute case-control hospital base design. The study subjects included all patients of pregnant women and delivery mothers, who were recorded in medical record data at Dr. Wahidin Sudiro Husodo Region General Hospital during the period January 2021 to December 2022. The size of the study sample was calculated using the case control design formula, and the minimum number of samples required was 136 for two groups, namely the case group and the control group. During the implementation of the study, a total of 150 samples were obtained, with 75 samples in the case group and 75 samples in the control group. The main objective of this study was to study, observe, and analyze the independent variables that act as risk factors in the

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occurrence of severe preeclampsia. The dependent variable in this study was patients who experienced severe preeclampsia, while the independent variables consisted of risk factors such as maternal age, parity, history of obesity, history of chronic hypertension, and history of diabetes mellitus. The sampling method used was consecutive sampling, and medical record data collection was carried out during the June-August 2023 period at Dr. Wahidin Sudiro Husodo Region General Hospital. Data were collected using patient medical record data as the main instrument, and the collected data were then processed through various stages, including editing, coding, data entry, cleaning, and tabulating. Analysis of the research data involved several methods, including univariate analysis, bivariate analysis using the chi square test, and multivariate analysis with multiple logistic regression using the SPSS program. The aim was to identify the relationship between dependent and independent variables, and to determine the variables that have the most dominant influence on the risk of severe preeclampsia

RESULTS AND DISCUSSION

Over the past five years, there has been a very significant increase in cases of Severe Preeclampsia (PEB) at Dr. Wahidin Sudiro Husodo Hospital, Mojokerto City. This increase almost reached five times in the period 2021-2022. Mojokerto City, which is one of the three cities with the highest maternal mortality rate (MMR) in the country, has a significant increase in PEB cases.

East Java in 2021, faces a very serious situation. Maternal deaths can occur in severe situations, but the change from preeclampsia (PE) to severe preeclampsia (PEB) can be rapid, unexpected, and sometimes sudden (Word Health Organization, 2021). The results of statistical test analysis using SPPS are outlined in the following table :

Table 1 Variable analysis results of chi square test

Risk Factor		Control N	Control %	Case N	Case %	p value	CI	OR 95%
Age	<20, >35	32	42,7%	11	14,7%	0,000	1,972-9,507	4,33
	20-35	43	57,3%	64	85,3%			
	Total	75	100%	75	100%			
Parity	Primiparous	32	42,7%	33	44%	1,000	0,496-1,807	0,947
	Multiparous	43	57,3%	42	56%			
	Total	75	100%	75	100%			
History Obesity	Yes	39	52%	5	6,7%	0,000	5,501-41,812	15,167
	No	36	48%	70	93,3%			
	Total	75	100%	75	100%			
History Preeclampsia	Yes	18	24%	3	4%	0,001	2,127-27,006	7,579
	No	57	76%	72	96%			
	Total	75	100%	75	100%			
History Hipertension Chronic	Yes	34	45,3%	8	10,7%	0,000	2,931-16,456	6,945
	No	41	54,7%	67	89,4%			
	Total	75	100%	75	100%			
History Diabetes Mellitus	Yes	10	13,3%	1	1,3%	0,012	1,419-91,352	11,385
	No	65	86,7%	74	98,7%			
	Total	75	100%	75	100%			

In table 1 above, it can be seen from the chi-square test analysis that the variables that have a p-value less than α (0.05) are age,

history of obesity, history of preeclampsia, history of chronic hypertension, and history of diabetes mellitus, so that these variables have a significant relationship with the incidence of severe preeclampsia at Dr. Wahidin Sudiro Husodo Region General Hospital.

a. Parity

The variable that did not have a significant association with the incidence of severe preeclampsia was parity, due to a p-value of 1.000, which was greater than α = 0.05. This is due to the balanced number of primiparas and multiparas in the case and control groups in the research data. The results of this study are in line with research conducted by Jasda et al (2021) and Aryanti et al (2022) which state that parity has no significant relationship to the incidence of severe preeclampsia (PEB), but the results of this study are not in line with the theory that parity is associated with the incidence of severe preeclampsia, namely in nulliparous / primiparous mothers or mothers who have never given birth (ACOG, 2019).

b. Age

The results of the chi-square test analysis on the age variable showed a significant relationship with the incidence of severe preeclampsia (p-value: 0.000; OR: 4.33; CI: 1.972-9.507) and the risk was 4.3 times higher at high risk age (<20 and >35 years). These results are consistent with the results of the WHO survey (2019) and research by Ertiana and Wulan (2019) which showed that age <20 and >35 years were associated with a 5.4 times higher risk of severe preeclampsia. However, in contrast to research conducted by Sumampouw, et al (2019) stated that normal age (20-35 years) has a higher risk of developing severe preeclampsia. Severe Preeclampsia compared to susceptible ages (<20 and >35 years).

c. History of Obesity

The history of obesity variable also has a significant relationship with the incidence of PEB (p-value: 0.000; OR: 15.167; CI: 5.501-41.812) with a risk of 15 times higher in mothers who have a history of obesity before pregnancy. The results of a study conducted by Jeong, et al (2022) on Thai women showed that obesity before pregnancy increased the risk of PEB almost five times compared to normal weight before pregnancy. This confirms the importance of obesity history in the incidence of severe preeclampsia.

d. History of Preeclampsia in Previous Pregnancy

Previous history of preeclampsia was associated with PEB (p-value: 0.001; OR: 7.579; CI: 2.127-27.006) and it can be concluded that mothers who have a history of preeclampsia in previous pregnancies have a 7.5 times risk of increasing the incidence of PEB in subsequent pregnancies. The results of this study are similar to the ACOG guidelines (2019) and research conducted by Meazaw (2020) with a meta-analysis method involving six studies in various countries has shown a clear and strong correlation that a previous history of preeclampsia is one of the significant risk factors for the incidence of severe preeclampsia.

e. History of Comorbidities

History of comorbidities of chronic hypertension and diabetes mellitus had a significant association with the incidence of History of chronic hypertension (p-value: 0.000; OR: 6.945; CI: 2,931-16.456) has a risk of 6.9 times that of mothers who do not have a previous history of chronic hypertension, which is the same as that of mothers who do not have a history of chronic hypertension (2020) noted that pregnant women in Nigeria who had a history of chronic hypertension experienced more than a 2- fold increase in the risk of PEB. History of diabetes mellitus (p-value: 0.012; OR: 11.385; CI: 1 .419-91.352) has a 11.3 times higher risk of experiencing PEB, this result is in line with research conducted by Yang and Wu (2022) which states that HAPO (international cohort study) which has a 11.3 times higher risk of

experiencing severe preeclampsia, involving 23,316 pregnant women from nine countries. This study proved the relationship between blood glucose levels and severe preeclampsia. In addition, there is research conducted by Eka Wulandari (2021) with the results of her research that the history of comorbidities does not have a significant relationship with the incidence of PEB, this difference is due to the place and there are differences in research subject criteria.

Table 2 Multivariate analysis results

Multivariate Analysis		P value	Exp(B)	CI
Step 1	Age of Respondent	0,049	2,709	1,006-7,296
	History of Obesity	0,000	14,897	4,979-44,571
	History of Preeclampsia	0,281	2,321	0,503-10,714
	History of Diabetes Mellitus	0,067	8,323	0,859-80,644
	History of Chronic Hypertension	0,003	4,843	1,709-13,724
	Constant	0,000	0,210	
Step 2	Age of Respondent	0,028	2,972	1,128-7,832
	History of Obesity	0,000	15,535	5,216-46,271
	History of Diabetes Mellitus	0,062	8,664	0,900-83,364
	History of Chronic Hypertension	0,001	5,770	2,122-15,690
	Constant	0,000	0,213	
Step 3	Age of Respondent	0,007	3,657	1,437-9,306
	History of Obesity	0,000	15,460	5,255-45,483
	History of Chronic Hypertension	0,001	5,568	2,088-14,848
	Constant	0,000	0,230	

In table 2 above, the results of multivariate analysis using multiple logistic regression showed that the variable history of obesity before pregnancy was the most dominant variable in the incidence of severe preeclampsia with a risk of 15 times higher. experienced severe preeclampsia in mothers with a history of obesity before pregnancy compared to mothers who were not obese.

Age and history of chronic hypertension were variables included in the final modeling of multivariate analysis.

CONCLUSIONS

The variables of age, history of obesity, history of preeclampsia, history of diabetes mellitus and history of chronic hypertension are significant risk factors for the incidence of severe preeclampsia (PEB) at Dr. Wahidin Sudiro Husodo Region General Hospital, Mojokerto City in the 2021-2022 period, and history of obesity is the most dominant variable.

For future research, additional factors related to the mother's life can be developed, such as the frequency and quality of ANC visits, the mother's education level, early marriage factors, economic conditions, and support provided by family and husband. Dr. Wahidin Sudiro Husodo Region General Hospital can make promotive and preventive efforts to the community regarding severe preeclampsia, as well as optimizing screening in patients with risk factors in an effort to prevent complications in the mother even to death.

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ORIGINAL RESEARCH

THE CORRELATION BETWEEN PHYSICAL ACTIVITY AND STRESS AND THEIR IMPACT ON URIC ACID LEVELS IN OLDER INDIVIDUALS

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ABSTRACT	Keywords
The elderly population, who are more susceptible to infection and chronic illnesses, are particularly susceptible to gout. The Pakong Health Center Working Area has a high prevalence of gout among the elderly population. The study examines the relationship between physical activity and stress, with uric acid levels as the dependent variable. The study involved 60 patients with gout, with a sample size of 53. The DASS physical activity questionnaire was used to gather data. The results showed that 77% of participants engaged in moderate physical activity, while almost 40% fell into the moderate stress group. The majority of uric acid levels were elevated, with 36 out of 68% being elevated. The Spearman Rank analysis yielded a p-value of 0.005, indicating a correlation between physical activity and uric acid levels in the elderly. Additionally, a p-value of 0.000, indicating a link between stress levels and gout occurrence, suggests that older individuals should enhance their physical activity and manage their nutrition to lower uric acid levels. Additionally, seniors should reduce stress by improving their religious practices, expressing their concerns, and maintaining a positive mindset.	*Physical Activity, Stress, Gout, Elderly*

INTRODUCTION

Elderly (elderly) is a process of decreasing the ability of tissues to maintain normal function or repair themselves so that they are unable to survive if there is an infection or repair themselves if there is damage experienced (Aspiani , 2014 in Yunaspi 2021). On average, elderly people will experience degenerative diseases, one of which is gout (Simamora, 2018).

Uric acid is a chemical compound in the form of the final product of the breakdown of purines or waste products in the body, including the results of purine catabolism assisted by the enzymes guanase and xanthin oxidase. Sinaga et al (2014) in Megawati et al (2019).

According to the American College of Rheumatology, gout is a disease and potential disability caused by arthritis where the symptoms are pain in the joints, with levels in women > 6 mg/dl and men > 7 mg/dl (Febriyanti et al., 2020).

Gout sufferers are increasing every year, according to the World Health Organization (WHO), in 2017 uric acid in the world was 34.2% and in 2018 WHO predicts that around 355 million people in the world will experience gout, even the incidence of gout in In Indonesia in 2018 it was 7.3%, where if seen from the signs and symptoms it was classified as a joint disease, and in the East Java region, data showed that the number of sufferers was around 6.72%, which varied across various populations (Rikesdas, 2018). Gout sufferers in Indonesia in 2019 were

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among the highest in Asia, reaching 81% (Novianti et al., 2019). Based on initial observations carried out in the Pakong Community Health Center work area, Pamekasan Regency, data was obtained on elderly people suffering from gout at the end of 2022, a total of 109 people with the highest number of sufferers being in Pakong Village, namely 60 people.

Elevated uric acid levels can be caused by various risk factors: increasing age, genetics, gender, obesity, medications (such as diuritics), physical exercise and fatigue, high purine diets, alcoholic drinks, stress, and complications of diseases such as hypertension or chronic kidney failure (Rokhimah Puji Harlina et al., 2020). One factor that can influence uric acid levels is physical activity. The activities a person does are related to the level of uric acid in the blood. Physical activity, such as exercise or physical movement, will reduce uric acid excretion and increase lactic acid production in the body. The heavier the physical activity that is carried out and lasts for a long period, the more lactic acid is produced (Azari, 2014 in Dasawisma et al., 2018). Confused thoughts (stress) can stimulate the release of the hormones cotsiol, adrenaline, and norepinephrine which causes increased heart work and increased blood pressure/hypertension (Timotius et al., 2019). Hypertension causes the kidneys to switch functions to remove sodium in the body to lower blood pressure, so that the kidney's function in excreting uric acid is disrupted, which results in increased purine levels in the blood so that the increased purine levels cannot be processed optimally and accumulate in the body, resulting in high acid levels. veins and increasing pain in the phallus (2012) (Febrianti et al., 2019). This is in accordance with what was stated in research conducted by Dewi & Setiyaningrum, 2020, that the results of research data analysis conducted partially showed that stress had a positive correlation with increasing blood pressure which could have an impact on increasing purine levels in the blood.

The impact that will occur if high uric acid levels can cause very severe pain in the joints so that it has a bad impact when you want to do physical activities such as sitting, standing and walking. The buildup of urate crystals in the joints over a long period of time will result in joint damage, causing pain. Physical activity carried out by humans is related to the level of uric acid in the blood. (Ekasari, 2018 in Yunaspi, 2021) .

Possible treatment _ done For reduce impact sour veins so as not to the more severe and even emotional impact _ is use treatment pharmacology (use Allopurinol and medication Uricosuric like Probenecid and Sulfinpyrazone) or non- pharmacological 4 (adequate rest , use compress warm , low diet purine , reducing intake alcohol and lowering body weight , as well reduce stress) Nurarif (2015) in Hidayah (2019) .

RESEARCH METHODS

The population of elderly people suffering from gout in the Pakong Health Center working area is 60 elderly patients with a sample of 53 with a *non-probability* sampling technique using a *probability random sampling* technique .

RESULTS AND DISCUSSION

Table: Frequency distribution of respondents based on uric acid levels in the work area Health Center Pakong

No	Gout _	Frequency	Percentage (%)
1	Normal	7	13
2	Tall	46	87
	Amount	53	100

Source : Primary Data August 2023

Based on the table above, it shows that almost all respondents had high uric acid levels, 46 (87%), and a small number of respondents had normal uric acid levels, 7 (13%).

Table of frequency distribution of respondents based on physical activity in work area Health Center Pakong

No	Activity Physique	Frequency	Percentage (%)
1	Light	3	5,6
2	Currently	34	64.2

3	Heavy	1 6	30.2
	Amount	5 3	100

Based on the table above, it shows that the majority of physical activity was moderate, numbering 34 (64.2%).

Table of frequency distribution of respondents based on stress level in work area Health Center Pakong

N o	Stress level	Frequency	Percentage (%)
1	Normal	1 4	26
2	Light	1 0	19
3	Currently	2 1	40
4	Critical	8	15
5	Very serious	0	0
	Amount	5 3	100

Based on the table above, it shows that almost half of the respondents had a moderate level of stress, 21 (40%), a small number of respondents had a normal stress level, 14 (26%), a mild stress level, 10 (19%), and a severe stress level. a total of 8 (15%).

Relationship between physical activity and uric acid levels in the elderly in the Pakong Community Health Center working area

Cross-tabulation table of the relationship between physical activity level and acid incidence
veins in the Pakong Community Health Center working area

Activity Level physique	Uric Acid Levels				Total		pValue
	Normal		Tall				
	n	%	N	%	N	%	
Light	3	5,6	0	0	3	5,6	
Currently	4	7.6	3 0	56. 6	3 4	64. 2	
Heavy	0	0	1 6	30. 2	1 6	30. 2	*0.005*
Total	7	13. 2	4 6	86. 8	5 3	10 0	

Based on results study From the results of the *Chi Square* statistical test , it was obtained mark *Pearson Chi-Square Asymptotic Significance (2-sided)* = 0.005 means mark *Asymptotic Significance (2-sided)* = < α (0.05). Thus, it can be concluded that H0 $_{is}$ rejected and Ha is accepted, which means there is a significant relationship between physical activity and uric acid levels in the elderly in the Pakong Community Health Center working area.

Researchers are of the opinion that respondents carry out moderate physical activity because the activities carried out by respondents are only work that is not too heavy, such as sweeping, cooking, washing dishes, moving furniture, walking leisurely at home, and gardening. Apart from that, there are those who work as entrepreneurs and this is a routine activity that is carried out every day. The respondents' high uric acid levels were caused by lack of knowledge, consuming foods high in purine, being overweight and age. Lack of knowledge about factors that can increase uric acid levels and how to prevent them so that they cannot regulate their diet. High uric acid levels can affect physical activity.

The results of this research are the same as research conducted by Ditte Ayu Suntara et al, (2022). Based on the results of the Chi-Square analysis, it is known that the p value is 0.005<0.05 (which is shown in the Asymp.Sig column) in the computer output, so Ho is rejected and Ha is accepted, meaning that there is a relationship between physical activity and uric acid (gout) levels in elderly.

These results are in accordance with research by Wicaksono (2020) which states that physical activity is any form of body movement that occurs due to skeletal/skeletal muscle contractions which causes an increase in calorie needs or the body's calorie use exceeds energy needs in a resting state. Physical activity is related to uric acid levels in the elderly, high uric acid levels are caused by consuming foods that contain purine. Excessive purine causes pain in the joint area accompanied by inflammation or swelling so that it can interfere with carrying out daily activities.

These results are in accordance with research by Aspiani (2014) in Yunaspi (2021) which states that activities carried out by humans are related to uric acid levels in the blood. Physical activity such as exercise or physical movement will reduce uric acid excretion and increase lactic acid production in the body. Physical activity can affect uric acid levels because physical activity will cause an increase in lactic acid. This lactic acid will reduce uric acid production. If uric acid cannot be excreted by the kidneys, uric acid will build up.

According to Songgigilan et al (2019) who stated that high uric acid levels can be caused by two main possibilities, namely excess production of uric acid in the body or obstruction of uric acid removal by the body. Excess uric acid production can be influenced by the type of food consumed, alcohol consumption, and obesity. Meanwhile, obstructed elimination can be influenced by drugs such as diuretics and kidney disease or intoxication.

These results are in accordance with research by Pursriningsih and Panunggal (2015) in Veranica Emilia, Lutfi Nurdian Asnindari (2021) who stated that one of the causes that influences uric acid levels is exercise or physical activity. Exercise or physical movement will cause an increase in lactic acid levels. Lactic acid is formed from the glycolysis process that occurs in muscles. If muscles contract in anaerobic media, namely media that does not have oxygen, glycogen, which is the final product of glycolysis, will disappear and lactate will appear as the main final production. An increase in lactic acid in the blood will cause

a decrease in uric acid excretion by the kidneys.

The Relationship between Stress Levels and Uric Acid Levels in the Elderly in the Pakong Health Center Working Area

Cross tabulation table of the relationship between stress levels and acid events veins in the Pakong Community Health Center working area

Stress level	Uric Acid Levels				Total		pValue
	Normal		Tall				
	n	%	n	%	N	%	
Normal	7	13.2	7	13.2	14	26.4	
Light	0	0	10	18.9	10	18.9	
Currently	0	0	21	39.6	21	39.6	0,000
Critical	0	0	8	15.1	8	15.1	
Total	7	13.2	46	86.8	53	100	

Source : Primary Data, August 2023

Based on the research results, almost half of the respondents (39.6%) had moderate stress levels and high uric acid levels (39.6%). The results of *the Cji square* test obtained a *p value* <0.05, namely $p = 0.000$, meaning that H_0 is rejected and H_1 accepted, then it is stated that there is a relationship between stress levels with uric acid levels in the elderly in the Pakong Health Center working area.

The elderly in the Pakong Community Health Center work area have moderate levels of stress due to aging, heavy physical activity, illness, family conflict, lack of adaptability, and work load. This is what will trigger the production of hormones that stimulate an increase in purine metabolism in the body so that uric acid levels in the elderly are high.

The results of this research are in line with research conducted by Jaliana & Suhadi (2018) that one of the factors related to the incidence of gout is stress. The *chi square test results obtained were OR = 2.743* with *a lower limit of 1.238* and *an upper limit of 6.078*

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where someone who experiences stress will increases the purine metabolism system in the body so that uric acid levels will also increase. Another research conducted by Huda *et al* (2018) shows that there is a relationship between stress levels and the incidence of gouty arthritis pain in the elderly in the work area of the Alianyang Community Health Center, Pontianak City, with a test result of *p* = 0.002 where respondents experienced stress due to their physical condition starting to become unbalanced. such as heavy physical activity and being mentally unprepared to deal with gouty arthritis which tends to occur repeatedly and is made worse by the onset of pain.

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ORIGINAL RESEARCH

DIFFERENCES IN THE EFFECTIVENESS OF TAMARIND TURMERIC HERBAL DRINK AND WARM COMPRESSES ON PRIMARY DYSMENORRHEA PAIN INTENSITY IN ADOLESCENT WOMEN

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ABSTRACT	Keywords
Dysmenorrhea, or pain during menstruation, can significantly disrupt a woman's daily life. This pain often affects the activities of young women. In Indonesia, it is widely believed that consuming tamarind turmeric herbal drinks and using warm compresses can help alleviate the pain associated with primary dysmenorrhea. This study aimed to compare the effectiveness of tamarind turmeric herbal drinks and warm compresses in reducing the intensity of primary dysmenorrhea pain in adolescent girls. The study included 52 female students from Probolinggo Unggulan Senior High School who had a history of dysmenorrhea, with a sample size of 42 students who experienced menstruation in April–May 2023 and met the inclusion criteria. The research utilized a quasi-experimental analytical approach and a probability sampling technique. The results of the t-test showed significant differences in the effectiveness of tamarind turmeric herbal drinks and warm compresses on the intensity of primary dysmenorrhea pain in young women. Based on these findings, it is recommended that warm compresses be used as the primary alternative for treating primary dysmenorrhea pain in order to minimize disruption to daily activities.	**Teenage girl, Primary dysmenorrhea, Tamarind tumeric herbal drink, Warm compresses**

INTRODUCTION

Dysmenorrhea is a condition related to menstruation characterized by short-term pain before or during menstruation. The pain typically occurs in the lower abdomen but can also radiate to the lo-wer back and thighs. Additionally, seve-re stomach cramps may accompany the pain. These cramps result from contrac-tions in the uterus, which are a normal part of the menstrual process. They are usually felt when bleeding starts and can last for up to 32-48 hours (McKenna & Fogleman, 2021).

In Indonesia, the prevalence of pri-mary dysmenorrhea (54,89%) and seconddary dysmenorrhea (9,36%) (Arisani et al., 2022). Mens-truation is a natural occurrence for women, but the reality is that almost 70-80% of women worldwide experience menstrual pain (dysmenorrhea) (Husnul, 2019). Currently, many dysmenorrhoea sufferers actually really need serious attention so that the existing symptoms can be treated immediately and treatment can be given as soon as possible. If dysmenorrhea is left untreated without proper management, it will have a far-reaching impact on women's quality of life (Bernardi et al., 2017). Dysmenorrhea that occurs every month causes many absences from work or school, so this condition can reduce learning achievement at school (Ristiani et al., 2023).

Dysmenorrhea pain, if not treated immediately, will affect the individual's

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mental and physical function, making it urgent to take immediate pharmacolo-gical or non-pharmacological action or therapy (Bavil et al., 2016). One of the pharmacological therapies is giving analgesic drugs(Purnama Sari et al., 2018). Women with dysmenorrhea are more likely to use pharmacological therapy to reduce pain. NSAIDs (nonsteroidal anti-inflam-matory drugs) can relieve this pain by blocking prostaglandins, which cause pain. Using NSAIDs has harmful side effects on other body systems, such as stomach pain and kidney damage (Anggraini et al., 2022; Gunaydin & Bilge, 2018).

Therefore, non-pharmacological treatment or complementary therapy which has minimal side effects is needed. The first alternative way is to consume herbal products or phytophar-maceuticals (Wuisang et al., 2022).

Previous research shows that the curcumin content in turmeric is safe for human consumption and does not cause poisoning. The recommended safe daily amount of curcumin for humans is 100 mg (Peng & Qian, 2014; Soleimani et al., 2018). Apart from that, tamarind fruit contains tannins, saponins, sesquiter-penes, alkaloids and phlobatnin which can reduce nervous system activity. One popular herbal product known for its pain-relieving properties is turmeric tamarind.

The second alternative method in-volves using a warm compress. Non-pharmacologically, warm compresses are highly effective in reducing dys-menorrhea pain by relaxing muscles and reducing uterine ischemia, leading to a reduction or disappearance of pain. Both non-pharmacological treatments and alternative methods have their own advantages (Rosyada Amalia et al., 2020). However, the effectiveness of these two methods in treating primary dysmenorrhea has not yet been deter-mined (Permadi et al., 2020; Rosyada Amalia et al., 2020).

Based on these problems, the re-searchers chose tamarind turmeric herbal drink, which is considered effective in relieving pain associated with primary dysmenorrhea, and a warm compress, which is also believed to be able to reduce this pain.

In addition, researchers are interested in comparing the effecti-veness of tamarind turmeric herbal drink and warm compresses in reducing the intensity of primary dysmenorrhea pain in adolescent girls at Hafshawaty Pro-bolinggo High School.

METHOD

The design used in this research is an analytical quasi-experimental design with a non-equivalent control group de-sign. In this study, researchers used three groups, namely two experimental groups and one control group.

In experimental group I, participants will receive tamarind turmeric herbal drink in the form of extract per sachet with a composition of 35g of turmeric and 10g of tamarind. In experimental group II, participants will receive a warm compress with a temperature of 37-40 °C. The control group will not receive any treatment.

Initial observations (pretest) were conducted to assess the intensity of dys-menorrhea pain before treatment in experimental group I and II. After the pretest, treatment was administered to both experimental groups. Final obser-vations (posttest) were then conducted after treatment in experimental group I and II.

This study compared the average posttest scores in experimental group I, experimental group II, and control group to assess the differences in the effect of giving tamarind turmeric herbal drink and warm compresses on the intensity of primary dysmenorrhea pain in adoles-cent girls.

The study population consisted of all female students at Probolinggo Senior High School, total 52 individuals. The sample for the study included 42 female students who experienced menstruation in April to May 2023 and met the inclusion criteria. Of the sample, 14 were assigned to experimental group I, 14 to experimental group II, and 14 to the control group. Probability Sampling was used as the sampling technique. Data was collected using observation sheet instruments and the Numeric Rating Scale (NRS) pain scale. The data will be analyzed using SPSS and an Independent T Test will be conducted for analysis (ZA Nuzul, 2019).

RESULTS

Analysis of research data used the paired T-test, which is commonly used to measure observations before and after treatment. The test results on the effectiveness of giving tamarind turmeric herbal drink and warm compresses on the intensity of primary dysmenorrhea pain in young women can be presented in tabular form.

Table 1. Frequency distribution of respondents based on age level.

Respondent' Age	F	%
< 15 yr	0	0
15-20 yr	42	100
>20 yr	0	0
Total	**14**	**100**

Based on the table above, data was obtained for all respondents aged 15-20 years, totaling 42 people (100%).

Table 2. Frequency distribution of respondents based on length of menstruation.

Table 4. Frequency Distribution of Primary Dysmenorrhea Pain in Adolescent Girls Before and

Tamarind turmeric herbal drink	Pain Level				
	Not painful (0)	Mild Pain (1-3)	Moderate Pain (4-6)	Severe Pain (7-9)	Most Pain (10)
	F (%)	F (%)	F (%)	F (%)	F (%)

Based on the table above, it was found that among young women with primary dysmenorrhea, 14.3% experien-ced mild pain before being given tama-rind turmeric herbal drink, which in-creased to 28.6% after consuming the drink. In the moderate pain category, 50% of respondents

Table 5. Frequency Distribution of Primary Dysmenorrhea Pain in Adolescent Girls Before and After Giving Warm Compresses

Warm Compresses	Pain Level				
	Not painful (0)	Mild Pain (1-3)	Moderate Pain (4-6)	Severe Pain (7-9)	Most Pain (10)

Length of menstruation	F	%
< 7 dys	17	40,5
7-10 dys	25	59,5
>10 dys	0	0
Total	**42**	**100**

Based on the table above, the majority of respondents had a menstrual period of 7–10 days, namely 25 people (59.5%).

Table 3. Frequency distribution of respondents based on menstrual cycle.

Menstrual cycle	F	%
< 28 dys	7	16,7
28-30 ys	22	52,4
> 30 dys	13	30,9
Total	**42**	**100**

Based on the table above, data is obtained that the majority of respondents with a menstrual cycle of 28-30 days are 22 people (52.4%)

After Giving Turmeric Tamarind Herbal Drinks

Before	0	2 (14,3)	7 (50)	5 (35,7)	0
After	1 (7,1)	4 (28,6)	9 (64,3)	0	0
P value 0,001					

experienced pain before consuming the drink, which in-creased to 64.3% after consumption. In the severe pain category, 35.7% of respondents experienced pain before consuming the drink, and there were no respondents in this category after consuming the drink.

	F (%)	F (%)	F (%)	F (%)	F (%)
Before	0	1 (7,1)	8 (57,2)	5 (35,7)	0
After	2 (14,3)	6 (42,8)	6 (42,8)	0	0
P value 0,000					

Based on the table above, it was found that among young women with primary dysmenorrhea, 7.1% experien-ced mild pain before using a warm compress, which increased to 42.8% after using a warm compress. In the moderate pain category, 57.2% expe-rienced pain before using a

Table 6. Frequency Distribution of Primary Dysmenorrhea Pain in the Control Group on Day 1 and Day 2

Control group	Pain Level				
	Not painful (0)	Mild Pain (1-3)	Moderate Pain (4-6)	Severe Pain (7-9)	Most Pain (10)

According to table 6, the study found that in the control group, the number of respondents experiencing mild pain on day 1 was 2 (14.3%), which increased to 6 (42.8%) on day 2. For respondents experiencing moderate pain, there were 9 (64.3%) on day 1 and 5 (35.7%) on day 2. In the severe pain category, there were 3 respondents (21.4%) on day 1 and 2 (14.3%) on day 2.

The T-test results showed a p-value of $0.001 < \alpha$ (0.05) in experimental group I, $0.000 < \alpha$ (0.05) in experimental group II, and $0.002 < \alpha$ (0.05) in the control group. Therefore, the conclusion from table H_1 is accepted, indicating a difference in the effectiveness of tamarind turmeric herbal drink and warm compresses on the intensity of primary dysmenorrhea pain in young women at Unggulan Senior High School.

DISCUSSION

Pain intensity before treatment

Based on frequency distribution data, it was found that primary dys-menorrhea pain in young women before being given tamarind turmeric herbal drink was in the mild pain category with 2 respon-dents, 7 respondents in the moderate pain category, and 5 respondents in the severe pain category. respondents. In the warm compress group: 1 respondent in the mild pain category, 8 respondents in the moderate pain category, and 5 respon-dents in the severe pain category. On day 1, the control group consisted of 2 res-pondents in the mild

warm compress, which decreased to 42.8% after using a warm compress. In the severe pain category, 35.7% experienced pain before using a warm compress, and no respondents experienced severe pain after using a warm compress.

	F (%)	F (%)	F (%)	F (%)	F (%)
Day 1	0	2 (14,3)	9 (64,3)	3 (21,4)	0
Day 2	1 (7,1)	6 (42,8)	5 (35,7)	2 (14,3)	0
P value 0,002					

pain category, 9 respondents in the moderate pain cate-gory, and 3 respondents in the severe pain category.

The pathophysiology of primary dysmenorrhea is still unclear because there are many factors that influence its occurrence in adolescent girls. However, one theory that is still believed to be true is the prostaglandin and leukotriene theory (Itani et al., 2022).

This is caused by a decrease in the hormone progesterone and estrogen after ovulation but no fertilization occurs, causing menstruation. The prostaglandin and leukotriene cycle in the uterus activated (Natosba, 2020). The inflammatory response due to the pros-taglandin cycle in the uterus will result in hypertonus and vasoconstriction in the myometrium. Finally, ischemia and pain arise in primary dysmenorrhea (Marlina, E. 2012). The specific sub-stance that causes this is prostaglandin (PG) F2-α.

Primary dysmenorrhea can also be caused by psychological pressure or stress, which can lead to an increase in catecholamines. This increase results in vasoconstriction and ischemia of uterine cells, leading to an inflammatory process that a trigger factor for primary dys-menorrhea (Naldi Tri. 2017).

Pain intensity after treatment

Data was collected from 14 respondents in experimental group I after consuming tamarind turmeric herbal drink. The results

showed that 1 respondent had no pain (7.1%), 4 respondents had mild pain (28.6%), and 9 respondents had moderate pain (64.3%). There were no respondents with severe pain.

Similarly, data was collected from 14 respondents in experimental group II after using a warm compress. The results showed that 2 respondents had no pain (14.4%), 6 respondents had mild pain (42.8%), and 6 respondents had moderate pain (42.8%). There were no respondents with severe pain in this group as well.

In comparison, data was collected from 14 control group respondents on day 2. The results showed that 1 respondent had no pain (7.1%), 6 respondents had mild pain (42.8%), 5 respondents had moderate pain (35.7%), and 2 respondents had severe pain (14.4%).

According to research by Naldi Tri (2017), giving tamarind turmeric herbal drinks varies depending on the respondent's menstrual cycle. In addition, each respondent received a warm compress for 1 hour, with the provisions being 30 minutes first and 30 minutes second. Pain is subjective, and each person's response to pain is different. Tolerance for pain also varies from person to person. Individuals with high pain tolerance may not complain of pain with small stimuli, while individuals with low pain tolerance may easily feel pain with small painful stimuli. Those with high pain tolerance are able to endure pain without help, while those with low pain tolerance look for ways to prevent pain before it occurs (Gokhale SG1 & Gokhale S2, 2017).

The effectiveness of both treatments in reducing pain intensity.

Based on frequency distribution data, pain reduction score data were obtained before and after the turmeric tamarind herbal drink was given. It is known that out of the 14 respondents, 10 respondents (71.4%) experienced a decrease in primary dysmenorrhoea pain after being given the turmeric tamarind herbal drink, while only 4 respondents (28.6%) had constant pain. It can be concluded that there is a reduction in primary dysmenorrhoea pain after

administering the turmeric tamarind herbal drink.

During menstruation, when there is no fertilization of the ovum after ovulation, female reproductive hormones drop drastically because the corpus luteum involutes. This results in all the conditions of the endometrium that have been previously prepared for implantation resulting from fertilization to be destroyed as well. All glands decay, there is a decrease in nutrition, and vasospasm of blood vessels in the endometrium. Vasospasm will cause an inflammatory reaction which will activate arachidonic acid metabolism and ultimately release prostaglandins (PG). Especially PGF2-alpha will cause vasoconstriction and hypertonus in the myometrium. Hypertonus is what will cause primary dysmenorrhea (Wulandara, 2023). Tamarind turmeric herbal drink has basic properties as an analgesic and anti-inflammatory. The active agent that functions as an anti-inflammatory and antipyretic is curcumin. Meanwhile, curcumenol is used as an analgesic (Widiatami, 2018).

Tamarind fruit contains the natural active agent anthocyanin, which acts as an anti-inflammatory and antipyretic. Additionally, tamarind fruit also contains tannins, saponins, sesquiterpenes, alkaloids, and phlobotamins, which can reduce nervous system activity (Widiatami, 2018).

The natural ingredients found in tamarind tumeric herbal drinks can also help reduce symptoms of primary dysmenorrhoea. Curcumin and anthocyanins work to inhibit the cyclooxygenase (COX) reaction, thereby reducing inflammation (Utami et al., 2020).

Based on Anindita (2010), turmeric contains natural active substances which function as an analgesic, antipyretic and anti-inflammatory. Meanwhile, tamarind also contains active substances that function as antipyretics and sedatives, thereby reducing psychological stress. As a result, consuming tamarind turmeric herbal drinks can reduce the pain of primary dysmenorrhea in adolescent girls. In the frequency distribution data, it was found that 85.7% of the 14 respondents experienced a decrease in primary dysmenorrhea pain after

being given a warm compress, while only 14.3% experienced persistent pain, meaning that the warm compress was effective in reducing primary dysmenorrhea pain.

Warm water compresses are known to relieve pain by reducing tension, increasing feelings of well-being, and relieving pelvic vasocongestion (Agustin et al., 2022). Warm compresses are a non-pharmacological treatment that is useful in reducing dysmenorrhea pain by relaxing muscles and reducing uterine ischemia which ultimately reduces or eliminates pain (Tianing et al., 2021). In addition, warm compresses can be used to treat pain and relax tense muscles. It is usually done with a rubber bag filled with warm water at a temperature of 37-40 °C, which transfers heat to the stomach, causing blood vessels to dilate and increasing blood flow in the area. This warmth can increase relaxation and psychological comfort, which ultimately reduces the response to pain (Dahlan, 2017).

CONCLUSIONS

There is still minimal education provided by health workers or UKS officers in schools regarding non-pharmacological treatment of dysmenorrhea. Therefore, it is necessary to increase education and prepare several tools and materials needed to treat dysmenorrhea non-pharmacologically.

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ORIGINAL RESEARCH

DEVELOPMENT OF INTERACTIVE EDUCATIONAL MEDIA FOR PREVENTING ANEMIA IN TEENAGE GIRL BASED ON E-FLIPBOOKS AS AN EFFORT TO ACCELERATE STUNTING REDUCTION

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ABSTRACT	Keywords
Stunting or short toddlers is currently one of the toddlers problems toddlers in the world. Stunting is important because it concerns about the quality of Indonesia's human resources in the future. The incidence of stunting is a cycle. Children born to mothers who are anemic will suffer stunting in the future and continue without stopping, which is called the intergenerational stunting cycle. Improving adolescent nutrition before conception is one way to break the intergenerational cycle of stunting. This research aims to develop interactive educational media for preventing anemia in adolescents based on e-flipbooks as an effort to accelerate stunting reduction. The research method used is Research and Development (R&D), with the final results of this research is producing an e-flipbook for preventing anemia in adolescents. The research instrument used a questionnaire. There are 2 data analyzes used, qualitative and quantitative analysis. The validation test results from material experts and media experts stated that this educational media for preventing anemia in adolescents is very suitable for use with a percentage of 90%. And the results of field trials on anemia prevention educational media are mostly in the very feasible category with a percentage of 87.03%.	**Educational Media, Anemia, Teenage Girl, E-Flipbook, Stunting**

INTRODUCTION

Stunting is a condition where a toddler has less length or height compared to age. This condition is measured by body length or height that is more than minus two standard deviations from the median of WHO child growth standards (Kemenkes RI, 2018). Stunting or short toddlers is currently one of the toddlers problems toddlers in the world. Stunting is important because it concerns about the quality of Indonesia's human resources in the future (Kemenkes RI, 2022). Stunting will also cause children to be more susceptible to disease in the future. In the end, stunting will generally hamper economic growth, increase poverty and widen inequality (Arsyati, 2019).

The World Health Assembly (WHA) target is to reduce the prevalence of stunting by 40% by 2025 from 2013 (WHO, 2014) which is reinforced by the "zero hunger" target of the Sustainability Development Goals (SDGs) to eliminate all forms of malnutrition by 2030 and reduce the prevalence of stunting in children will be 50% in 2030 (United Nations, 2015). The

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prevalence of stunting under five is expected to decrease to 19.4% in 2024 (TNP2K, 2018). Based on the results of the 2021 Indonesian Toddler Nutrition Status Survey (SSGBI), it shows that the prevalence of stunted (very short and short) is still at 24.4% with a reduction rate of stunting of 2.4%. Since 2018, East Java itself has had 18 districts/cities with a stunting prevalence of more than 20% (Kemenkes RI, 2021). Data from the Sampang Health Service shows that the prevalence of stunting in Sampang Regency in 2021 is 17.2%. This figure is still below the national target of 14% in 2024 (TNP2K, 2018).

Children born to mothers who are anemic will suffer stunting in the future and continue without stopping, which is called the intergenerational stunting cycle. Improving adolescent nutrition before conception is one way to break the intergenerational cycle of stunting between generations (Resmiati, 2021). The existence of teenagers is currently one of the focuses of global policy to achieve development goals in 2030. The population of teenagers in the world reaches 1.2 billion people out of a total population of 7.6 billion people. In Indonesia, the population of teenagers (10-19 years) is 46 million (UNICEF, 2021). So efforts are needed to strengthen adolescent health services in accordance with the national stunting prevention program.

This research aims to develop educational media to prevent anemia in adolescents based on e-flipbooks as an effort to accelerate stunting reduction. Digital flipbooks (e-books) have animation, music and video features so they are more interesting than printed books. Digital flipbooks can be accessed anytime and anywhere. So it is hoped that the results of this research can later be used as an educational medium that can be used to prevent anemia in adolescent girls so that it

can reduce the incidence of stunting in the future.

METHOD

The research method used is Research and Development (R&D), this research method is used to produce certain products and test the effectiveness of these products. This development research uses the ADDIE model. The ADDIE model consists of five stages, namely Analysis, Design, Development, Implementation and Evaluation. The research flow diagram used is as follows :
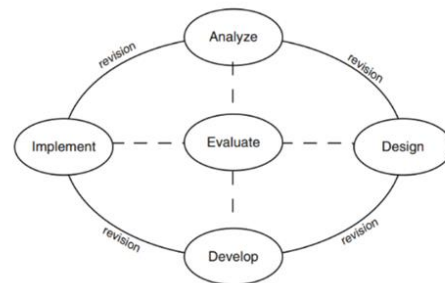

Figure 1. The ADDIE concept (Branch, 2009).

The ADDIE model can be used for various forms of product development in learning activities such as models, media and teaching materials. The research steps carried out are :

1. Analysis, at this stage an analysis of the needs or problems that exist in the field is carried out. Then, initial data was collected through interviews with 10 teenage girl from the first semester of the Nursing Study Program of Poltera to find out what educational media are needed by teenage girlto make it easier to understand the material on preventing anemia in teenagers.

2. Design, design activities start from designing the concept and content in the product. At this stage the product design is still conceptual and will underlie the development process at the next stage. Apart from that, we also create

instruments to measure product performance.

3. Development, contains activities to realize product designs that have previously been created. After the educational media is completed in finished product form, validation is carried out by material experts and media experts.

4. Implementation, at this stage a trial of the product that has been developed is carried out by distributing response questionnaires to 30 female students in the first semester of the Nursing Study Program of Poltera. The data obtained is used to carry out further improvement processes.

5. Evaluation, the media assessment stage is carried out by users. Questionnaires were distributed to 54 teenage girl at the youth posyandu activities in Palenggiyan Village and Bajrasokah Village, Kedundung subdistrict, Sampang regency.

This research was carried out in September – November 2023 in Sampang, East Java. The research instrument used was a questionnaire. There are 2 data analyzes used, namely qualitative and quantitative analysis.

RESULTS

Product development starts from the analysis stage, by collecting initial data through interviews with 10 teenage girl to find out what educational media are needed by teenage girl to make it easier to understand the material on preventing anemia in teenagers. The results of the analysis obtained are :

1. All teenage girl who took part in the interview said they had attended counseling about anemia but did not understand the information provided.

2. Extension activities use leaflets as a medium for conveying information and sometimes videos are also shown.

3. Eight out of ten participants stated that it would be more interesting and easier to understand if the outreach material was packaged in digital form which could be accessed anytime and anywhere with an attractive appearance, containing not only text and images but also videos or even music.

The second stage is product design, at this stage the material design and flipbook design are carried out. At this stage the product design is still conceptual and will underlie the development process at the next stage. Apart from that, at this stage an instrument is also created to measure product performance. The third stage, namely development, contains activities to realize the product design that has previously been created. After the educational media is completed in finished product form, an assessment is carried out by material experts and media experts. The expert team provides an assessment which is used as a reference for revising educational media to improve it, so that the learning media developed is suitable for use, the results are :

1. Material expert assessment

   The results of the assessment from material experts on the e-flipbook-based educational media for preventing anemia in teenage girl can be seen in the following table :

Table 1. Results of E-Flipbook Based Educational Media for Prevention of Anemia in Teenage Girl by Material Experts.

No.	Validator	Value (%)	Criteria
1.	Material Experts	92	Very worthy

Based on the assessment of material experts, the percentage obtained was

92%, which means that this media is very worthy for use as an educational medium for preventing anemia in teenage girl.

2. Media expert validation

The results of the media expert's assessment of e-flipbook-based educational media for anemia prevention in teenage girl can be seen in the following table :

Table 2. Results of E-Flipbook Based Educational Media for Prevention of Anemia in Teenage Girl by Media Experts.

No.	Validator	Value (%)	Criteria
1.	Media expert	88	Very worthy

Based on the assessment of media experts, the percentage obtained was 88%, which means that this media is very worthy for use as an educational medium for preventing anemia in teenage girl.

3. Recapitulation of Assessment by Experts

Table 3. Recapitulation of E-Flipbook Based Educational Media Assessment for Prevention of Anemia in Teenage Girl.

No.	Validator	Value (%)	Criteria
1.	Material Experts	92	Very worthy
2.	Media expert	88	Very worthy
	Average	90	Very worthy

It can be concluded that from the assessment of material experts and media experts, this e-flipbook-based educational media for anemia prevention in teenage girl is included in the very worthy category with a percentage of 90%.

After the product design is assessed by experts, improvements are then made. Then continued with the fourth stage of implementation, at this stage a limited trial of the product that had been developed was carried out by distributing response questionnaires to small groups of 30 teenage girl, the results were :

Table 4. Results of E-Flipbook Based Anemia Prevention Educational Media Trial in Teenage Girl.

No.	Criteria	n	%
1.	Very worthy	22	73,33
2.	Worthy	8	26,67
	Total	30	100

Table 4 shows that the results of the anemia prevention educational media trial were mostly in the very worthy category, namely 22 respondents (73.33%), and within the worthy criteria with 8 respondents (26.67%).

The final stage is evaluation, the media assessment stage is carried out by users using field tests, by asking users to use the resulting e-flipbook interactive educational media. Questionnaires were distributed to 54 teenage girl at the youth posyandu activities in Palenggiyan Village and Bajrasokah Village, Kedundung subdistrict, Sampang regency, results :

Table 5. Field Test Results of Educational Media for Preventing Anemia in Teenage Girl Based on E-Flipbooks.

No.	Criteria	n	%
1.	Very worthy	47	87,04
2.	Worthy	7	12,96
	Total	54	100

Table 5 shows that the results of the field trial of this anemia prevention educational media were mostly in the very worthy category, namely 47 respondents (87.03%), and within the worthy criteria with 7 respondents (12.96%).

DISCUSSION

The results of research on field trials of anemia prevention educational media stated that the flipbook-based anemia prevention educational media for teenagers was in the very feasible category as assessed by the majority of respondents, 47 teenage girls (87.03%), and within the appropriate criteria by 7 rating respondents (12.96%).

According to Yulius (2016), the determinant of the success of a health promotion media can be seen from the feedback received by the community regarding how to respond to health aspects in people's lives (Yulius, 2016). Health promotion media are all means or efforts to display messages or information that the communicator wants to convey, both through print and electronic media, so that targets can increase their knowledge which is then expected to result in changes in behavior in a positive direction in the health sector. In practice, health promotion cannot be separated from the media. Because through this media the health messages conveyed become clear and easy to understand, so that the target can easily receive the messages conveyed (Jatmika, 2019).

The combined use of various health promotion media models can increase information absorption. If possible, a combination of several health promotion media can be used to increase message acceptance. The more senses are used to receive messages, the more information messages are absorbed (Ernawati, 2022). The educational target is to absorb more information by using good and interesting media, especially combining visual and auditory aspects (Muwakhidah, 2021). Several conditions that must be met in using media so that the delivery of information can be more effective include, among others, it must be interesting, appropriate to the target, easy to understand, short and clear and in accordance with the message to be conveyed (Az-zahra, 2022).

This research develops educational media to prevent anemia in teenagers based on e-flipbooks. Digital flipbooks (e-books) have animation, music and video features so they are more interesting than printed books. Digital flipbooks can be accessed anytime and anywhere. Flipbook is an application known as professional software that turns a PDF into a whole flash book (Afandi, 2023).

The results of this research can be used as educational media that can be used to increase teenage girls' knowledge about preventing anemia in teenage girls. Nutrition education as a strategy to prevent anemia in teenagers aims to inform teenagers about their specific energy and nutritional needs, including iron, as well as the benefits of adopting a healthier lifestyle and diet (Roche, 2018). By increasing knowledge about anemia prevention, it is hoped that teenage girls will be able to implement anemia prevention behavior in their daily lives, such as taking one blood supplement tablet per week and one tablet every day during menstruation, so that they can reduce the incidence of stunting in the future.

CONCLUSIONS

Based on the results and discussion in this research, it can be concluded that e-flipbook-based educational media for anemia prevention in teenage girl is included in the very worthy category. So it can be used as an educational medium that can be used to increase knowledge about preventing anemia.

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ORIGINAL RESEARCH

DIETARY COMPLIANCE OF ELDERLY WITH GOUT IS INCREASING WITH THE KNOWLEDGE INCREASEMENT

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ABSTRACT	Keywords
Gout is a disease that is experienced by many elderly people. Gout treatment management can be successful with the sufferer's compliance, especially diet compliance. To be able to adhere with the diet that must be followed, elderly people need to have good knowledge about their disease. More than half of the elderly in Kauman Village, Tulungagung who were found during the initial data collection had limited melinjo-based foods but had not limited other foods that increase uric acid levels even though most had received education about gout. This study determine wheter there are relationship between knowledge about gout and dietary compliance in elder people with gout in Kauman, Tulungagung or not. This study was cross sectional research with 187 respondents. Spearmen rank correlation test result showed a significance value (0.000) with 0.728 of coefficient value. Knowledge about gout showed positive and strong relationship with dietary compliance in elderly people with gout. It can be inferred that the better knowledge, the better and higher respondents dietary compliance.	**Gout, Elderly, Knowledge, Dietary Compliance**

INTRODUCTION

Along with the changes that occur in the aging process, elderly people do not escape experiencing various disorders of body function which are susceptible to disease (Algifari et al., 2020). One of the diseases that elderly people often experience is gout (gouty arthritis). Gout is a disease associated with high levels of uric acid in the blood. Compliance with a low-purine diet plays an important role in reducing blood uric acid levels. People who were respondents in this study still showed non-compliance with a low-purine diet and limited knowledge about gout. Knowledge about health is crucial in

daily life, especially the experience of a low purine diet (Notoatmodjo, 2012).

According to WHO, the prevalence of gout in 2017 in Indonesia was the 4th largest disease in the world. There are 81% of the population studied suffered from gout, and 35% of gout occurred in men under 34 years old (World Health Organization (WHO), 2017). Gout in Indonesia has increased, which on people over 75 years (54.8%), female sufferers (8.46%) , while in male sufferers (6.13%) (Kemenkes RI, 2018). According to the Tulungagung District Health Service in 2022, the prevalence of gout was recorded in 12 villages with a total of 3,153 elderly people with a prevalence of 11% who experienced

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gout problems and in Kauman Village itself the prevalence of gout reached 187 elderly people.

Increased levels of gout in the blood (hyperuricemia) occur due to the increasement or decreasement of uric acid through the kidneys, or a combination of both (Beavers et al., 2014). Gout can be treated through gout management. This management can be successfully influenced by the knowledge and compliance of the elderly.

Knowledge in controlling a low purine diet is very important. Knowledge about health is crucial in living daily life (Notoatmodjo, 2012). The role of researchers in this case is very much needed to increase the knowledge of elderly people in adopting a low-purine diet through health education activities and increasing knowledge about efforts to adopt a low-purine diet. Basically, knowledge will continue to increase in accordance with the process of human experience, new sources of information obtained are a substitute for previously acquired knowledge or are improvements to previous information (Ardhiatma et al., 2017).

Compliance with a low-purine diet also plays an important role in reducing gout levels. Compliance with gout arthritis sufferers in following a diet depends on self-awareness. Knowledge and attitudes for clients with Gout can be seen when arranging the food needed for Gout sufferers (Saputra, 2019). The ability to manage a protein diet needs to be improved and is recommended for Gout sufferers, because of the awareness to change healthy lifestyle habits to regulate and further improve the quality of one's health (Madoni, 2018).

The impact that occurs if a lack of knowledge about Gout results in the absence of preventive measures will make Gout worse. Even though gouty arthritis is not life-threatening, if this disease starts to attack, the sufferer will experience very painful pain, swelling, and even disability in the joints of the hands and feet. The pain in the swelling is caused by the formation of monosodium urate crystal deposits which cause pain in the area (Sholihah, 2014).

Gout diet management is an important treatment that aims to reduce foods high in purine such as melinjo leaves, spinach, sardines, kale. The Gout Diet is a natural method of controlling gout, compared to gout-reducing drugs which can cause several side effects (Noviyanti, 2015). Gout sufferers who do not follow a Gout diet will have a buildup of gout arthritis crystals in the joints, and even in the kidneys, which can cause kidney stones (Damayanti, 2015).

METHOD

This study is quantitative research with non-experimental descriptive correlation research method, namely correlation research with a cross sectional method. This research was conducted at the Posyandu for the Elderly in Kauman Village, Tulungagung Regency in November 2022 - March 2023.

The elderly patients with gout who met the inclusion and exclusion criteria, totaling 187 respondents joining this research. The two variables in this research were measured by questionnaire which had been tested for validity and reliability.

RESULTS
Table 1. Distribution Based on The Gender
Table 1 shows that the majority of respondents were female, 140 respondents (74.9%).

Gender	Freq	Percentage (%)
Men	47	25.1 %
Women	140	74.9 %
Total	187	100 %

Table 2. Respondents Distribution Based on The Ages

Ages	Freq	Percentage (%)
60-70 years old	127	67.9 %
50-60 years old	60	32.1 %
Total	**187**	**100 %**

Table 3. Respondents Distribution Based on Educational Level

Educational Level	Freq	Percentage (%)
Bachelor / Diploma	14	7.5 %
Senior High School	43	23 %
Junior High School	42	22.5 %
Elementary School	82	43.9 %
Uneducated	6	3.2 %
Total	**187**	**100 %**

The majority of respondents had elementary school education, 82 respondents (43.9%).

Table 4. Respondents Distribution Based on the History of Acquiring Information about Gout

History of Acquiring Information	Freq	Percentage (%)
Ever	149	79.7 %
Never	38	20.3 %
Total	**187**	**100 %**

It can be seen that the majority of respondents had received information previously, 149 respondents (79.7%).

Table 5. Respondents Distribution Based on The Length Time Period Getting Gout

Time Period	Freq	Percentage (%)
1-5 years	172	92 %
6-10 years	15	8 %
Total	**187**	**100 %**

The majority of respondents suffered from gout for 1-5 years, 172 respondents (92%).

Table 6. Respondents Distribution Based on Their Knowledge Level

Knowledge Level	Freq	Percentage (%)
Good	147	78.6 %
Moderate	35	18.7 %
Poor	5	2.7 %
Total	**187**	**100 %**

Table 6 shows that the majority of respondents had good knowledge, 147 respondents (78.6%).

Table 7. Respondents Distribution Based on The Adherence Levels

Adherence Level	Freq	Percentage (%)
High	137	73.3 %
Moderate	44	23.5 %
Low	6	3.2 %
Total	**187**	**100 %**

Based on table 8, it can be seen that the majority of respondents had high compliance, namely 137 respondents (73.3%).

Knowledge	Adherence			Total
	High	Moderate	Low	
Good	132	14	1	147
Moderate	5	30	0	35
Poor	0	0	5	5
Total	137	44	6	187
Sig. Value 0.000				
Correlation Coefficient Value 0.728				

Table 8. Analysis of the Relationship between Knowledge and Adherence to the Gout Diet in Elderly People with Gout

Most respondents who had good knowledge also had high compliance (132 respondents). The results of the spearmen rank correlation test obtained a sig value of 0.000 < 0.05 and a Correlation Coefficient value of 0.728, meaning that there is a relationship between knowledge about Gout and diet compliance in elderly people with Gout at the elderly posyandu in Kauman Village, Tulungagung Regency, and has a positive value, so the relationship between the two variables is in

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the same direction. (unidirectional type of relationship). It can be concluded that the better the knowledge, the higher the respondent's compliance.

DISCUSSION

Gout Diet Knowledge in Elderly Sufferers of Gout

Most of the respondents had good knowledge, namely 147 respondents (78.6%), although the respondents' highest education was high school and the majority of respondents had low education, namely elementary school (43.9%). This can happen because the level of education does not correlate significantly with knowledge about the Gout diet. This is in accordance with research conducted by (Badri et al., 2020). with the research title "Analysis of Factors that Influence Public Knowledge about Hyperuricemia Risk Factors" which showed that educational level didn't have significant correlation with knowledge about hyperuricemia risk factors. Knowledge is closely related to education but wel also need to emphasized that someone with low education does not mean absolutely low knowledge (Ilmi & Rahman, 2017).

What supports the formation of good knowledge among respondents is a history of receiving information about gout. Most respondents (79.7%) had received information about Gout. Maulana (2009) explains that the information a person obtains will be processed and produce knowledge (Sirait et al., 2014). The more often someone gets information, the more their knowledge will increase and this will influence their attitudes and behavior. A person's knowledge can be influenced by the source of information, where a person's exposure to information influences a person's knowledge (Laili s& Probosiwi, 2021)

Gout Dietary Compliance in Elderly People with Gout

The research results showed that the majority of respondents had high compliance, 137 respondents (73.3%). Triyanto et al (2015) in (Yosfand et al., 2022) stated that the longer you suffer from a chronic disease, the more extensive knowledge and experience you will have in terms of diet so that you will adhere to the recommended diet so that it will influence the sick individual's attitude towards the treatment plan (Yosfand et al., 2022). However, according to Sutiono & Hatmanti (2018) in their research entitled "The Relationship between Family Support and Adherence to the Gout Diet in the Elderly at the Elderly Posyandu in the Working Area of the Wonokromo Health Center, Surabaya," sufferers who have had gout for a long time will experience boredom when dieting. (Sutiono & Hatmanti, 2018).

Diet Compliance Of Elderly With Gout Is Increasing With The Knowledge Increasement

The research results showed that the majority of respondents who had good knowledge also had high compliance, namely 132 respondents. Based on the results of the spearmen rank correlation test, a sig value of 0.000 <0.05 was obtained and a Correlation Coefficient value of 0.728. This means that there is a relationship between knowledge about gouty arthritis and diet compliance in elderly people with gouty arthritis at the elderly posyandu in Kauman Village, Tulungagung Regency, and it has a positive value, so that the relationship between the two variables is unidirectional (type of

unidirectional relationship). The better the knowledge, the higher the respondent's compliance. Likewise, if knowledge decreases then compliance will decrease.

This research is also in line with research conducted by Triana (2016) with the research title "The Relationship between the Level of Knowledge of Gout Sufferers and Compliance with a Low Purine Diet in the Working Area of the Darussalam Health Center, Medan" which resulted in the majority of respondents who had a good level of knowledge also having compliance. as many as 16 respondents, namely 16 respondents (53.3%) (Triana, 2016). In this study, a p-value of 0.027 <0.05 was obtained, so it can be concluded that there is a relationship between the level of knowledge of gout sufferers and compliance with a low purine diet.

Several factors influence compliance, namely predisposing, supporting and driving factors, where the level of knowledge is a factor included. Behavior that is based on good knowledge will have the potential to give rise to positive behavior than behavior that is not based on knowledge. Therefore, the good level of knowledge of respondents makes respondents adhere to the gout diet. In contrast to respondents who have less knowledge, they are more likely to be non-compliant with a gout diet (Aupia, 2021).

Knowledge is very important for respondents to comply with diet. If the respondent has good knowledge then the respondent's compliance in implementing the diet will be higher and vice versa, if the respondent's knowledge is lacking then the respondent's compliance in implementing the diet will be lower..

CONCLUSIONS

Knowledge about gout showed positive and strong relationship with dietary compliance in elderly people with gout. It can be inferred that the better knowledge, the better and higher respondents dietary compliance.

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THE CORRELATION BETWEEN SMOKING BEHAVIOUR AND THE BODY MASS INDEX IN RELATION TO THE INCIDENCE OF KNEE OSTEOARTHRITIS IN THE ELDERLY, UTILIZING THE WESTERN ONTARIO AND MASTER INDEX

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ABSTRACT	Keywords
Osteoarthritis is a progressive condition affecting the joints, where there is an accumulation of cellular stress, breakdown of the extracellular matrix, and gradual deterioration of the articular cartilage. This leads to the bones rubbing against each other, causing pain, stiffness, and impaired mobility. The Kwanyar Community Health Center documented a total of 194 instances of knee osteoarthritis between July and September 2022. The objective of this research is to examine the correlation between body mass index and smoking habits, as well as the occurrence of knee osteoarthritis in older individuals, using the Western Ontario and McMaster index. The study design employs analytics using a cross-sectional methodology. The survey had a total of 86 participants. There were 54 responders from whom samples were obtained. The sample approach employs probability sampling with the Simple Random sample technique. The data collecting method employs a questionnaire form. The statistical analysis employs the Spearman Rank test with a significance level of 0.05. The ethical testing of this study has been conducted by the KEPK STIKes Ngudia Husada Madura team. The study findings indicate that the analysis is conducted using the Spearman Rank statistical test, yielding a significant result (p=0.000) which is lower than the significance level (a=0.05). It may be inferred that there is a correlation between body mass index and smoking habits in connection to the occurrence of knee osteoarthritis in older individuals, as measured by the Western Ontario and McMaster index. For the aged, it is advisable to enhance their body mass index and modify their smoking habit as a preventive measure against knee osteoarthritis. The study aims to investigate the correlation between the respondents' understanding of body mass index and smoking habits, and the occurrence of knee osteoarthritis in older individuals.	*Osteoarthritis, smoking, body mass index*

INTRODUCTION

Osteoarthritis (OA) is a degenerative joint disease characterized by cellular stress, extracellular matrix degradation, and gradual loss of articular cartilage resulting in bones rubbing against each other, resulting in pain, stiffness, and movement disorders (El-Tawi et al., 2016; Lespasio, 2017; WHO, 2013). OA is a major cause of chronic pain and physical disability in old age (Wallace et al., 2017). OA manifests first as metabolic derangement in abnormal cartilage tissue followed by anatomical and physiological abnormalities characterized by cartilage degradation, bone sclerosis, joint space narrowing, osteophyte formation, joint inflammation and loss of physiological joint function (El-Tawil et al., 2016).

How to assess the functional degree of the knee can use the Western Ontario and McMaster (WOMAC) and Algofunctional lequesne. However, between the two instruments, WOMAC is more effective for assessing knee function, because WOMAC is a tool designed to measure functional disorders and pain associated with OA of the lower extremities. There are five questions related to pain, two questions related to joint stiffness and seventeen questions related to functional activities. WOMAC is the most sensitive instrument for assessing knee OA and is widely used in clinical trials (Ebrahimzadeh, 2014)

Osteoarthritis ranks 50th globally among diseases that cause disability and injury affecting 250 million people or 4% of the world's population (Kohn et al., 2016). In Indonesia, radiologically the incidence of knee OA in women reaches 12.7% while in men it is 15.5% (Setiati, 2014). Based on research by Hasiibi (2015), in East Java it is 27% at the age of 60 years and the incidence increases to 80% at the age of 75 years (Hasiibi, 2015).

Risk factors that cause knee OA include age, gender, genetics, previous knee injury, lifestyle (smoking), and Body Mass Index (BMI), excess body weight causes increased mechanical load on the knee joint which can accelerate bone structure damage. (Arismunandar, 2015). Other factors such as smoking can cause knee OA due to cartilage damage (Agus, 2017).

The impact of knee osteoarthritis without serious treatment is the risk of Osteonecrosis, Baker cyst rupture, Bursitis, Symptomatic and bone malfunction, the worst of which is Meniscal Tear paralysis (Agus, 2017).

Efforts that can be made to manage patients with OA aim to eliminate complaints, optimize joint function, reduce dependency and improve quality of life, inhibit disease progression and prevent complications. Pillars of therapy: non-pharmacological (education, physical therapy, diet/weight loss), pharmacological (analgesics, local, systemic, chondroprotective and biologic corticosteroids), and surgery (Kapoor, 2011).

METHOD

The design used in this research is an analytical survey with a cross sectional approach. The total population was 86 with a sample of 54 respondents in the working area of the Kwanyar Health Center, Bangkalan Regency. The instruments in the research used a questionnaire, namely smoking behavior, incidence of knee osteoarthritis using WOMAC and body mass index using weight and TB scales.

RESULTS

Table 1 based on characteristics patient

Age	Frequency	(%)
Elderly	31	57.4
Young old	18	33.3
Old	5	9.3
Total	54	100
Education		
No school	22	40.7

Base	28	51.9
Intermediate	4	7.4
Total	54	100
Work		
Doesn't work	19	5.2
Farmer	24	44.4
Self-employed	9	16.7
Retired	2	3.7
Total	54	100

From table 1 above, based on age, the majority were aged 55-65 years, numbering 31 (57.4%). The majority of respondents' last level of education was elementary school, numbering 28 (51.9%). Nearly half of the respondents' occupations were 24 farmers (44.4%).

Table 2 is based on body mass index, smoking behavior and the incidence of knee osteoarthritis

Body Mass Index	Frequency	Percentage (%)
Thin	2	3.7
Normal	24	44.4
Fat	28	51.9
Total	54	100
Behavior smoke	Frequency	Percentage (%)
Light	18	33.3
Currently	21	38.9
Heavy	15	27.8
Total	54	100
Osteoarthritis knee	Frequency	Percentage (%)
Light	18	33.3
Currently	21	38.9
Heavy	15	27.8
Total	54	100

From table 2 above it shows the Body Mass Index for the most part 28 (51.9%) showed obesity, almost half of the respondents' smoking behavior 21 (38.9%) showed moderate and almost half of the respondents showed knee osteoarthritis 21 (38.9%) showed moderate.

DISCUSSION

Relationship between body mass index and the incidence of knee osteoarthritis in the elderly

Spearman Rank statistical test, it was obtained that the p value = 0.000, meaning the *p value* = < α (0.05). Thus it can be concluded that H0 is rejected and Ha is accepted, which means there is a relationship between Body Mass Index (BMI) and the incidence of knee osteoarthritis in the elderly using the *Western Ontario and McMaster index.* in the Kwanyar Community Health Center Working Area

This research is supported by research conducted by Rosdiana (2019). The results of the study show that the body mass index of the elderly is almost half of the respondents, 48.5% have an obese body mass index, the incidence of osteoarthritis is more than half of the respondents, 55.6% have the incidence of osteoarthritis and there is a significant relationship significant relationship between body mass index and the incidence of osteoarthritis in the elderly in the Handapherang Health Center Working Area in 2019).

Cici (2020) also said that based on the results of her research analysis , the p value obtained was 0.021 (p value ≤ 0.05). Thus, this study shows that there is a relationship between body mass index and the incidence of knee osteoarthritis at the Zainoel Abidin General Hospital in the city of Banda Aceh.

This is because body mass index can influence the fulcrum on the legs, the greater the body mass capacity, the greater the load placed on the legs, making it possible for knee osteoarthritis to occur in the elderly .

One factor that can influence body mass index is gender. Based on the research results, it was found that the gender of all respondents was male (100%). BMI in the overweight category is more common in men. However, obesity rates are higher in women compared to men. The distribution of body fat is also different between the fat of women and men, men suffer from visceral obesity more often than women (Asil, E et al., 2014). This happens because men tend to pay less attention to body posture than

women, therefore this can happen because of the lifestyle they live.

Another factor that can influence body mass index is age. Based on the research results, it was found that the age of the respondents was mostly 55-65 years old, numbering 31 (57.4%). Research conducted by Tungtrochitr and Lotrakul shows that there is a significant relationship between older age and BMI in the obesity category. Research subjects in the 40-49 and 50-59 year age groups had a higher risk of obesity than those in the age group less than 40 years. This situation is suspected due to slow metabolic processes, reduced physical activity, and more frequent food consumption (Hidayati, 2017). In this case, the function of the body plays a role in the metabolic processes that occur, because the older a person gets, the function will decrease, such as a decrease in metabolic processes.

Relationship between smoking behavior and the incidence of knee osteoarthritis in the elderly

Spearman Rank statistical test, it was obtained that the p value = 0.000, meaning the *p value* = < α (0.05). Thus, it can be concluded that H0 is rejected and Ha is accepted, which means that there is a relationship between smoking behavior and the incidence of knee osteoarthritis in the elderly using the *Western Ontario and McMaster index.* in the Kwanyar Community Health Center Working Area .

This research is supported by Erita (2017). The results of the chi square analysis show that the p value = 0.036, meaning that there is a significant influence of smoking habits on the incidence of osteoarthritis. This means that smokers have a 2.679 times risk of developing osteoarthritis compared to non-smokers.

The results of research by Amin et al (2006) in Niken (2014) stated that smokers were twice as likely to have significant cartilage loss compared to non-smokers. The relationship between smoking and osteoarthritis is because smoking can damage cells and inhibit the proliferation of joint cartilage cells, smoking can increase oxidant pressure which affects cartilage loss, and smoking can increase carbon monoxide content in the blood which causes tissue to lack oxygen and can inhibit bone formation. vulnerable. Smokers have higher levels of pain than non-smokers because joint pain will increase due to loss of cartilage, smoking may affect other structures in the knee or may have an effect on pain perception.

According to the explanation above, the smoking habit can still be said to be a risk factor for osteoarthritis because in this study the results showed that there was a significant relationship because the proportion of respondents who smoked was less and there were only respondents who had a light smoking habit and did not smoke. There were no respondents in the category of having a moderate and non-smoking habit. The smoking habit is heavy so there is no comparison in the data analysis. Apart from smoking, there are also other variables that play a role as risk factors for osteoarthritis.

One factor that can influence smoking behavior is knowledge that can be obtained from education. Based on the results of educational data, it was found that the majority of respondents' last type of education had elementary school education, numbering 28 (51.9%). Public knowledge is still low because low education means minimal information regarding the dangers of smoking behavior. Even though it has been clearly proven about the dangers of smoking, only a few smokers understand that smoking harms almost every organ in the body and causes many diseases. Most think that smoking only causes a few diseases (Zaenabu, 2014). Individuals with

low education will experience a lack of knowledge, especially about the dangers of smoking being one of the reasons for smoking, because information regarding the dangers is not well known.

CONCLUSIONS

There is a relationship between smoking behavior and the incidence of knee osteoarthritis in the elderly using *the Western Ontario and McMaster index* in the Kwanyar Community Health Center Working Area

There is a relationship between Body Mass Index (BMI) and the incidence of knee osteoarthritis in the elderly using *the Western Ontario and McMaster index.* in the Kwanyar Community Health Center Working Area

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ORIGINAL RESEARCH

THE IMPLEMENTATION OF ERLY INITIATION BREASTFEEDING ON INTRANATAL MOTHER TO DEVELOPE BOUNDING ATTACHMENT IN

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ABSTRACT	Keywords
Early initiation of breastfeeding (IMD) is the first time for baby to learn to breastfeed at the first hour of life outside the womb. The warmth of the mother's breast when the baby is placed on the mother chest, will make the baby feel the vibration of love. Edmond (2006) in Ghana proved breastfeed infants be given a chance in the first hour, and left skin contact with the mother (at least for an hour), it can prevent infant mortality by 22%. Research design using analitytical methods with one shot case study approach. The population is all maternal at the independent practice of midwife Ny Rindra Deviasti, SST, M.Kes in kalang kalen village, dlanggu subdistrict, Mojokerto district as many as 12 people. Data collection instrument using checklist an questionnaire. The results showed that of the 12 people who did early breastfeeding initiation (IMD) got 11 people (91,7%) require care support after growing bonding attachment and 1 people (8,3%) require more support after growing bonding attachment. The resuts showed a correlation between the implementation of early initiation of breastfeeding on intra natal mother to develope bonding attachment at TPMB Ny Rindra Deviasti., SST., M.Kes in kalang kalen village, dlanggu subdistrict, Mojokerto regency. With the results of this study are expected to pregnant women to exercise early initiation of breastfeeding after childbirth because it is very beneficial for both mother and baby.	**Early Initiation Breastfeeding, Bonding Attachment Development**

INTRODUCTION

Every mother produces milk, which we call breast milk, as a natural food for the baby. Breast milk is the single most perfect food to ensure a baby's growth and development in the first six months. In addition to the correct breastfeeding process, the baby will get good physical, emotional, and spiritual development in life.

Early breastfeeding initiation or often called IMD is the period of learning to breastfeed in the first hour of a baby's life outside the womb. There are several reasons for the importance of early breastfeeding initiation (IMD), namely, when the baby can suckle immediately after birth, the colostrum can come out faster and the baby will get this colostrum faster, which is the golden liquid or the first liquid that is rich in antibodies and is very important for intestinal growth and resistance to infection that the baby needs for its survival. The warmth of the mother's chest when the baby is placed on the mother's chest, will make the baby feel the vibration of love, namely feeling calm, feeling protected and psychologically strong. The baby will be calmer because the

breathing, heartbeat of the mother's skin will calm the baby, reduce stress due to the birth process and increase the baby's immunity.

The term "bonding" is used to describe the relationship between parents and their baby in the early days of the baby's birth. A safe and secure birth, and a healthy baby will evoke very turbulent emotions in most parents, even the birth attendants. The efforts of the previous few hours are momentarily forgotten as the mother looks at her baby for the first time. Characteristically, the first question that arises in the mother's mind is about the baby's gender, then quickly moves on to the baby's condition/health. After getting certainty about these two things, the mother will immediately move on to examining her baby. The mother will begin the examination of her baby by examining her baby's entire body. After that, the mother will stroke the baby's body with all her hands before embracing the baby's body with her hands, which often occurs in a face-to-face position so that eye contact can be realized.

METHOD

In this study using a pre-experimental research design with a *one shot case study* approach, namely if the pretest post test design is carried out pretest, then in one shot case study this is done by giving treatment / treatment then observed to see the impact or influence (Hidayat, 2010). This study analyzes the implementation of early breastfeeding initiation inpartu mothers on *bonding attachment*.

The population in this study were all inpartu mothers at TPMB Mrs. Rindra Deviasti, SST, M.Kes in kalang kalen village, dlanggu subdistrict, Mojokerto regency. from March to May 2023, as many as 12 respondents. The sampling technique in this study uses total sampling or saturated sampling which means the sampling method by taking all members of the population into the sample. Analysis of the implementation of early breastfeeding initiation inpartu mothers on the onset of *bonding attachment* using *Cross Tab*.

RESULTS

Table 1. Characteristics of Respondents Based on Mother's Age

No.	Mother's Age	F	%
1	<20 Years	2	16.7
2	20-35 Years	10	83.3
3	>35 Years	0	0
	Total	12	100

Source: Primary Data, 2023

Based on Table 1 shows that most respondents were between 20-35 years old, as many as 10 respondents (83.3%).

Table 2. Characteristics of Respondents Based on Education

No.	Education	f	%
1	Elementary school	0	0
2	Junior high school	3	25
3	Senior high school	9	75
4	Undergraduate	0	0
	Total	12	100

Source: Primary Data, 2023

Based on Table 2 shows that all respondents have a high school education as many as 9 respondents (75%).

Table 3. Characteristics of Respondents Based on Occupation

No.	Occupation	F	%
1	Civil servant	0	0
2	Self-employed	2	16.7
3	Private	4	33.3
4	Housewife	6	50
	Total	12	100

Source: Primary Data, 2023

Based on Table 3 shows that most respondents did not work as many as 6 respondents (50%).

Table 4. Frequency distribution of early breastfeeding initiation implementation

No.	Implementation of IMD	F	%
1	Done	12	100
2	Not done	0	0
	Total	12	100

Source: Primary Data, 2023

Based on table 4, it is explained that most respondents initiated early breastfeeding (IMD) after the delivery process was complete, namely 12 respondents (100%).

Table 5. Frequency Distribution of Onset of Bonding Attachment

No.	Onset of Bonding Attachment	F	%
1	Need Care Support	11	91.7
2	Need Extra Support	1	8.3
3	Need Intensive Support	0	0
	Total	12	100

Source: Primary Data, 2023

Based on table 5, it is explained that most respondents can bring up Bonding Attachment by only needing care support as many as 11 respondents (91.7%).

Table 6. Cross-tabulation of the implementation of early breastfeeding initiation inpartu mothers on the onset of bonding attachment

No	IMD	Onset Of Bonding Attachment						Total	
		Need Care Support		Need Extra Support		Need Intensive Support			
		f	%	f	%	F	%	f	%
1.	Done	11	91.7	1	8.3	0	0	12	100
2.	Not done	0	0	0	0	0	0	0	0
	Total	11	91.7	1	8.3	0	0	12	100

Source: Primary Data, 2023

Based on table 6 shows that if early breastfeeding initiation is carried out inpartu mothers, the bonding attachment that arises only needs care support, namely 11 respondents, and if early breastfeeding initiation is carried out but the bonding attachment that arises needs extra support, namely 1 respondent.

DISCUSSION

Implementation of Early Breastfeeding Initiation

Based on table 4 obtained data that there are 12 inpartu mothers, with all respondents doing early breastfeeding initiation after the delivery process is complete, namely 12 respondents (100%). Of the 12 respondents who initiated early breastfeeding after the labor process was complete, 1 of them did not know about early breastfeeding initiation.

Early breastfeeding initiation or often called IMD is the period of learning to breastfeed in the first hour of a baby's life outside the womb (Maryunani, A. 2009). The reason for the importance of early breastfeeding initiation (IMD) is that when the baby can suckle immediately after birth, the colostrum can come out faster and the baby will get this colostrum faster, which is the golden liquid or the first liquid that is rich in antibodies and is very important for intestinal growth and resistance to infection that the baby needs for its survival. The warmth of the mother's chest when the baby is placed on the mother's chest, will make the baby feel the vibration of love, namely feeling calm, feeling protected and psychologically strong. The baby will be calmer because the mother's breathing, heartbeat and skin calm the baby, reduce stress due to the birth process and increase the baby's immunity (Maryunani, 2009).

With the initiation of early breastfeeding after the delivery process, this will greatly benefit the baby. When the baby is on the mother's chest, there are many things that the baby can get. As listed above, when the process of early breastfeeding initiation is carried out, skin contact between mother and baby will have a big effect on the mother and baby, such as the vibration of love that is formed when the warmth of the mother's chest is felt by the baby. And this is what is felt by most mothers who have implemented early breastfeeding initiation after the delivery process.

Onset of Bonding Attachment

Based on table 5, it is obtained that most respondents have good bonding attachment, it can be seen that out of 12 respondents, 11 respondents (91.7%) have bonding attachment that only needs care support and 1 respondent (8.3%) has bonding attachment that needs extra support. Bonding Attachment can be defined as a unique relationship between two parents that is specific and lasts over time. And the bond between parents and their children starts from the period of pregnancy and increases in intensity during childbirth (Kannel and Kalus, 1998).

Bonding Attachment can be measured or seen from several observable maternal behaviors, including whether the mother asks about the baby's condition, whether the mother only listens and without commenting, or even the mother is not interested in the baby. Whether the mother spontaneously touches the baby, the mother only sees without touching the baby, or even the mother does not see or touch the baby. Whether the mother can spontaneously talk to the baby, the mother will talk to the baby if necessary, or the mother does not talk to the baby. Whether the mother holds the baby with eye contact, whether the mother holds the baby with no eye contact, or even does not move the baby when the baby is on the lap. The mother expresses a positive impression of the baby's birth, the mother expresses less satisfaction, or even the mother does not express anything.

There is a lot of scientific evidence that early contact after birth is important in the relationship between parent and child. The background that respondents have in the onset of bonding attachment shows that most respondents only need care support, indicating that the bonding attachment formed is very good.

Implementation of Early Breastfeeding Initiation on the Onset of Bonding Attachment

Based on the research results in table 6 above, it shows that of the 12 postpartum mothers who initiated early breastfeeding, there were 12 respondents, who initiated early breastfeeding with the results of Bonding Attachment only needing care support as many as 11 respondents (91.7%), and Bonding Attachment arising in 1 other respondent (8.3%), namely, needing extra support. And of the 12 respondents, all of them initiated early breastfeeding after the labor process was completed.

According to Klaus, Kannel that there is a lot of scientific evidence showing that early contact after birth is important in the relationship between parent and child. There are several physiological benefits that can be obtained from early contact, namely, prolactin and oxytocin levels increase, the sucking reflex is carried out early, active immune formation begins, accelerates the bond between parent and child. Skin contact in early breastfeeding is important because, first, the mother's chest will warm the baby appropriately, which will reduce infant mortality due to hypothermia. Second, both mother and baby feel calm. Third, the mother's skin will transfer the mother's skin bacteria to the baby's skin. By licking, the baby will transfer bacteria, thus competing with malignant bacteria in the environment, so that the baby has a higher resistance. Fourth, the love between mother and baby will be better established, because the baby is alert in the first 1-2 hours. Fifth, the baby will receive antibody-rich colostrum, which is important for intestinal growth and resistance to infection. Sixth, with early breastfeeding, the baby will be more successful in exclusive breastfeeding and longer breastfeeding. Seventh, touching, sucking, licking the mother's nipples will stimulate the release of the hormone oxytocin which is important for increasing uterine contractions after labor. (Utami.Sintha, 2008).

Table 3 shows that most respondents did not work, namely only as housewives as many as 6 respondents (50%). When the mother does not work, the costs for childbirth will be fully borne by the husband, if there are complications in childbirth, such as caesarean surgery, births that are not old enough to require special care and must be longer in the hospital, or there are congenital defects or defects that appear at the time of birth, then the parents' attitude will be overshadowed by anxiety about unexpected costs. (Saleha Sitti, 2009).

Table 2 shows that most respondents have a high school education as many as 9 respondents (75%). It cannot be denied that the higher a person's education, the more they receive information and ultimately the more knowledge they have. And vice versa, if someone has a low level of education, it will hinder the development of one's attitude towards acceptance, information and newly introduced values. And when respondents have less information, when the baby cries during

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IMD, the mother wants to give up quickly to provide breast milk. A crying baby is not necessarily hungry. Let the baby find the nipple on its own. (Nuraisiah, Rukmawati, and Laelatul Badriah, 2012)

The background possessed by respondents in this study is high, so that respondents easily receive information. And most respondents also seek information either from mass media, or ask health workers.

In the community, lack of knowledge about early breastfeeding initiation can also affect the mother's desire to initiate early breastfeeding after birth and also the bonding attachment that is caused. And vice versa, when the mother's knowledge about early breastfeeding initiation is high, the mother will feel proud and happy to be able to initiate early breastfeeding after the delivery process is complete. A person's level of education will affect the view of something that comes from outside, people with higher education will tend to think more rationally than those with low education. And one of the factors encountered in the study was that the mother was not calm, and did not have the heart to initiate early breastfeeding because the mother felt sorry for her baby, where the mother felt uneasy because the baby was required to find the mother's nipple alone for a long time, which was at least 1 hour. The mother feels uneasy and insecure if she sees her baby occasionally crying during the early breastfeeding initiation process.

CONCLUSIONS

(Tidak perlu menuliskan kesimpulan dan saran cukup ditulis dalam satu poin kesimpulan tanpa penomoran)

Based on the results of the study, it can be concluded that the implementation of early breastfeeding initiation at TPMB Mrs. Rindra Deviasti, SST, M.Kes in kalang kalen village, dlanggu subdistrict, Mojokerto regency, all respondents performed early breastfeeding initiation after the delivery process was completed, namely 12 respondents (100%), and 11 respondents (91.7%) showed that they only needed care support in handling their bonding attachment. So that if postpartum mothers do not immediately initiate early

breastfeeding, the bounding attachment between mother and baby can be hampered.

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ORIGINAL RESEARCH

DIFFERENCES IN STRESS SCORES AFTER BEING GIVEN MUROTTAL THERAPY QS AL-ANBIYA 83 – 112 IN HYPERTENSION SUFFERERS

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ABSTRACT	Keywords
The increasing incidence of hypertension with various accompanying complications is caused by several factors, including excessive sympathetic nerve activity, obesity, food, unhealthy lifestyles, hereditary factors, and stress. The many impacts caused by stress that are not handled immediately require someone to be able to carry out stress management. Non-pharmacological therapy through stress management in cases of hypertension has been widely developed and applied, such as providing yoga relaxation therapy, massage therapy, meditation, and murottal therapy. Murottal therapy has a relaxing effect and improves body cells and creates a sense of comfort in the soul, thereby reducing stress. The purpose of this study was to determine the difference in stress scores in hypertension sufferers after being given murottal therapy QS Al-Anbiya 83–112. The study used a pre-experimental design with a One-group pre-posttest design which was carried out on 2th-8th October 2023. The population of this research is 30 of patient with hypertention was spreading at Nglaban Hamlet, Nglaban Village, Loceret District, Nganjuk Regency. A sample of 22 respondents with purposive sampling technique. Measurement of stress levels before and after being given murottal QS Al-Anbiya 83–112 with Perceive Stress Scale (PSS). Murottal QS Al-Anbiya 83–112 gived for 9 minutes once a day for seven days. Data analysis used the paired t-test. The results of statistic with Pairet t-test p value of 0.000 so that there was a difference in stress scores before and after being given QS Al-Anbiya 83-112 murotal therapy, with an difference mean 6.864. Murottal QS Al-Anbiya 83–112 can be applied as an alternative solution in overcoming the stress levels of hypertension sufferers.	**Murottal, QS Al-Anbiya 83-112, Stress Scores, Hypertension**

INTRODUCTION

The prevalence of hypertension cases in Indonesia is 63,309,620 people, while the death rate due to hypertension is 427,218 deaths. Hypertension occurs in the age group 31-44 years (31.6%), age 45-54 years (45.3%), age 55-64 years (55.2%) (RI, 2018). Meanwhile, according to data from the Nganjuk District Health Service in 2022, there were 46,752 people suffering from hypertension and referral cases of hypertension were 2,920 people in the Loceret Health Center working area.

Hypertension is a disease that needs special attention because the incidence rate is high and it is a silent killer (Pamiarso, 2011). A person only feels the serious impact of hypertension when there is a disturbance in their organ system, such as heart function, kidney function, or stroke,

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even stroke. Hypertension can also cause death due to the long-term effects of complications (Smeltzer, 2013). The increasing incidence of hypertension and the various complications that accompany it are caused by several factors, including excessive sympathetic nerve activity, obesity, food, unhealthy lifestyles, hereditary factors, and stress (Yusuf, 2017). One of the causes of hypertension that is currently difficult to control is stress. Stress can be experienced by a person due to various causes. Individual stressors arise due to job demands, economic factors, lack of sleep, household problems, or personal characteristics (Kumala, 2017). Various problems experienced by a person can also cause stress. A person who experiences hypertension generally experiences stress in the form of emotional or psychological stress. Psychological or emotional stress is stress caused by disturbances in emotional situations (Kushariyadi, 2011). Stress is the inability to face extraordinary demands that are felt to be threatening both from within and from outside the individual (Anggraeni, 2014). Stress is important in relation to hypertension because stress can stimulate the sympathetic nervous system and increasing the work of the heart and vasoconstriction of arterioles so that it can increase blood pressure. Uncontrolled stress can cause several impacts, including increased blood pressure, impaired social function, and various other diseases (Andria, 2013).

The many impacts caused by stress that are not handled immediately require someone to be able to carry out stress management. Stress management is a form of non-pharmacological hypertension therapy to complement the provision of pharmacological therapy through antihypertensive drugs (Potter & Perry, 2005). Non-pharmacological therapy through stress management in cases of hypertension has been widely developed and applied, such as providing yoga relaxation therapy, massage therapy, meditation, and dhikr relaxation therapy (Gemilang, 2013).

One of the stress management that can be taught by family nurses is relaxation therapy. Relaxation is often done because it has been proven to be effective in reducing tension and anxiety. The relaxation response can inhibit the autonomic nervous system and increase parasympathetic activity. Relaxation techniques can be combined with spiritual elements for optimal results. One effort to reduce stress is by reading the Koran. Reading the Koran promotes relaxation in the soul and body which is proven to foster a sense of peace and calming (Siswoyo, Setyowati, & A'la, 2017).

Reading the Al-Qur'an has a relaxing effect and improves body cells and creates a feeling of comfort in the soul, thereby reducing stress (Diki, 2018). The letters in the Al-Qur'an that can be used as murottal therapy is the letter Al - Anbiyaa. Al-Anbiyaa murottal therapy for 9 minutes, once a day for 7 days, physiologically, a state of relaxation is characterized by a decrease in epinephrine and non-epinephrine levels in the blood, a decrease in stress hormones, a decrease in heart rate (up to 24 times per minute), decreased respiratory frequency (up to 4-6 times per minute), decreased muscle tension, reduced pain, decreased metabolism, vasodilation and increased temperature in the extremities (Wirakhmi & Hikmanti, 2016).

Surah Al-Anbiya, one of the last suras revealed in the Mecca period, has 112 verses. This letter is called Al - Anbiyaa, because this letter tells the stories of several prophets. Verses 83 to 112 are letters that explain one of the prayers of the Prophet Ayyub when he was seriously tested by years of illness. Al-Anbiya verse 83 is often used as a prayer asking for healing from illness. All the verses have the character of short verses so they are comfortable to listen to and can have a relaxing effect so that the body's muscles relax and reduce pain for even lay listeners. Murottal Al-Qur'an Surah Al-Anbiya music therapy works on the brain where when stimulated by stimulation from murottal therapy the brain will produce chemicals called neuropeoptides. This molecule will attach to the receptors and provide feedback in the form of pleasure and

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comfort (Risnawati & Hafid, 2017). The function of human hearing is the reception of auditory stimuli or sounds. Auditory stimulation in the form of sound is received by the ear, causing it to vibrate. These vibrations will be transmitted to the auditory ossicles which are linked to each other (Bahrir & Komariah, 2020).

METHOD

This research was carried out on 2th-8 th October 2023 in the Nglaban Hamlet, Nglaban Village, Loceret District, Nganjuk Regency. The population of this research is 30 of patient with hypertention was spreading at Nglaban Hamlet, Nglaban Village, Loceret District, Nganjuk Regency a sample of 22 respondents with purposive sampling technique. Before becoming respondents, all hypertension sufferers had their stress scores measured using the perceived stress scale (PSS) as an initial screening. Hypertension sufferers who have a stress score > 7 will be used as potential respondents. The inclusion criteria in this study were hypertension sufferers who at screening had a stress score of >7, Moslem, and did not have hearing impairment.

This study used a pre-experimental design with a one-group pre-posttest design. Respondents were given Murottal QS Al-Anbiya 83–112 for 9 minutes once a day for seven days.

Measurement of stress scores with a questionnaire. The research instrument for measuring stress scores used the Perceive Stress Scale (PSS). Perceive Stress Scale (PSS) was given during initial screening and after seven days Murottal QS Al-Anbiya therapy. The Perceive Stress Scale (PSS) has high validity and reliability for measuring stress scores in adolescents, adults and the elderly namely 0.82. Data analysis using SPSS 21 with Wilcoxon sign rank.

This study ethics uses informe consent, autonomy, confidelity, beneficient, non-maleficient, justice and fidelity.

RESULTS

Table 1. The Stress Scores Pre and Post Murottal QS Al-Anbiya 83-112 (n=22)

Stress Scores	n	Mean	SD	Min	Max	p-Value
Pre	22	21,68	5,375	13	31	0,000
Post		14,82	5,491	7	25	
Pre-Post		6,864	0,563	5,692	8,035	

Based on table 1, stress score before being given murotal therapy Murottal QS Al-Anbiya 83-112 mean 21.68; minimum 13 and maximum 31, then after being given Murottal QS Al-Anbiya 83-112 murotal therapy the average stress score was 14.82; The minimum is 7 and the maximum is 25. The results of statistic with Pairet t-test p value of 0.000 so that there was a difference in stress scores before and after being given QS Al-Anbiya 83-112 murotal therapy, with a difference mean 6.864.

DISCUSSION

The chanting of the verses of the Qur'an physically contains human elements which are healing instruments and tools that are most easily accessible. Sound can reduce stress hormones, activate natural endophrin hormones, increase feelings of relaxation, improve the body's chemical system thereby lowering blood pressure and slowing breathing, heart rate, pulse and brain wave activity (Suryono, Akbar, Nugraha, & Armiyati, 2020). The influence of Al-Quran murottal therapy has an influence on respondents' anxiety levels. In this study, respondents who were given Al-Quran murottal therapy had lower levels of anxiety than patients who were not given therapy (Bahrir & Komariah, 2020).

Surah Al-Anbiya, one of the last suras revealed in the Mecca period, has 112 verses. This letter is called Al - Anbiyaa, because this letter tells the stories of several prophets. Verses 83 to 112 are letters that explain one of the prayers of the Prophet Ayyub when he was seriously tested by

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years of illness. Al-Anbiya verse 83 is often used as a prayer asking for healing from illness. All the verses have the character of short verses so they are comfortable to listen to and can have a relaxing effect so that the body's muscles relax and reduce pain for even lay listeners. Murottal Al-Qur'an Surah Al-Anbiya music therapy works on the brain where when stimulated by stimulation from murottal therapy the brain will produce chemicals called neuropeoptides. This molecule will attach to the receptors and provide feedback in the form of pleasure and comfort (Risnawati & Hafid, 2017). The function of human hearing is the reception of auditory stimuli or sounds. Auditory stimulation in the form of sound is received by the ear, causing it to vibrate. These vibrations will be transmitted to the auditory ossicles which are linked to each other (Siswoyo, Setyowati, & A'la, 2017).

Physical stimulation is converted by the difference between potassium ions and sodium ions into an electrical current that travels through nervus VIII to the brain, specifically in the hearing area. After experiencing changes in the action potential produced by the auditory nerve, the propagation of the action potential to the auditory cortex is received by the temporal lobe of the brain to perceive sound. The thalamus as an impulse transmitter will transmit stimuli to the amygdala (where emotional memories are stored) which is an important part of the limbic system3 (which influences emotions and behavior) (Bahrir & Komariah, 2020) .

One of the letters in the Al-Qur'an that can be used as murottal therapy is the letter Al - Anbiyaa. Physiologically, a state of relaxation is characterized by a decrease in epinephrine and non-epinephrine levels in the blood, a decrease in heart rate (up to 24 times per minute), a decrease in respiratory rate (up to 4-6 times per minute), a decrease in muscle tension, reduced pain, and a

decrease in metabolism. decreased, vasodilation and increased temperature in the extremities (Wirakhmi & Hikmanti, 2016).

Murottal therapy is a therapy for reading the holy verses of the Al-Qur'an which, when read, will provide a positive response to a person's body. Murrottal is the sound or chanting of verses from the Koran which, when heard, can reduce stress hormones, activate natural endorphin hormones, increase feelings of relaxation and distract from fear, reduce pain, anxiety and tension, improve chemical and hemodynamic systems. the body thereby lowering blood pressure and slowing breathing, heart rate, pulse and brain wave activity so that it will create a feeling of comfort (Novianti, 2012). Al-Quran reading therapy there are changes in electrical currents in the muscles, changes in blood circulation, changes in heart rate and blood levels in the skin. These changes indicate a decrease in reflective nerve tension which results in vasodilation and an increase in blood levels in the skin, accompanied by a decrease in heart rate. Providing Al-Quran reading therapy has been proven to activate body cells by converting sound vibrations into waves that are captured by the body, reducing stimulation of pain receptors so that the brain releases endogenous natural opioids. This opioid is a permanent blockade of pain nociceptors (Rilla, Ropi, & Sriati, 2019). One of the letters in the Al-Qur'an that can be used as murottal therapy is the letter Al - Anbiyaa. Physiologically, a state of relaxation is characterized by a decrease in epinephrine and non-epinephrine levels in the blood, a decrease in heart rate (up to 24 times per minute), a decrease in breathing frequency (up to 4-6 times per minute), a decrease in muscle tension, reduced pain, and a decrease in metabolism. decreased, vasodilation and increased temperature in

the extremities (Wirakhmi & Hikmanti, 2016).

CONCLUSIONS

Murottal QS Al-Anbiya 83–112 can be applied as an alternative solution in overcoming the stress levels of hypertension sufferers.

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ORIGINAL RESEARCH

GESTATIONAL AGE FACTORS WITH NEONATAL ASPHYXIA LEVELS IN NEWBORN BABIES

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ABSTRACT	Keywords
Asphyxia neonatorum is a newborn emergency in the form of respiratory depression that continues, causing various complications. Neonatal asphyxia is caused by several factors, namely, intrauterine factors (mother's condition factors, uterine factors, placental factors, umbilical cord factors and fetal factors), gestational age factors and labor factors. This study aims to determine the factor analysis of gestational age and the level of neonatal asphyxia in the Nusa Indah Room at Nganjuk Regional Hospital. The research design uses a correlational design with a retrospective approach, this research was carried out on June 1 2023 in the Nusa Indah Room, Nganjuk Hospital. The population in this study was all 68 newborn babies. The sample was taken using a total sampling technique with a total of 68 respondents. The independent variable is the gestational age factor, the dependent variable is the level of neonatal asphyxia. The data collection instrument uses medical record data and statistical tests use the Contingency Coefficient with $\alpha = 0.05$. The results of this study showed that almost half had a premature gestational age, namely 33 respondents (48.5%). Experiencing moderate asphyxia was 32 respondents (47.1%). And the results of the Coefficient Contingency test show p-value = $0.000 \leq \alpha$ (0.05), so Ha is accepted and Ho is rejected, which means there is a relationship between gestational age and the level of neonatal asphyxia in the Nusa Indah Room at Nganjuk Regional Hospital. Newborn babies with a history of premature gestational age are at risk of experiencing neonatal asphyxia. Nurses as implementers of curative measures are required to carry out nursing care appropriately to provide optimal assistance so that the incidence of neonatal asphyxia can be minimized	**Gestational Age, Asphyxia Neonatorum, Newborn**

INTRODUCTION

Asphyxia neonatorum is a newborn emergency in the form of respiratory depression that continues, causing various complications. Increasing human resources begins during intrauterine life, therefore the condition of asphyxia, which is the same as fetal distress or fetal distress in the womb, is very important to avoid and find the cause. Several factors that cause neonatal asphyxia are intrauterine factors (condition of the mother, uterus, placenta, umbilical cord and

fetus), gestational age factors (premature pregnancy, term pregnancy, postmature pregnancy), labor factors (prolonged labor, operative delivery, labor with induction, labor with anesthesia, bleeding) and artificial factors (hypotension-supination syndrome, intrauterine asphyxia in labor induction, intrauterine asphyxia in labor with anesthesia) (Manuaba, 1998).

WHO reports that asphyxia occurs in 1-4 per 1000 live births in developed countries and 4 - 9 per 1000 live births in developing countries. This situation is estimated to cause 21% of infant deaths, especially in developing countries (Kemenkes, 2019). In 2021, the second most common cause of neonatal death in Indonesia is asphyxia (28%). Based on the data obtained, it shows that the number of neonatal deaths (0-28 days) in Indonesia in 2021 was 40,308 deaths. Some of these neonatal deaths were caused by neonatal asphyxia, amounting to 5,599 cases. Meanwhile, the total number of neonatal deaths on the island of Java reached 19,360 with 2,652 cases caused by asphyxia (Jatim, 2021). The proportion of infant deaths in East Java in 2021 still occurs mostly in neonates (0 - 28 days), namely 2,658 with 757 cases caused by neonatal asphyxia. However, the mortality rate for neonates, infants and toddlers is expected to continue to decline. Data shows that the neonatal death rate in Nganjuk Regency in 2021 was 59 with 18 cases caused by asphyxia (Jatim, 2021). According to medical record data in the Nusa Indah ward at Nganjuk Regional Hospital, from January 2022 to January 2023, there were 280 cases of neonatal asphyxia with a total of 43 neonatal deaths.

Neonatal asphyxia is spontaneous respiratory failure at birth or some time after birth due to hypoxia or lack of nutrition. If there is a disruption in gas exchange/oxygen transport during pregnancy and childbirth, more severe asphyxia will occur. Acidosis and cardiovascular disorders that occur in the baby's body have a negative impact on brain cells (Maryunani, 2009). If immediate treatment is not carried out in cases of neonatal asphyxia, it will have an impact on the growth and development and quality of life of the baby in the future and even the death of the baby (Kemenkes, 2019). Asphyxia that may arise during pregnancy can be overcome/prevented by carrying out adequate prenatal care or antenatal care (ANC). Antenatal and postnatal supervision is very important in efforts to reduce maternal and perinatal morbidity and mortality. Schedule 12 to 13 antenatal care checks during pregnancy. In developing countries, antenatal examinations are carried out four times, which is sufficient for recorded cases, namely in each trimester, while in the last trimester twice (Manuaba, 1998). If it is expected that the baby will face an emergency, then during delivery the necessary assistance must be prepared. Asphyxia is a condition that must be treated immediately or, if necessary, immediately end labor. If the fetus experiences respiratory problems during or after birth, resuscitation of the newborn must be carried out immediately. With this action, it is hoped that the pressure on the fetus will end and the baby can be saved (Manuaba, 1998).

METHOD

This research design uses correlational with a retrospective approach. This research was carried out on June 1 2023 in the Nusa Indah Room at Nganjuk Regional Hospital. The population in this study were all 68 babies who experienced neonatal asphyxia. The sampling technique used was total sampling. The sample used was 68 respondents. In collecting data using research ethics with anonymity. The statistical test uses the Contingency Coefficient test with a significant $\alpha = 0.05$. The independent variable in this study is

Gestational Age, and the dependent variable in this study is the Level of Neonatal Asphyxia. The measuring tool in this research uses medical record data.

RESULTS

Table 1. Cross Tabulation of the Relationship between Gestational Age and Rates of Neonatal Asphyxia in Newborns

Gestational Age	Neonatal Asphyxia Levels						Amount	
	Light Asphyxia /Normal		Currently Asphyxia		Heavy Asphyxia			
	f	%	f	%	f	%	∑	%
Prematur	17	25	13	19,1	3	4,4	33	48,5
Matur	10	14,7	18	26,4	1	1,5	29	42,7
Postmatur	0	0	1	1,5	5	7,4	6	8,8
Amount	27	39,7	32	47	9	13,3	68	100
Uji *Coefficient Contingency, p value* = 0,000 ≤ α = 0,05								

In Table 1 it is known that of the 68 newborn respondents in the Nusa Indah Room at Nganjuk Regional Hospital, almost half, namely 18 respondents (26.4%) had a mature gestational age and the baby experienced moderate asphyxia. The results of the Coefficient Contingency test showed p value = 0.000 ≤ α = 0.05 so that Ha was accepted, which means there is a relationship between gestational age and the level of neonatal asphyxia in the Nusa Indah Room at Nganjuk Regional Hospital.

DISCUSSION

Gestational age is divided into premature, mature and postmature. Pregnancy generally lasts 40 weeks or 280 days calculated from the first day of the last menstruation (Manuaba I. , 2007). Pregnancy generally lasts 40 weeks or 280 days. According to WHO, 70% of perinatal deaths are caused by premature pregnancy (<37 weeks) because the immature growth and development of vital organs means that babies are not yet able to live outside the womb, so they often experience failure in adaptation which can causes high morbidity

and even mortality (Manuaba I. , 2007). One of the factors causing premature pregnancy is delayed fetal growth, resulting in "Small Gestational Age" where the baby's birth weight is less than 2500 grams. Newborn babies weighing less than or around 2500 grams are signs and symptoms of premature babies. The shorter the gestational age, the less perfect the growth of the baby's vital organs, which affects the baby's birth weight. The results of this study are in accordance with research (Apriani, 2021) which states that gestational age in the premature category is 20,213 times more likely to experience LBW compared to maternal parity (Apriani, 2021)

A newborn with a body weight of 2500 – 4000 grams is one of the characteristics of a normal newborn, where the growth of the baby's vital organs should be perfect so there is little risk of neonatal asphyxia (Kristiyanasari, 2010). Birth weight is part of the neonatal factors that can cause neonatal asphyxia and is an indicator of the health of newborn babies. Low birth weight babies and higher birth weight babies are included in the high risk group. However, birth weight alone cannot have a direct effect on the occurrence of neonatal asphyxia, because asphyxia is a multifactorial event (Fajarwati, 2016). The results of this study are in line with research (Mutiara et al., 2020) which states that of the 33 groups of cases of asphyxia babies there were 11 babies born with normal weight, this is because there are many factors that cause babies to be born with asphyxia, namely premature rupture of membranes. by the mother, there has been a bad obstetric record in the mother, as well as intrauterine infections, and low placental function (Mutiara, 2020).

Babies born to mothers with a premature gestational age (<37 weeks) have a 5.647 times risk of experiencing severe asphyxia compared to babies born to

mothers with a gestational age of ≥37 weeks, because at a premature gestational age the vital organs are not yet optimal, causing the baby to not yet optimally able to live outside the womb (Alfitri, 2021). However, around 3.4 - 14% or an average of 10% of pregnancies last until 42 weeks or more. Postmature pregnancies have a higher risk than term pregnancies, especially for perinatal deaths related to meconium aspiration and asphyxia (Prawirohardjo, 2010). As for babies born at sufficient gestational age but experiencing respiratory problems or mild asphyxia, this is due to other factors that disrupt lung development (Sadanoer & Tyas, 2020) . From research (Masruroh et al., 2020) it has been proven that newborn asphyxia occurs not only from mothers with high-risk gestational age, even at mature gestational age babies can also experience asphyxia (Masruroh, 2020).

CONCLUSIONS

There is a relationship between gestational age and the level of neonatal asphyxia in newborn babies in the Nusa Indah Room at Nganjuk Regional Hospital. This is based on the results of the Contingency Coefficient statistical test with $\alpha = 0.05$ and the result is ρ value = 0.000.

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