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Spiritual Needs of Pregnant Women

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ABSTRACT

The pregnancy period is a condition that makes the mother's life more meaningful and the use of spirituality as a strong coping mechanism, thus it is necessary to provide services to increase the mother's spirituality starting from the pregnancy period. The aim of this research is to identify the spiritual needs of pregnant women. This research is qualitative using descriptive method. Data collection with focus group discussions with clergy from five religions (Islam, Christianity, Catholicism, Hinduism and Buddhism) and the midwives based on the Patients Spiritual Needs Assessment Scale. Data was analyzed using conventional content analysis. Spiritual needs based on spiritual informants were identified as follows: patience, meaning that pregnant women are able to endure things they don't like, discomfort during pregnancy and continue to try with a pleased and pleased heart and surrender to God. Gratitude means that as a pregnant mother she expresses gratitude to God, does not complain and expresses feelings of relief, joy and praise to God and doing good for what she has. The pleased is interpreted as meaning that pregnant women can accept everything that happens happily and realize that everything that happens is God's will. The ability to learn lessons means that pregnant women can use the condition of pregnancy as a lesson and take advantage of it and then use it as a basis for moving on in life. The results of consultation with language experts found that the answer options used a Likert scale, the content was related to the concept of pregnancy and spiritual concepts, several items were made unfavorable as a control function. The results of identifying spiritual needs are used as the basis for proposals to improve holistic midwifery care.

Keywords: spiritual needs; pregnant women

Introduction

The pregnancy period is a condition that makes the mother's life more meaningful and the use of spirituality as a strong coping mechanism, thus it is necessary to provide services to increase the mother's spirituality starting from the pregnancy period. Themes that describe spirituality include the use of elements such as realizing one's purpose, feeling connected to God, oneself, others, nature, the search for wholeness, the search for hope or harmony, belief in a higher being or feeling the meaning that life is beyond material things, become aware of activities that provide meaning and value to others.

Holistic midwifery care has a fundamentally important role in optimizing spiritual elements and developing the resources that the subject already has as an effort to improve maternal health, by paying attention to the spiritual needs of pregnancy for the development of midwifery services. A spiritual adaptive response is developed through the concept of realistic hope, being resilient and patient and being good at taking lessons[1].

Research on the assessment of spiritual needs in kidney failure patients found that the need was to get guidance beyond one's own strength, to pray, to be able to forgive oneself and others, to be grateful, to find meaning in suffering and to feel connected to the world [2]. Several studies on the spiritual needs of patients have been conducted, especially on patients with chronic and terminal illnesses, HIV and high-risk pregnancies. Research on the assessment of spiritual needs in chronic kidney

patients has proven that by assessing spiritual needs using the Assessing a Patient's Spiritual Needs (APSN) instrument, it was found that the highest needs were found on the divine dimension with a scale value of ≤ 2, namely the need to obtain guidance outside of one's own strength of 80.76. %, and the need for prayer is 76.92%, the Resolution/death dimension is the need to be able to forgive oneself and others at 80.76%, the hope/peace/gratitude/positivity dimension is the highest need for the need to be grateful at 78.84%, the Meaning/purpose dimension has the highest need for finding meaning in suffering at 75%, the love/belong/respect dimension has the highest need for feeling connected to the world at 75%, the Appreance of Beauty dimension for each need is only below 50%[2].

Research on the psychometric spiritual needs assessment scale for patients with cancer, found that the spiritual needs scale for cancer patients can measure various aspects of spiritual needs and is reliable and valid. It is recommended that the scale for assessing the spiritual needs of patients with cancer be used in different populations of cancer patients separated by gender, age, type of cancer, and stage of cancer and that the spiritual needs of these patients be determined. Also, the designed scale was validated elsewhere and with different cultural conditions[3].

There has been no research on needs assessment in normal pregnancies along with the increasing addition of spiritual aspects in midwifery services. Based on the description above, we encourage researchers to conduct cultural and local wisdom-based spiritual needs assessment research that is needed by pregnant women so that they can accept their pregnancy and the conditions they face with patience, gratitude, joy, and good at taking lessons. The results of the assessment are then used as material for developing spiritual instruments for normal pregnant women in general.

Methods

The aim of this research was achieved with a qualitative design with descriptive methods, through focus group discussions (FGD) to explore the spiritual needs of pregnant women. FGD was used to identify spiritual needs from the perspective of clergy and midwives to obtain a detailed description of spiritual needs. The FGD was guided by referring to the spiritual needs instrument using the Patients Spiritual Needs Assessment Scale (PSNAS)[3] which is referred to identify the spiritual needs of pregnant women.

The sampling technique used in the research was purposive sampling, namely clergy and midwives were asked to become FGD informants. A total of 5 clergy participated in this research consisting of 5 religions including Islam, Christianity, Catholicism, Hinduism and Buddhism. A total of 8 midwives were willing to become FGD informants, consisting of Muslim, Christian and Catholic midwives. The FGD was conducted on 21 – 22 August 2023. The results of the interviews were recorded and field notes were made.

The next process were to validate a language expert to determine the suitability of the language used in formulating the results of identifying spiritual needs. Validation with language experts was carried out on September 6 2023. This research took place at the Klaten Regency Regional Health Center. Test the data using the general analysis approach in the form of inductive, then the next stage becomes deductive. This research has passed the ethical test by the Surakarta Ministry of Health Polytechnic Ethics Committee number DP.04.04/F.XXV.1/827/2024.

Results and Discussion

Identification of spiritual needs began by conducting FGDs with 5 religious clergy and FGDs with 8 midwives. The results of identifying the spiritual needs of pregnant women with clergy from the five religions became material for FGDs with midwives. Table 1 explains that the aspects in the instrument correspond to the five religions. Islamic clergy added indicators to provide solace for the family. Buddhist clergy add indicators of the desire to live an independent life. Hindu spiritualists add indicators to reflect and evaluate themselves. So, it can be concluded that the spiritual needs contained in the instrument are in accordance with the clergy of the five religions.

Based on table 6, it can be seen that the aspects in the instrument are in accordance with interviews with midwives. Midwife informants added indicators of a conducive place, a safe and comfortable place, ritual activities such as three-month pregnancy ceremonies, seven-month pregnancy ceremonies and baby showers. Indicators of issues leading up to delivery combined with statements of worry. Midwife informants added indicators of positive thinking. Based on table 6, it can be concluded that the spiritual needs contained in the instrument are in accordance with the midwife informants.

Table 1.
Indicators of spiritual needs of pregnant women based on spiritual informant sources from 5 religions

Indicators of the spiritual needs of pregnant women based on spiritual informant sources from 5 religions
More loved by the family
Talk to other people about your fears and worries/anxiety
Concern from someone in our environment (such as a religious leader)
Reflect on your previous lifestyle (including eating patterns, rest, activities) to improve your pregnancy so that you become healthier
Unite (enjoy) the beauty of nature
Living in a place that is conducive to supporting pregnancy
Finding inner peace in pregnancy
Finding meaning in pregnancy from the discomforts of pregnancy
Talk to others about the meaning of pregnancy in life
Turn into a person full of love
Give something to yourself
Apologize to others
Pray and ask others for prayers
That the family prays for the best for you
Pray the best for yourself
Participate and be enthusiastic in religious ceremonies
Believe that your life is meaningful and has meaning
Get involved again by your family in various matters
Gratitude or thankfulness
Issues encountered before delivery
For friendship and inner bonds with fellow pregnant women
Adequate care and fulfillment of pregnancy needs
To understand the process of pregnancy and fetal development

Table 2.
Indicators of spiritual needs of pregnant women based on Islamic clergy informant sources

Indicators of spiritual needs of pregnant women based on Islamic clergy informant sources
Becomes solace (good news) for the family
Read the holy book
Get closer to the majesty of the highest power (the Oneness of God)
Want to find the meaning of pregnancy and the discomfort you are experiencing
Want to talk/assure that you can have a safe pregnancy and delivery
Increase good deeds
Prepare a good name for the baby
Prepare for all possibilities that occur during pregnancy and childbirth by surrendering to God Almighty
Always consume food that is halal and good for pregnancy
Pray for a healthy baby
Diligently perform worship
To maintain a positive outlook on pregnancy
Experiences related to feelings of joy and happiness

Table 4.
Indicators of spiritual needs of pregnant women based on Hindu spiritual informant sources,

Indicators of spiritual needs of pregnant women based on Hindu spiritual informant sources
Forgive someone from a different time of your life
Confer with family
Want to live an independent life (without feeling inferior) with other people
Sympathy and empathy
Experience in appreciating the beauty of sound (music, spiritual songs, meditation rhythms, classical music)
Mental and spiritual readiness in facing childbirth

Table 5.
Indicators of spiritual needs of pregnant women based on Buddhist spiritual informant sources

Indicators of spiritual needs of pregnant women based on Buddhist spiritual informant sources
Feeling perfect as a woman and mother
Share life experiences with others
To reflect and evaluate/reflect on yourself
To live an ethical and moral life
Ethics/culture relating to recommendations/prohibitions on pregnancy between husband and wife

Table 6.
Indicators of spiritual needs of pregnant women based on informant sources

Indicators of spiritual needs of pregnant women that need to be combined are based on midwife informant sources
Unite (enjoy) the beauty of nature
Talk to others about the meaning of pregnancy in life
Pray and ask others for prayers
Read the holy book
Feel connected (close) to family
Believe that your life is meaningful and has meaning
Get involved again by your family in various matters
Want to find the meaning of pregnancy and the discomfort you are experiencing
To reflect and evaluate/reflect on yourself
Experiences related to feelings of joy and happiness
Increase good deeds
Issues encountered before delivery
Pray for a healthy child
To live an ethical and moral life
Prepare for all possibilities that occur during pregnancy and childbirth by surrendering to God Almighty

Based on FGD with language experts, it was found that the answer options were made using a Likert scale with odd answer choices (5 options). The contents of the instrument were connected to the theoretical concept of pregnancy and the concept of spiritual theory, and indicators were created. These indicators are then poured into statement items. Some questions are made negative (unfavorable) for the respondent's control function in answering. The instrument needs to be equipped with a description or explanation of each item to clarify the statement. Next, the statement items are compiled at a maximum of 40 items.

Based on literature studies, there are eight questionnaires, namely patients spiritual needs assessment scale (PSNAS), spiritual needs inventory (SNI), spiritual interests related to illness tool (SpIRIT), spiritual needs questionnaire (SpNQ), spiritual needs assessment for patients (SNAP), spiritual needs scale (SNS), spiritual care needs inventory (SCNI), and spiritual needs questionnaire for palliative care[4].

The results of this research refer to spiritual adaptive responses, namely patience, gratitude, joy and the ability to learn wisdom [5], [6]. This is in accordance with previous research stating that the scope of the dimensions of spirituality and religiosity includes welfare, beliefs, needs and distress [7]. Other research states that four reflective themes emerge: meaning and understanding; culture of birth; embodying connection and intuition; and space/place/time. Spiritual midwifery is an overarching theme. There are eight areas of individual transformation and action related to spirituality and birth: 1) disseminating the findings of the investigation; 2) motivate new conversations and ways of thinking; 3) remembering connections across space and time; 4) changing relationships; 5) transformational practice; 6) produces reflexivity; 7) inspire yourself and others to change, and 8) inspire creative[8].

The study results align with previous research suggesting that spiritual needs are common in an ethnically, religiously, and linguistically diverse population of cancer patients, but may differ based on cultural background. High levels of spiritual need were associated with lower levels of satisfaction and reduced perceptions of service quality. Training physicians to address patients' spiritual concerns, while taking into account cultural differences, can improve the patient care experience[9].

Patient

Patience means being able to accept or face something you don't like and continue to work steadfastly and surrender to Him. Emotional adjustment contains an element of patience. An attitude of patience can be used as a means of healing both physically and psychologically. A person can use patience to endure pain by returning all decisions to Him, so that pain becomes an effort to get closer to Him [10].

The results of the research show that patience is interpreted as acceptance of all conditions, showing compassion and sincerity and remaining calm in facing conditions, accepting with joy whatever tests Allah gives and always having a good opinion of all problems, the ability to restrain oneself and emotions regarding conditions and the ability to regulate emotions properly. how to try to suppress the ego [11].

Most participants had positive experiences and attitudes towards pain during childbirth which were influenced by cultural, contextual and religious factors [12]. The literature increasingly discusses how spirituality is a concern for human well-being. Although spirituality is still part of the current discourse on childbirth. Spiritual care guidelines are currently being developed. Yet spiritual care guidelines do not seem to recognize the experience of birth as a spiritually meaningful experience[13].

Gratitude

Gratitude contains the meaning of gratitude, not complaining, a statement of feeling relieved, happy and praising Him and doing good for what is in oneself. The teaching about the human obligation to be grateful for the blessings God has bestowed on him occupies a very important position in Islamic teachings. The command to be grateful together with the command to think (remembering Allah) shows an important position.

Gratitude is divided into three parts, namely gratitude with the heart is knowing that the blessing comes from Him and no other than Him, verbal gratitude is by saying Alhamdulillah and praising Him and physical gratitude is by using every part of the body and what is given by He takes the form of worldly pleasures to increase obedience to Him, not for evil [14].

Pleased

Pleased means willing, interpreted as accepting His destiny with joy and realizing that everything that happens to a person is His will. Pleased attitude is an effort to calm the soul regarding all of Allah's decisions. Due to the loss of willingness to accept the situation, illnesses often become worse and illnesses become difficult to cure. Willingness to accept the disease that Allah determines for someone will determine the healing that Allah gives to His beloved servant. [10]. Pleased is closely related to human attitudes and understanding of His gifts and blessings.

Pleased means truly believing that what happens to us, both joy and sorrow, is for the best according to Him, and whatever He prescribes to His servants will definitely have a good impact on His servants. Pleased is related to an attitude of heart that is willing to accept what is the destiny of a person's life, because he is sure that behind all events there is wisdom and goodness.

The results of previous research state that the empathy and spiritual care of midwives is evidence that the experience of giving birth for women appears to be increasing, thereby providing a strong foundation for becoming confident mothers.[15].

The ability to take wisdom

The ability to learn wisdom is a deep understanding and understanding of people, things, events or situations, which results in the ability to apply perceptions, judgments and actions according

to that understanding. The ability to draw wisdom requires mastering one's emotional reactions, so that principles, considerations, experience and knowledge are used to determine actions.

The ability to learn wisdom is formed through improving knowledge, increasing patience, a sense of gratitude and a willing heart accompanied by stability of faith, strengthening oneself and appreciating meaning. The ability to learn wisdom is felt after someone experiences an event that is considered unusual, such as pregnancy and giving birth to a child, or an unpleasant event such as a disaster [1].

The ability to learn lessons is strengthened by past experiences, where a person takes lessons from experiences or events that have been experienced. Giving birth to a child is a biological event for women to develop humanity on this earth, but giving birth itself is not easy, but contains various risks and problems. The event of giving birth itself is His nature and the process has been regulated, determined and under His knowledge, and He believes that women are chosen to be able to get pregnant, give birth and breastfeed.

The ability to learn wisdom creates maturity in thinking, self-confidence, the memory to always be grateful for all His gifts, as well as new understanding and knowledge so that a mother becomes motivated in facing pregnancy, childbirth and postpartum, and ultimately mothers in the perinatal period have better mental health.

The results of this study differ from previous research regarding the content validity of items related to social and spiritual dimensions, it was found that the responses could be understood by almost all respondents, the meaning given to these items was expressed in the themes: maintaining personal identity and autonomy, resilience, letting go, feel balance in life, as well as death and the afterlife[16].

Conclusion

Spiritual needs based on FGD with clergy from 5 religions (Islam, Christianity, Catholic, Hindu and Buddhist) and with midwives (Muslim, Christian and Catholic), were identified as follows: Patience, meaning that pregnant women are able to endure something they don't like, discomfort during pregnancy and continue to try with a pleased and pleased heart and surrender to Him. Gratitude means that as a pregnant mother she expresses gratitude to Him, does not complain and expresses feelings of relief, joy and praise to Him and does good for what she has. Pleased is interpreted as meaning that pregnant women can accept everything that happens happily and realize that everything that happens is His will. The ability to learn wisdom means that pregnant women can use the condition of pregnancy as a lesson and take advantage of it and then use it as a basis for moving on in life.

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The Correlation of Lavender Aromatherapy with The Childbirth Process in The Independent Practice of Midwives in Denpasar City

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ABSTRACT

Prolonged labor is one of the causes of high Maternal Mortality Rate (MMR) in the world. Prolonged labor has an average cause of maternal death worldwide by 8% and in Indonesia by 9%. Prolonged labor can be prevented with several efforts, namely by using various proven pharmacological and non-pharmacological methods, which are used to shorten the labor process. Lavender aromatherapy is a well-known complementary medicine with a calming effect. Lavender essential oil, used as aromatherapy for analgesics, contains 8% terpenadan and 6% ketones. This study aims to determine the relationship between lavender aromatherapy and the labor process in the Independent Midwife Practice in Denpasar City. This type of research was a correlation analysis using a cross-sectional design. The research conducted in February-April 2023 with 55 respondents used simple random sampling. The instrument used in this study was a data collection format. The data analysis used was the Chi-Square test, and the Chi-Square statistical test was 0,004 (<0,05) so that the hypothesis can be accepted and it can be concluded that there was a relationship between lavender aromatherapy and the labor process in Independent Midwife Practices in Denpasar City. Independent Midwife Practices in Denpasar City were expected to apply complementary lavender aromatherapy therapy to provide obstetric care for labor.

Keywords: lavender aromatherapy; labor process; prolonged labor

Introduction

Maternal death is defined as the death of a woman during pregnancy or within 42 days after delivery regardless of time and any cause related to or aggravated by the pregnancy and its treatment, but unintentional or due to any cause [1]. Complications during pregnancy or childbirth will result in the death of the mother. The global maternal mortality ratio decreased by 38% from 342 deaths to 211 deaths per 100,000 live births in 2000 to 2017. The UN inter-agency estimates an average annual reduction rate of 2.9% [1].

The Maternal Mortality Rate (MMR) recorded in the family health program at the Ministry of Health increases every year. The maternal mortality rate in Indonesia was 7,389 in 2021, showing an increase compared to 2020, which showed 4,627 deaths, while neonatal deaths in 2021 showed 20,154 deaths. Neonatal mortality aged 0-6 days was (79.1%), while neonatal mortality from 7-28 days was 20.9%. Mortality in the post-neonatal period aged 29 days-11 months was 18.5% (5,102 deaths) [2].

The maternal mortality rate in Bali has been below the national figure for the last five years, namely below the target of 100 per 100,000 live births, but the decline in MMR has not been reduced significantly. The Maternal Mortality Rate decreased in 2018 to 54.03 per 100,000 KH, the lowest figure in 5 years, and reached the highest rate, 189.65 per 100,000 KH in 2021. The Infant Mortality Rate (IMR) in Bali from 2016 was 6. 2 per 100 KH, decreased to 4.5 per 1000

KH in 2017 and 2018, then increased to 5.0 per 1000 KH in 2019 and 2020, and IMR increased to 5.8 per 1000 KH in 2021 [3].

Prolonged labor is one of the causes of high MMR in the world. The impact of prolonged labor can cause emergencies or complications for the mother and neonate. Bleeding and stress can cause complications in the mother, while fetal distress, asphyxia, and caput are complications in neonates [4]. Long labor can be prevented with several efforts, namely by using various proven pharmacological and non-pharmacological methods, which are used to shorten labor. Pharmacological methods can have a negative impact on the mother and fetus, while for mothers giving birth, using non-medical methods is usually easier, one of which is using non-pharmacological methods, namely relaxation, respiration techniques, physical exercise, music therapy, massage, acupressure, acupuncture, aromatherapy, hypnobirthing [5].

Non-pharmacological methods, namely aromatherapy, are used as an alternative or complementary treatment, which is well known for reducing symptoms of various physiological processes such as childbirth [6]. Aromatherapy consists of molecules that are released into the air as water vapor. Water vapor containing these chemical components is inhaled and absorbed by the body through the nose, lungs, and bloodstream. Aromatherapy can affect the brain's limbic system, which is the center for producing emotions, moods, and memories; neurohormone endorphins and encephalin can relieve pain, and serotonin helps deal with tension or stress and anxiety when facing the birthing process. Lavender aromatherapy is a non-pharmacological treatment to calm the mother during labor and can shorten the second stage of labor [7].

Lavender aromatherapy is a complementary treatment that is famous for its calming effects. The pleasant smell of lavender will produce a calming feeling, which can reduce anxiety [5]. Lavender essential oil is used as aromatherapy for analgesics, which contains 8% terpenadan and 6% ketones. High-quality lavender extract generally exceeds monograph specifications with a higher linalyl acetate content, ideally 33-45%, and lavender set ≥1,5% plus content cineol, which has a lower limit [5]. Lavender Officinalis, usually called lavender, is included in the family Lamiaceae which is used as an aromatherapy ingredient. The contents of lavender are camphor, terpinene-4-ol, linalool, linalyl acetate, beta-ocimene and 1, and 8-cineole. Studies on the benefits of lavender aroma show that linalool and linalyl acetate can stimulate the parasympathetic system. Linalyl acetate has narcotic effects, and linalool acts as a sedative. Inhaling lavender aromatherapy can relieve pain naturally, making it more comfortable because it is caused by stimulating the body to release endorphin compounds [8].

Considering that prolonged labor can cause maternal death in several areas in Indonesia and the negative impact of prolonged labor on the mother and fetus, as well as the differences in the results of the research above, researchers are interested in researching the relationship between lavender aromatherapy and the labor process at PMB Ni Ketut Suriyanti, SST, PMB Yan Mona Fridayanthi, S.Tr.Keb, PMB bdn. Jaba P.Rahguslyani Budarsana, S.Tr.Keb and PMB Made Sri Devi Indrawati, S.Keb., Bd (Maternity House Garba Nanda). The research aims to obtain a relationship regarding the birth process with lavender aromatherapy and without lavender aromatherapy.

Methods

Quantitative research with Secondary Data Analysis (ADS) includes this research, which uses secondary data as the primary source. This type of research is correlation analysis research to determine whether there is a relationship between the independent and dependent variables using a cross-sectional design.

This research carried out in February-April 2023. The sample collection technique is by calculating the sample using a sample size formula until it is found that the number of samples does not receive the complementary lavender aromatherapy determined by the researcher. A total of 55 samples were used in this research. Samples were obtained from a population of primiparous mothers from 2021-2022 in PMB, which has been selected as the research location.

The data analysis carried out in this study was bivariate. This analysis was used to prove the existence of a correlation between lavender aromatherapy and the birthing process through the Chi-Square test; if the p-value <0.05, then there is a relationship, and if p≥0.05, then there is no correlation.

Results and Discussion

Table 1.
Characteristics of Maternity Mothers Based on Occupation, Recent Education and Religion in PMB Denpasar City Area

Respondent Characteristics	Frequency (f)	Percentage (%)
Work		
IRT	10	18,2
Private Employees Self-	16	29,1
Employed	16	29,1
Civil servants	13	23,6
Total	55	100
Last education		
Elementary School Middle School	6	10,9
Diploma, Masters	11	20,0
	14	25,5
	24	43,6
Total	55	100
Religion		
Hindu Islam Christian	29	52,7
	14	25,5
	12	21,8
Total	55	100
Work		
IRT	10	18,2
EmployeePrivate	16	29,1
Entrepreneur	16	29,1
Civil servants	13	23,6
Total	55	100
Last education		
Elementary School Middle	6	10,9
School	11	20,0
Diploma, Masters	14	25,5
	24	43,6
Total	55	100
Religion		
Hindu	29	52,7
Islam	14	25,5
Christian	12	21,8
Total	55	100

Table 2
Frequency Distribution of Lavender Aromatherapy and the Childbirth Process

No	Aromatherapy	Frequency	Percentage
1.	With Lavender Aromatherapy	29	52,7
2.	Without Lavender Aromatherapy	26	47,3
	Total	55	100
No	**Childbirth Process**		
1.	Normal Delivery	38	69,1
2.	Abnormal Labor	17	30,9
	Total	55	100

Table 3
Bivariate Analysis of the Correlation between Lavender Aromatherapy and the Childbirth Process in PMB Denpasar City Area 2021-2022

No	Aromatherapy	Childbirth Process						*P*
		Normal		Abnormal		Total		
		f	%	f	%	F	%	
1	With Lavender Aromatherapy	25	45,5	4	7,3	29	52,7	
2	Without Aromatherapy Lavender	13	23,6	13	23,6	26	47,3	0,004
	Total	38	69,1	17	30,9	55	100	

Table 1 shows that the most significant proportion of respondents' characteristics, namely from 55 respondents, obtained the same percentage results for job characteristics, namely 29.1% of respondents (16 people) had private sector jobs and were self-employed, as many as 43.6% of respondents (24 people) having a diploma or bachelor's degree, 52.7% of respondents (29 people) were Hindu.

1. Characteristics of birth mothers

a. Characteristics by job

Respondents in this study tended to have jobs as private employees and entrepreneurs, as many as 16 respondents (29.1%). Pregnant women who work have limited time to carry out pregnancy checks. Mothers who choose to work will prioritize their work because it is related to income to ensure survival, which could lead to cesarean section delivery. Mothers who do not have a job will have free time to routinely carry out pregnancy checks, reducing the risk of cesarean section delivery [9].

Characteristics based on last education Maternity mothers with a diploma or bachelor's degree were the most significant number of respondents, namely 24 respondents (43.6%). The mothers with a high level of education tend to have pregnancy checks. Mother's education influences her to take action and look for causes and solutions. Based on these data, a high level of education will influence a person's ability to obtain information so that the mother's ability to think more rationally. The level of education is one of the factors that are the basis for mothers in making decisions, and birth outcomes are also supported by the mother's level of knowledge regarding health, the environment, the economy, interactions with health workers and awareness. A person with a low level of education can hamper a person's attitude in accepting information and new things that are introduced. Mothers with a low level of education will have less knowledge about high-risk pregnancies, which can result in risky births [10].

b. Characteristics based on religion

Respondents in this study were dominated by mothers who adhered to the Hindu religion, namely 29 respondents (52.7%). Religion cannot directly influence pregnancy, but religion can influence community rituals, culture, and traditions. The spiritual support that pregnant women have can relieve the patient's psychology, such as shock, fear, despair, anger, anxiety, and depression. Spiritual support not only focuses on the need for worship in a relationship with God, but spiritual needs can help mothers in labor find comfort and calm [11].

Based on these results, the characteristics of respondents are related to the mother's birth process, starting from work; if the mother has a job, she will make her work a priority and will experience fatigue so that she rarely has a pregnancy check-up which causes the possibility of surgical delivery. Low maternal education or no schooling will result in the mother needing a better understanding of the birthing process. Mothers also need spiritual support during the birthing process because it can increase their trust in God and ease the psychological burden of the mother giving birth.

2. Proportions of lavender aromatherapy and the childbirth process

Based on Table 2, 29 people (52.7%) of the 55 respondents gave birth with lavender aromatherapy, and 26 people (47.3%) without lavender aromatherapy. This data proves that using lavender aromatherapy during childbirth is greater than without lavender aromatherapy. Inhaling aromatherapy can provide many health benefits and can be used as an alternative therapy in dealing with several health problems [12].

Aromatherapy is a treatment technique using the aroma of essential oils from the

distillation process of various parts of plants, flowers, and trees, which contain different therapeutic properties. Lavender is one essential plant whose processed products can be used in aromatherapy [13]. The main ingredients in lavender aromatherapy are linalyl acetate and linalool. Linalool is the main active ingredient which plays a relaxing role. Lavender oil contains linalool and is an aromatherapy oil widely used by inhalation or massage techniques. Lavender aromatherapy has calming benefits to treat stress [14].

Aromatherapy administered via inhalation or topical method through the skin can provide beneficial fragrant effects. Aromatherapy causes psychological and physiological changes, such as increasing alpha waves in the brain and causing a more relaxed state [15].

Most respondents, namely 38 people (69.1%), experienced expected delivery, while 17 (30.9%) experienced abnormal delivery. This data shows that normal labor is a type of physiological labor that many mothers hope for because it carries a small risk compared to abnormal labor, where the labor process involves procedures such as cesarean section. The standard or spontaneous vaginal delivery is a physiological birth with many positive effects [16].

Normal delivery is the process of expulsion of the fetus at term gestational age (37-42 weeks), spontaneous birth with a back of the head presentation, no complications for the mother or baby, while abnormal delivery is labor that occurs not spontaneously but rather through action. Indications of abnormal labor due to complications include prolonged second stage, undeveloped labor, fetal distress, hydration, placenta previa, severe preeclampsia, and malposition [17].

Several respondents underwent referral to health services with more complete facilities because they experienced complications, namely prolonged first stage and long second stage. The factors causing prolonged labor are slow or stopping opening of the cervix, fetal weight ≥ 4000 grams, failure to lower the presentation of the fetal head to the pelvic floor, inadequate uterine contractions, height (<155 cm), body mass index (>28), weight gain during pregnancy (>8.0 kg) and right occiput transverse (ROT) fetal position [18]. A labor process that experiences a long first stage and a prolonged second stage will impact the mother and baby. The impacts on the mother are uterine atony, infection, and bleeding; the mother experiences fatigue, dehydration, and shock and undergoes labor with procedures such as vacuum extraction, labor induction, forceps, and cesarean section. The impacts experienced by the fetus are asphyxia, infection, and fetal death [19]. Prolonged labor is associated with the incidence of cesarean delivery in Indonesia. This is in accordance with research conducted in England and Australia showing that cesarean section is caused by complications during the delivery process, such as prolonged labor, prematurity, and fetal distress [20]. Research conducted in Ethiopia shows that the results of a cesarean section on the mother can cause postpartum fever, surgical site infection, puerperal sepsis, and maternal death, while the impacts that occur on the baby are asphyxia, low Apgar scores, neonatal sepsis, infant death, children's sensory disorders, and prematurity [21].

Based on these results, complementary therapy helps many women. Many mothers want to have a normal birth compared to a surgical birth. Lavender aromatherapy is one of the non-pharmacological treatments that is often chosen because it has few side effects. The use of lavender aromatherapy is always simple and safe to use. Complementary therapy with lavender aromatherapy is widely chosen because it provides many benefits, namely overcoming labor pain prolonged labor, and preventing surgical labor in the mother, such as cesarean section, labor induction, vacuum, and forceps.

3. The correlation between lavender aromatherapy and the childbirth process

Table 3 shows the research results that 45.5% of births with lavender aromatherapy experienced normal labor, and 23.6% of births without lavender aromatherapy experienced normal labor. The bivariate analysis using chi-square obtained $p = 0.004$, meaning that H0 was rejected because $p < 0.05$. The results of this analysis prove a significant relationship between lavender aromatherapy and the labor process in PMB Denpasar City.

Lavender aromatherapy is effective in the labor process; it can speed up labor. Lavender aromatherapy has benefits for improving the physical and psychological condition of mothers in labor. Physically, it is used to reduce pain, while psychologically, it can relax the mind, reduce tension, and provide calm to the mother. This means that when the labor process is underway, the mother still has the energy to push so that the labor process is not hampered [22].

Non-pharmacological methods are often chosen as treatment because they have few side effects, are cheap, and can be used during birthing. The lavender aromatherapy technique is used as an alternative or complementary treatment, which is well known for reducing symptoms of various physiological processes such as childbirth [6].

The lavender aromatherapy is the most effective in reducing pain than lemon aromatherapy. The pain that mothers feel can cause psychological disorders. The reactions caused are harmful, such as stress, anxiety, fear, and rejection of standard delivery. This reaction is caused by the excessive release of catecholamine hormones, which reduces blood circulation to the uterus and placenta, which can result in prolonged labor, and the fetus experiences hypoxia and stress [23].

Based on these results, complementary therapy, especially lavender aromatherapy, has benefits in childbirth, one of which is that it can speed up the duration of labor. Mothers who were given lavender aromatherapy had more normal deliveries than those who were not. The success of using lavender aromatherapy during the birthing process may be influenced by several factors, namely the mother's cooperative attitude, good room conditions, and application of aromatherapy using the right tools, as well as the absence of birth complications.

Conclusion

Based on the research result it can be concluded that a correlation between lavender aromatherapy and the childbirth process at the Independent Midwife Practice in Denpasar City.

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The Effect of Kajauma Pudding (Green Bean Date Pudding) on Breast Milk Production for Postpartum Mothers

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ABSTRACT

Breastfeeding mothers are one of the groups that are included in the nutritionally vulnerable group because breast milk is the main source that babies get from the mother. Therefore, mothers who are breastfeeding must pay attention to the nutritional intake they consume. Breast milk production is greatly influenced by the food the mother eats, even though a mother's regular and nutritious diet is very necessary to influence breast milk production, because the breastfeeding glands cannot work perfectly without sufficient food. To produce good breast milk production, the mother's diet must contain sufficient calories, protein, fat and vitamins and minerals. This research aims to determine the effect of kajauma (date nut) pudding on the production of postpartum women in Bone Bolango district. The type of research used was pre-testing with a pretest posttest control group design for 30 respondents. In this design there are two groups selected at random, one group is given green bean pudding and the second group is given kajauma (green date bean) pudding. From the difference in average breast milk production before and after the treatment, the biggest change in breast milk production was in the treatment group with kajauma pudding. The Independent T-Test obtained p=0.006 (<0.05), and the paired T Test carried out on changes in the two groups obtained p=0.000 (<0.05), so it can be concluded that the 2 treatment groups with kajauma pudding had an effect. which is better for breast milk production than treatment with green bean pudding.

Keywords: kajauma pudding; milk production

Introduction

Breastfeeding mothers are one of the groups included in the nutritionally vulnerable group. This is in accordance with the mandate of Health Law no. 36 of 2009 Chapter III article 142. Breastfeeding mothers are classified as one of the vulnerable groups, because breast milk, which is the main thing for babies, is obtained from the mother. Therefore, mothers who are breastfeeding must pay attention to the nutritional intake they consume. The average daily secretion of breast milk is 800-850 ml and every 100 ml contains 60-65 Kcal, 1-1.2 g protein, and 2.5-3.5 g fat every 100 ml [1]. Substances in breast milk secretions are taken from the body of breastfeeding mothers which are obtained from their daily food supply [2].

Based on data and information on Indonesia's health profile (2018), it is stated that in Indonesia the overall coverage of exclusive breastfeeding is only 37.8%, while the target to be achieved is 80%. Based on the 2018 Riskesdas results, the proportion of breastfeeding patterns for babies aged 0-5 months is exclusive breastfeeding 37.3%, partial breastfeeding 9.3% and predominant breastfeeding 3.3%. The birth rate in Indonesia reaches 4.7 million per year, so babies who receive breast milk for six months to two years do not reach two million. This figure indicates that only a few Indonesian children receive adequate nutrition from breast milk [3].

Based on data from the Gorontalo Provincial Health Service (2018), it is stated that 48.8% of babies receive exclusive breast milk, divided into 6 districts, namely Gorontalo Regency 53.8%, North Gorontalo Regency 50.3%, Pohuwato Regency 49.1%, Boalemo Regency 47.7%, Gorontalo City 42.7% and Bone Bolango Regency 38.2%. Based on data from the Bone Bolango District Health Service, it is stated that in 2018 there were several work areas of the Bone Bolango District Health Center that had very low exclusive breastfeeding coverage, namely only 258 babies (38.2%) out of 675 babies. One of them is the working area of the Toto Utara Community Health Center, where the exclusive breastfeeding coverage data is (8.7%), which means that only 4 babies out of 46 babies receive exclusive breastfeeding [4].

WHO research has stated that the most common reason mothers stop giving exclusive breastfeeding is because they feel that their breast milk is not sufficient for the baby's needs [1]. Around 35% of mothers stop breastfeeding exclusively after a few weeks postpartum because they feel there is not enough breast milk, and the baby feels dissatisfied [2].

There are various reasons why mothers stop giving breast milk to their babies, namely working mothers (20%), lack of breast milk production (32%), various nipple problems (28%), the influence of formula milk advertising (16%) also because they follow trends/styles (4%). Breast milk production is greatly influenced by the food the mother eats. If the mother's food is regular and contains enough of the necessary nutrients, it will affect breast milk production, because the glands that make breast milk cannot work perfectly without sufficient food. To produce good breast milk production, the mother's diet must contain sufficient calories, protein, fat and vitamins and minerals. Therefore, breastfeeding mothers need nutritional intake so that the breastfeeding process is successful, one of which is by consuming food ingredients that can stimulate breast milk production [6].

One way to speed up breast milk production is by consuming dates and green beans. The protein content in dates is around 1.8-2%, the glucose content is around 50-57% and the fiber content is 2-4%. Minerals in dates that can block dopamine receptors, and then stimulate the release of prolactin and protein can increase breast milk production by increasing glucose metabolism for lactose synthesis [5].

Green beans contain 20-25% protein and galactogum which can increase and stimulate breast milk secretion so it is hoped that they will be able to support the success of government programs (Ministry of Health) in efforts to provide exclusive breastfeeding [7]. In this way, dates and green beans can be processed as food addition.

Green bean juice is given as much as 250 ml per day for 6 days to 20 breastfeeding mothers. The results showed that there was an effect of giving green bean juice on the smooth production of breast milk for breastfeeding mothers [1]. The results of this study are also in accordance with research (Wulandari, 2015) where 4 respondents (57.1%) mothers experienced an increase in breast milk production after being given green bean juice [1].

The aim of this research was to determine the effect of giving Kajauma Pudding (Date Green Beans) on breast milk production in postpartum mothers in the working area of the North Toto Community Health Center, Bone Bolango Regency.

Methods

This type of research is pre-experimental research, namely research by providing experiments or treatments. The treatment given to respondents was to determine the effect of giving kajauma pudding on breast milk production in postpartum mothers. This study used a pretest posttest control group design, which means there were two groups used in the research, namely the control group who were given green bean pudding and the case group who were given kajauma pudding. The sampling method is purposive sampling which is carried out by determining the sample with certain considerations by determining exclusion and inclusion criteria. The population in this study were all postpartum mothers aged 0-2 weeks in the work area of the Community Health Center in Bone Bolango Regency. The research subjects were 30 respondents during the research period in the work area of the Community Health Center in Bone Bolango Regency starting in September-November 2020.

Data collection in this research used primary data. In this study, to determine the effect of giving kajauma pudding on breast milk production, the T-test and Paired T-Test were used for analysis. The research instruments used in the study were observation using a silicon manual breast pump and a questionnaire to see breast milk production with 5 indicators for babies and 5 indicators for mothers. This research has received ethical commission approval.

Results and Discussion

Tabel 1.
Respondent characteristics Based on Age

Respondent Characteristics Age (Years)	Frequency	Percentage
<20	1	3,33
20-30	16	53,34
>30	13	43,33
Total	15	100

Table 2
Differences In Breast Milk Production Before And After Intervention Based On Maternal And Infant Indicator Scores

Breast milk production	Intervention			
	Green Bean Pudding		Kajauma Pudding	
	Mean	p value	Mean	p value
Before and After	3,40 8,07	0,000	3,27 8,73	0,000
Difference	4,67		5,47	

Table 3
Changes In Breast Milk Production Before And After Intervention In Postpartum Mothers

Group	∑ Resp.	Δ Change Mean ± SD	P value
Green Bean Pudding Kajauma Pudding	15 15	4,67 ± 0,724 5,47 ± 0,192	0,006

Table 4
Breast Milk Production Categories Based on Breast Milk Quantity

Breast milk production	Green Bean Pudding	Kajauma Pudding
Min	30 cc	50 cc
Max	80 cc	90 cc
Mean	55 cc	73 cc

Table 5
Quantity Of Breast Milk After Intervention In Postpartum Mothers

Group	∑ Resp	Breast milk quantity Mean ± SD	p value
Green Bean Pudding Kajauma Pudding	15 15	55 ± 12,101 73,33 ± 10,465	0,000

The results of research regarding the effect of Kajauma pudding (green date beans) on breast milk production for postpartum mothers in the working area of the North Toto Community Health Center are in table form as follows.

Table 1 of the 30 respondents, the largest number were aged 20-30 years namely 16 respondents (53.34%), while the smallest number was <20 years old, namely 1 respondent (3.33%).

Table 2 shows that the results of the Paired T Test for the green bean pudding and kajauma groups, the p value before and after being given green bean pudding for 7 days is smaller than the alpha value (0.000 < 0.05), so H0 is rejected, meaning there is a difference in the averages breast milk production in the group given green bean pudding and kajauma.

Table 3 shows that analysis using the Independent Test, in the two groups obtained p=0.006 (<0.05), so it is known that there is a significant difference between the change in breast milk production before and after the intervention,

namely the difference in the mean change in breast milk production which is the highest in the pudding group kajauma 5.47.

Table 4 shows that it is known that the respondents' breast milk production after the intervention was based on the quantity of breast milk, the majority in the kajauma pudding group was an average of 73 cc compared to the average of 55 cc for green bean pudding.

From table 5, analysis using the Independent Test, in the two groups it was obtained that p=0.000 (<0.05), namely there was a significant difference between the quantity of breast milk in the green bean pudding and Kajauma pudding interventions, namely the highest mean was the Kajauma pudding group 73.33.

The results of this research that there is a significant difference in the score of breast milk production indicators with the results of the Paired t-Test statistical test for each intervention group, which obtained a p value of 0.000 (<0.05), so it can be concluded that there is a significant difference in breast milk production before and after treatment in both intervention groups. The difference in indicator scores in table 3 for each group was obtained through the Independent Test statistical test with a p value of 0.006 (<0.05), so it can be stated that there is a significant difference between changes in breast milk production before and after the intervention in the two groups with the highest average breast milk production is the Kajauma pudding group 5.47.

To see the smoothness of the mother's own breast milk production, you can look at the indicators for the mother and baby. Indicators for babies include the frequency and characteristics of BAK (where a baby produces enough breast milk, in at least 24 hours the baby will BAK > 6 times/day (clear yellowish color), frequency, color and characteristics of defecation (the baby's elimination pattern depends on the intake the baby gets , babies who drink breast milk generally have a pattern of defecating 2-5 times per day, the stool produced is golden yellow (not too runny and not too thick and grainy), sleeps for a long time (2-4 hours) after breastfeeding and baby weight gain.

Maternal indicators include the frequency of breastfeeding the baby > 10 times a day, the breasts stiffen/feel full before breastfeeding, the breasts are empty and soften after breastfeeding the baby, the sound of the baby being heard when swallowing breast milk and the mother feeling the flow of breast milk. Breast milk production is said to be smooth if at least 4-5 of the observed indicators are present in the baby and mother.

The results of this study in tables 4 and 5 show that there is a significant difference in the average quantity of breast milk in the two groups. The results of the Independent Test statistical test for each intervention group obtained a p value of 0.000 (<0.05), so it can be concluded that there was a significant difference between the quantity of breast milk in the green bean pudding and Kajauma pudding interventions, namely the highest mean was the Kajauma pudding group 73, 33 then HO is rejected, meaning there is a significant difference in the increase in breast milk production in the green bean pudding and kajauma pudding groups. This is in line with research by Aminah and Purwaningsih (2019) which states that there is effectiveness in giving dates for the smooth flow of breast milk in post partum mothers [10].

In efforts to produce breast milk, there are two things that influence it, namely production and expenditure. Breast milk production is influenced by the hormone prolactin, while production is influenced by the hormone oxytocin. Dates have various kinds of nutrients and hormones, where dates have the hormone patuchin which functions to bind the uterus and uterine muscles so that it can help reduce postpartum bleeding, this hormone will also help stimulate contractions in the veins around the mother's breasts, so that stimulates the mammary glands to produce breast milk [10,14].

Dates also contain the hormone oxytocin which is produced by the neurohypophysis. The hormone oxytocin is channeled through the blood to the breasts, this hormone will stimulate contractions in the veins around the mother's breasts, thereby encouraging the milk glands to produce breast milk [13,15].

Green beans are called a galactogogue (facilitates milk secretion) based on the nutritional content of green beans, namely the high level of carbohydrates and protein and other vitamins which are an energy source that can trigger increased breast milk secretion. The proteins in green beans, namely polyphenols and amino acids, influence the hormone prolactin which works to produce breast milk by entering the blood circulation to the breast cells and then regulating the cells in the alveoli which work actively in the formation of breast milk [2].

The results of this research are in line with research (Wulandari, 2015) showing that there is a significant effect of giving green bean juice to postpartum mothers with increasing breast milk

production and research (Irmawati and Rosdiana, 2022) showing that there is a significant effect of giving green bean juice to postpartum mothers with smooth breast milk production [1,16].

This is in line with research by Gustina Siregar (2022) which states that giving date palm juice and green beans can increase breast milk production, the date palm juice group reacted with higher breast milk production compared to green bean juice [17].

Conclusion

The group of mothers who were given kajauma pudding had higher levels of energy, protein and vitamin adequacy compared to mothers who were only given green bean pudding. This shows that giving kajauma pudding for 7 days regularly can have an influence in increasing breast milk production in postpartum mothers.

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Descriptive Study Midwives Perception of Giving Sinovac Vaccine for Pregnant Women to Prevent Transmission of Covid-19

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ABSTRACT

During the Covid-19 pandemic, routine maternal and infant health services such as pregnancy checks, there are restrictions to reduce the risk of transmission in covid 19. This research is descriptive research. The sampling technique was a total sampling with the number of samples as many as 20 midwives in the Pamekasan City Area. The analysis used in this study was a univariate analysis using frequency distribution tables. The results showed that almost all midwives have never given sinovac vaccine to pregnant women to prevent transmission of the Covid-19 virus, sinovac vaccine administration in pregnant women most midwives consider it necessary, about 60% of midwives have a perception that the right time for sinovac vaccine administration in pregnant women is in the second trimester. It is hoped that there will be an increase in the scope of sinovac vaccine administration in pregnant women so as to prevent the transmission of the Covid-19 virus in pregnant women.
Keywords: midwives perception, sinovac vaccine, pregnant woman, transmission, covid-19

Introduction

The World Health Organization (WHO) officially declared Covid-19 a pandemic on March 11, 2020. Symptoms of Covid-19 patients include cough, fever, diarrhea, shortness of breath, myaglia, headache, sore throat, and fatigue [1]. The average incubation period is 5-6 days with the longest incubation period being 14 days. Transmission is through close contact and droplets, not through airborne transmission. People at risk of infection are those who are in close contact with people who are positive for Covid-19 [2]. Covid-19 attacks all ages, including pregnant women, who are one of the vulnerable groups. Covid-19 during pregnancy is associated with a considerable risk of morbidity and mortality in mothers and their babies, especially in pregnant women with previous comorbidities for example in pregnant women with obesity, diabetes, hypertension or chronic heart and respiratory diseases. Physiologically, pregnant women experience changes in body and immunity, thereby increasing susceptibility to disease infections [3].

Pregnancy during the Covid-19 pandemic has a high risk because pregnant women are very vulnerable to being infected with the SARS-CoV-2 virus [4]. About 51.9% of pregnant women infected with Covid-19 are asymptomatic, 72% of infections occur in pregnancies above 37 weeks, 45% require intensive care and the mortality rate is 3%. Pregnant women are vulnerable to the direct effects of Covid-19 infection and the indirect effects of declining health service performance during periods of social interaction restrictions. During the Covid-19 pandemic, there are restrictions on almost all routine maternal and infant health services, such as postponement of pregnancy checks, postponement of class activities for pregnant women because pregnant women are worried about being infected by the Covid-19 virus [5].

Normal pregnancy checks during the Covid-19 pandemic, at least pregnant women make 6x visits with details of 2x in the 1st trimester, 1x in the 2nd trimester and 3x in the 3rd trimester. At least 2x checked by a doctor during visit 1 in trimester 1 and during visit 5 in trimester 3 while still implementing

health protocols [5]. Pregnancy checks in health care facilities are a necessity that must be obtained by pregnant women, but during this pandemic there has been a decrease in health service coverage, one of which is the low coverage of sinovac vaccine for pregnant women to reduce the spread of Covid-19 [6].

During pregnancy, the mother's immune system will experience drastic and dynamic changes to support fetal growth and development. The severity and clinical manifestations of Covid-19 in pregnant women can be influenced by several risk factors such as pregnancy at an old age (age ≥ 35 years), the presence of comorbidities, obesity, diabetes both historical and gestational, hypotension, preeclampsia (which is being experienced or historical from previous pregnancies). SARS CoV 2 virus infection can cause a cytokine storm in the body so that a series of immune responses arise and the function of peripheral leukocytes and other immune cells changes so that they are at risk of causing pregnancy complications [7]. Complications of Covid-19 are pneumonia, acute severe respiratory distress syndrome, kidney failure or even death in certain cases.

The Indonesian government involves all parties, both from the government itself and from the community as a form of strategy to control the spread of Covid-19. Efforts made include 3T (test, treat and trace), community empowerment by carrying out appropriate health protocols and providing vaccinations for the formation of herd immunity [8]. WHO recommends the sinovac vaccine for pregnant and lactating women to prevent infection due to the covid 19 virus. This vaccine is recommended because the benefits outweigh the risks it poses. This vaccine contains the inactivated SARS-CoV-2 virus. Sinovac is an inactivated vaccine, a viral RNA base, protein subunit, or viral vector, cannot replicate compared to other vaccines of the same type. The administration of the sinovac vaccine can stimulate the immune system to recognize this inactivated virus and produce antibodies to fight the virus so that Covid-19 infection does not occur [9].

The administration of the first dose of the inactivated sinovac virus vaccine begins in the second trimester of pregnancy and the administration of the second dose is carried out according to the interval of the sinovac vaccine, which is 28 days from the administration of the first dose. However, vaccination coverage in Pamekasan Regency is still very low at around 33.33% and has not reached the minimum vaccination coverage target set by the Government, which is 70%. The implementation of vaccination for pregnant women is the same as the implementation of vaccination in the general community, which is carried out at the Puskesmas or at mass vaccination locations which are often held by the Covid-19 Task Force at the Pamekasan Regency Government. The administration of the Covid-19 vaccine must be carried out by doctors, nurses or midwives who have the competence and authority in accordance with the provisions of laws and regulations.

The purpose of this study is to describe the perception of midwives in administering the sinovac vaccine to pregnant women to prevent transmission of the Covid-19 virus in the Pamekasan City Area. Based on the explanation above, it is important for pregnant women to take precautions against Covid-19 transmission during pregnancy, especially in pregnant women with risk factors.

Methods

The type of research used is descriptive research that aims to describe events systematically and emphasizes factual data rather than conclusions [10]. The variable in this study is a descriptive study of the implementation of sinovac vaccine administration to pregnant women to prevent Covid-19 transmission. The population in this study was all midwives in the Pamekasan City Area, which was as many as 20 midwives. The entire population in this study was used as a research sample, amounting to 20 midwives. The sampling technique used in this study is a non-probability sampling technique (saturated sampling / total sampling), which is a sampling technique by taking all members of the population into a sample [11]. The study was conducted in August 2021. The process of collecting data with the survey method by distributing questionnaires containing closed questions to midwives through google form as an online survey medium. After the data is collected, proceed with the process of processing data and presenting data so that the information or data presented is easier to interpret. The data analysis carried out is univariate analysis to explain or describe the characteristics of each research variable in the form of a Pie diagram [12]. The ethical test was conducted by the Health Research Ethics Commission of the College of Health Sciences (STIKES) Ngudia Husada Madura with information on ethical feasibility No. 1072/KEPK/STIKES-NHM/EC/VII/2021.

Results and Discussion

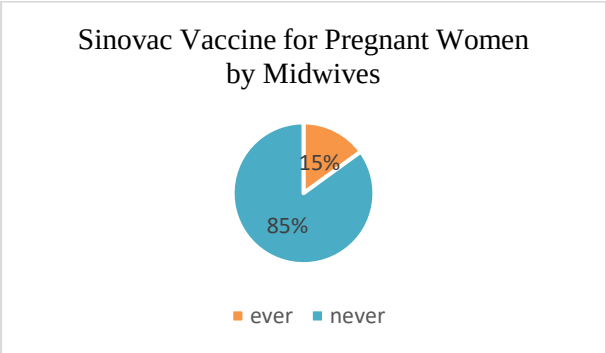

Figure 1 administration of sinovac vaccine to pregnant women by midwives

The results showed that almost all midwives had never given the sinovac vaccine to pregnant women to prevent transmission of the Covid-19 virus, which was as much as 85%. This happens because based on data from the coverage of sinovac vaccine administration to pregnant women, there are only 21 pregnant women who are willing to be injected with the first dose of sinovac vaccine and around 17 pregnant women who have been given the second dose of sinovac vaccine, the low coverage of vaccine administration to pregnant women is because many pregnant women refuse to be injected with the sinovac vaccine, which is around 76%. Based on information from midwives, many pregnant women refuse because they consider that the sinovac vaccine is still a new thing in pregnant women, so many pregnant women who are afraid of being vaccinated sinovac are worried that it will cause some side effects that can be harmful to pregnant women and their fetuses. In addition, the attitude and interest factors of pregnant women, husband support and the role of health workers are important to be increased so that the coverage of Sinovac vaccine for pregnant women has increased [13].

Prevention and control of virus transmission to pregnant women needs to be done appropriately and quickly [14]. Since August 2, 2021, the Ministry of Health has allowed the administration of vaccines to pregnant women, especially in high-risk areas. Vaccines that can be given to pregnant women are mRNA-based Covid-19 vaccines (Pfizer, BioNTech, and Moderna) and inactivated viruses (Sinovac). The administration of the first dose can be done in the 2nd trimester of pregnancy, while the second dose is given according to the interval of the type of vaccine given [7].

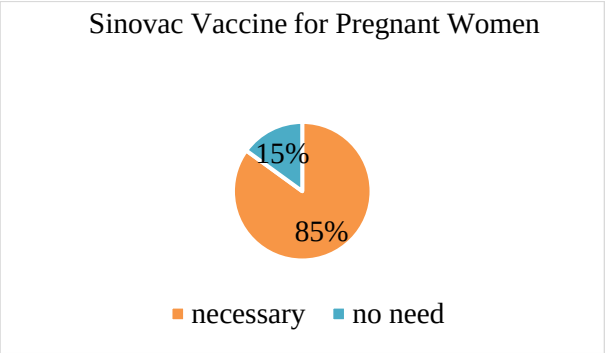

Figure 2 administration of sinovac vaccine to pregnant women

The results showed that giving the sinovac vaccine to pregnant women most midwives considered it necessary, midwives thought that giving the sinovac vaccine was able to prevent transmission of the covid 19 virus. The type of vaccine recommended in Indonesia for pregnant women according to the Indonesian Obstetrics and Gynecology Association (POGI) is the Sinovac vaccine, this vaccine is recommended for pregnant women over the age of 35 years, high BMI and have comorbidities such as hypertension and diabetes and high risk groups exposed to Covid-19 [15].

The sinovac vaccine is one of the vaccines that inactivates the virus, so according to POGI in 2021, it recommends the sinovac vaccine to prevent Covid-19 transmission to pregnant women. Giving vaccines to pregnant women can prevent pregnant women from having severe symptoms if later pregnant women are exposed to the Covid-19 virus. Vaccine administration can stimulate the production of antigens so as to boost the immune system by producing antibodies against SARS-CoV-2 proteins[15].

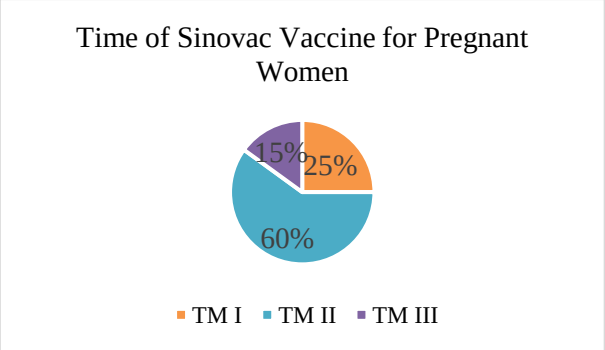

Figure 3 sinovac vaccine administration time on pregnant women

The results showed that about 60% of midwives stated the right time for giving sinovac vaccine to pregnant women, namely in the second trimester. Recommendations of the Indonesian

Obstetric Gynecology Association (POGI) related to the provision of safe vaccines to pregnant women, namely from 13 to 33 weeks of gestation. Pregnant women who get the inactivated virus-based vaccine (sinovac) with dose 1 and dose 2 at week 28 and week 32 of pregnancy do not give side effects after injection of dose 1 or dose 2 vaccine and give birth to healthy babies with term time of birth. Anti-SARS CoV-2 RBD antibodies were detected in the body of pregnant women 3 weeks after the 2nd dose of infant cord blood with indications of antibody transfer from maternal serum to cord blood serum. The results of other studies showed that no side effects were found after giving the sinovac vaccine in pregnant women. Anti-SARS CoV 2 IgA antibodies were also detected in breast milk 2 weeks after dose 1, breast milk antibody levels peaked at weeks 5 and 6 and remained detectable for up to 4 months post-vaccination. The results of this study certainly support WHO's recommendation to continue breastfeeding that after suffering from Covid-19[7].

Conclusion

The results showed that almost all midwives never gave the sinovac vaccine to pregnant women to prevent transmission of the Covid-19 virus because pregnant women were still worried about the side effects caused after being injected with the Sinovac vaccine, giving the sinovac vaccine to pregnant women most midwives considered it necessary, Midwives assume that the administration of the Sinovac vaccine is able to prevent transmission of the Covid-19 virus and midwives have the perception that the right time for giving the Sinovac vaccine to pregnant women is in the Second Trimester.

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Training as an Effort to Improve Knowledge, Attitude and Skills as a Motivator of Exclusive Breastfeeding

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ABSTRACT

The absolute estimate for non-exclusive breastfed babies in West Java Province is 384,270 babies. The success of exclusive breastfeeding cannot be separated from the support of the people around him. This support needs to be built with training for the community to promote the importance of exclusive breastfeeding. The research design is a mixed method, namely qualitative and quantitative. Qualitative research with in-depth interviews and quasi-experimental quantitative research with a one group pre-test post test design by providing a form of intervention, namely training. The population is entirely female in Bogor City. Samples were taken in qualitative research using a snowball technique until the results were saturated, quantitative research consisted of two groups: Ordinary and Extraordinary mothers in the City of Bogor. The research sample was 5 people using qualitative methods and 35 people using quantitative methods. The qualitative method statistical test uses content analysis, the quantitative method uses Wilcoxon test analysis. As a result of in-depth interviews, it was found that the materials needed to make a pocket book as an educational training medium were breastfeeding techniques, communication techniques and knowledge about exclusive breastfeeding. The results of quantitative research show that there is a significant relationship between training with a p value of less than 0.05 on knowledge in the elderly group, attitudes in the cadre group, and meaningful motivation skills in all groups, namely cadre groups, community leaders, elderly people, ordinary women. Training/education using pocket books is able to increase abilities as a motivator for exclusive breastfeeding in the city of Bogor. There is a need to follow up on the use of pocket books and encourage mothers who have been trained to become exclusive breastfeeding motivators to be able to motivate pregnant women to successfully breastfeed exclusively.

Keywords: motivator; exclusive breastfeeding; training

Introduction

The importance of promoting education for women by involving husbands and encouraging follow-up pregnancy checks and counseling about exclusive breastfeeding during pregnancy checks as an effort to improve the practice of exclusive breastfeeding (WHO dan UNICEF, 2017) [1]. Breastfeeding has clear short-term benefits, particularly reduced morbidity and mortality from childhood infectious diseases. A pooled analysis of studies conducted in middle/low-income countries shows that breastfeeding substantially lowers the risk of death from infectious diseases in the first two years of life [2]. Exclusive breast milk is the foundation of children's survival and children's health because it provides essential, irreplaceable nutrition for children's growth and development. Exclusive breastfeeding is also a child's first immunization which can provide protection from various diseases such as respiratory tract infections, diarrheal diseases and other potentially life-threatening diseases. Exclusive breastfeeding also has a protective effect against obesity and non-communicable diseases later in life [3].

The achievement of exclusive breastfeeding in Bogor City is only half of the number of babies born in Bogor City. The highest achievement occurred in 2019, namely 54.7% and in 2021 it decreased to 42.5% [4]. The government's responsibilities in the exclusive

breastfeeding program include providing training regarding the exclusive breastfeeding program and providing breastfeeding counselors in health service facilities and other public facilities, as well as providing access to information and education regarding the implementation of the exclusive breastfeeding program[5]. There is a need to increase access to breastfeeding skills for mothers who provide education on infant and young child feeding and increase knowledge and confidence in breastfeeding. It is important for families to be encouraged to make decisions about infant feeding practices and build skills to overcome barriers to breastfeeding [6]. The mother's ability to provide breastfeeding skills is very important, this is because it encourages mothers to start and develop adequate breastfeeding practices so that they can save and improve lives. This is in accordance with WHO and UNICEF recommendations based on scientific evidence that all babies receive only breast milk on demand without water, liquids or other foods, from birth and during the first six months of the baby's life[7]. Apart from this, encouragement and support from personal colleagues or people closest to you is an effective method in efforts to increase exclusive coverage [8].

This is in line with the commitment of the International Convention on the Rights of the Child which states that exclusive breastfeeding is recognized as a key component of every child's human rights with the highest standards in an effort to achieve health status [9]. Support can come from peer groups, namely mothers from the same community (mothers who have breastfed in the past) by providing encouragement and support for exclusive breastfeeding. The most common and effective method of support from a peer group and from a peer counselor is through telephone calls or in-home visits. This support includes emotional support, encouraging education about breastfeeding, and helping to solve problems. This breastfeeding support and education aims to increase mothers' knowledge and skills, help mothers that breastfeeding is seen as normal, and help them develop positive attitudes towards breastfeeding[10]. Research on this topic to the best of the researcher's knowledge has never been carried out in the research area. This research aims to determine the effect of education with a pocket book about exclusive breastfeeding on mothers' knowledge, attitudes and motivating skills.

Research Methods

This research method uses a mixed methods design, namely qualitative and quantitative, where qualitative research is carried out first then followed by quantitative research. Participants or subjects in this research were mothers in the research area. The research subjects were divided into two groups, namely the ordinary group (ordinary women) with the inclusion criteria being women of healthy reproductive age, physically and mentally healthy, able to read and write, willing to be breastfeeding motivators, and had given birth. The second group is an extraordinary group which includes health cadres and community leaders. This research method uses instruments developed by the researcher himself. The test results with Cronbach's alpha were 0.56 and the intervention used a pocket book whose material was created based on the results of in-depth interviews at the beginning of the qualitative research, where in-depth interviews were conducted to explore the material needed in training as a motivator for exclusive breastfeeding. After finding qualitative data in the form of material needed for training, a pocket book was prepared/developed. This pocket book was ultimately used in the next research step, namely intervention in the form of training/education with a pocket book about exclusive breastfeeding on mothers' knowledge, attitudes and motivating skills. This research was conducted with a quasi-experiment design, namely one group pre test post test, namely by providing a form of training using a pocket book to improve knowledge, attitudes and motivational skills. The research was carried out after obtaining ethical approval, namely number 15/KEPK/PE/VIII. The qualitative sampling technique uses the snowball technique, namely digging into the data so that the same results are obtained from the exploration results of all respondents (saturated samples) and a sample size of 5 people is obtained/determined. This research was conducted in the Bogor City area.

Quantitative participants were taken using a cluster purposive sampling technique, namely the selected areas were the Pancasan Community Health Center and Pasir Mulya Community Health Center areas. Then a cluster was carried out from the two areas, namely two RWs were taken from each community health center. The research was carried out from April to November 2019.

Results and Discussion

This research began with a qualitative method to explore the material needs needed for intervention in the form of training/education with pocket books. The results of the qualitative research were obtained from the key informant, namely a doctor at the Community Health Center where the research was conducted who also doubles as Chair of the Indonesian Breastfeeding Association of Bogor City (AIMI Bogor City) (R1). Other informants were midwives (R2), health cadres (R3), mothers with a history of giving exclusive breast milk (R4) and mothers with a history of giving non-exclusive breast milk (R5).

The results of in-depth interviews show that the first material that must be provided in forming breastfeeding motivators is breastfeeding techniques. "Breastfeeding techniques are material that must be provided" (R1). "One of the obstacles at the start of breastfeeding is the wrong breastfeeding technique" (R1). "Many mothers don't know the correct breastfeeding technique" (R1). This was confirmed by other informants. "Usually mothers don't know how to breastfeed so the milk doesn't come out straight away and the nipples sting" (R2).

"Given formula milk immediately after giving birth because the mother cannot breastfeed and the milk has not yet come in" (R5). "It's important, ma'am, how to breastfeed" (R3). "Yes ma'am, at the beginning of breastfeeding I was confused about how to breastfeed my baby" (R4). "I gave my baby formula milk because my nipples hurt from being bitten by the baby" (R4).

The second material that needs to be provided according to key informants is breastfeeding techniques. This material must be given to an Exclusive ASI motivator on the grounds that it can be a provision in conveying information using good techniques, simple language so that it can be understood by others. "Correct communication techniques also need to be provided" (R1). "...how to motivate other people is the key to educating" (R1). "…you have to be willing to listen first…" (R1). "...the important thing is the science of listening, accepting but that doesn't mean letting go, the important thing is to listen first,..." (R1). "As a motivator, don't just teach, you have to listen first..." (R2). "…need material on how to tell other people" (R3).

The third material that needs to be provided is knowledge about exclusive breastfeeding. "After giving birth, mothers can't wait to immediately give their babies drinks even though the baby's body has sufficient food reserves" (R1). "...it is necessary to strengthen basic material about exclusive breastfeeding" (R1). "......the material in maternal education is important, one of which is the importance of breast milk..." (R2). "Mothers often forget how to store expressed breast milk" (R2). "...families like to think that the baby is still hungry because there is little milk coming out" (R3). "Yeah, I think giving water and honey is okay" (R5). "Like I don't know how to store breast milk, ma'am" (R3). "Yes ma'am, I need material about signs that a baby is still hungry or full" (R4). "...we often talk about that (exclusive breastfeeding), but mothers here don't know, don't understand" (R3).

The results of the quantitative analysis showed that the majority of respondents were in the fertile age category, namely 23 people (66%), most of the respondents were highly educated, namely 14 people (56%). The majority of respondents' occupations were housewives, namely 24 people (96%). Most respondents have 2 and 3 children, namely 10 people each (29%). All respondents overall had breastfeeding experience (100%). A detailed explanation of the research subjects in this study can be seen in table 1 below.

Table 1.
Distribution of Respondents according to Age, Education, Occupation, Number of children ever born and Breastfeeding experience.

Variable	Intervention	
	(n)	Persentase (%)
Age		
Reproduvtive Age	23	66
Elderly	12	34
Education		
High	20	56
Low	15	44
Work		
Work	2	3
Housewife	33	97
Number of children ever born		
1	9	25
2	10	29
3	10	29
4	6	17
Breastfeeding Experience		
Yes	35	100
No	0	0

Table 2.
The Empowerment Model Takes The Form Of Training On Knowledge, Attitudes And Motivating Skills In Cadre Groups

	Training/Education With Pocket Books			
Variable	n	Median (minimum-maximum)	Mean ±s.b.	p
Knowledge				
Pre	10	33,57(31-35)	33,57±1,3	0.43
Post	10	35,00(31-39)	34,71±2,75	
Attitude				
Pre	10	9(4-10)	8,29±2,21	0,04
Post	10	10(8-10)	9,71±0,76	
Motivational Skill				
Pre	10	28(24-32)	27,29±2,8	0,01
Post	10	29(25-33)	28,86±2,79	

Table 3.
The Empowerment Model Takes The Form Of Training On Knowledge, Attitudes And Motivating Skills For Groups Of Community Leaders

	Training/Education With Pocket Books			
Variable	n	Median (minimum-maximum)	Mean ±s.b.	p
Knowledge				
Pre	7	33(24-37)	32±5,1	0.34
Post	7	35(30-36)	34±2,2	
Attitude				
Pre	7	9(9-10)	9,43±0,5	0,16
Post	7	10(9-10)	9,71±0,49	
Motivational Skill				
Pre	7	30(26-32)	30±2,08	0,02
Post	7	39(37-40)	38,71±1,38	

Table 4.
The Empowerment Model Takes The Form Of Training On Knowledge, Attitudes, Motivational Skills In Old Age

	Training/Education With Pocket Books			
Variable	n	Median (minimum-maximum)	Mean ±s.b.	p
Knowledge				
Pre	9	33(24-37)	32,86±2,2	0.02
Post	9	35(33-37)	34,86±1,5	
Attitude				
Pre	9	10(7-10)	9,14±1,2	0,10
Post	9	10(8-10)	9,71±0,76	
Motivational Skill				
Pre	9	30(28-32)	30±2,0	0,01
Post	9	39(38-41)	39±1,15	

Table 5.
The Empowerment Model Takes The Form Of Training On Knowledge, Attitudes, And Motivational Skills For Ordinary Women

	Training/Education With Pocket Books			
Variable	n	Median (minimum-maximum)	Mean ±s.b.	p
Knowledge				
Pre	9	34(31-37)	33,71±2,43	0.46
Post	9	35(33-37)	34,86±1,5	
Attitude				
Pre	9	10(9-10)	9,86±0,38	0,08
Post	9	10(9-10)	9,57±0,54	
Motivational Skill				
Pre	9	31(27-32)	30,43±2,0	0,00
Post	9	18(17-20)	18,43±0,98	

Table 6.
Empowerment Model Through Training On Abilities As A Motivator For Exclusive Breastfeeding

	Training/Education With Pocket Books			
Variable	n	Median (minimum-maximum)	Mean±s.b.	p
The Motivator Ability Of Exclusive Breast Milk				
Pre	35	65(62-79)	71,77±3,9	0.00
Post	35	80(76-88)	83,236±2,3	

The results table 1, of bivariate analysis using the Wilcoxon test analysis method showed that there was a significant relationship between training/education with pocket books about exclusive breastfeeding and knowledge with a p value of less than 0.05 in the elderly group, while in the group of cadres, community leaders and ordinary women there was no there is a meaningful relationship. There is a significant relationship between training/education with pocket books and attitudes in the cadre group, and not significant in the group of community leaders, the elderly and the group of ordinary women. There is a significant relationship between training/education with pocket books and motivation skills for all groups of cadres, community leaders, the elderly and ordinary women. In detail the results in this research can be seen in table 2. Table 3 explains that there is a significant relationship between training/education with a pocket book on exclusive breastfeeding and motivation skills with a p value of 0.02, there is an insignificant relationship between training/education with a pocket book on exclusive breastfeeding and knowledge with a p value of 0. .34 and attitudes with a p value of 0.16 in the community figure group.

Table 4 explains that there is a significant relationship between training/education and a pocket book about exclusive breastfeeding with knowledge p value of 0.02 and motivation skills with a p value of 0.01. There is an insignificant relationship between training/education and a pocket book about breast milk. exclusive attitude with a p value of 0.10 in the elderly group .

Table 5 explains that there is a significant relationship between training/education and a pocket book about exclusive breastfeeding, motivational skills with a p value of 0.00, there is an insignificant relationship between training/education and a pocket book about exclusive breastfeeding and knowledge with a p value of 0, 46 and attitudes with a p value of 0.08 in the group of ordinary women.

Overall, the influence of training/education with pocket books on the ability to act as a motivator for exclusive breastfeeding is significant, these results can be seen in table 6. The material needed in the educational program resulting from qualitative results is about breastfeeding techniques, communication techniques and knowledge about exclusive breastfeeding. This is in line with research results which say that providing adequate information regarding how to breastfeed correctly is very necessary to promote breastfeeding practices. right. Mother's knowledge plays a very important role in the success of exclusive breastfeeding, so the most effort made in the community is to provide early counseling to mothers and families so that they can understand the importance of exclusive breastfeeding in addition to support from the closest family[11] [12].

Mothers who understand the benefits of breast milk, such as protection from infection, support for growth and development, and optimal nutrition, tend to choose and commit to giving exclusive breast milk to

their babies. Communication strategies are very important in efforts to increase knowledge about proper breastfeeding techniques, this is one of the causes of the low coverage of exclusive breastfeeding as well as promotional efforts from other dairy industries. Effective communication can trigger behavioral changes in supporting exclusive breastfeeding, this is in accordance with the Behavior Change Theory which contains the concept of how individuals change their behavior in response to the messages and information they receive. The combination of multiple strategies and evidence-based interventions in a multi-sector integrated strategy appears to have a synergistic effect. Therefore, there is an urgent need to complete strategic planning efforts for the promotion and protection of breastfeeding that are supported by the latest local and global evidence. A comprehensive breastfeeding promotion approach is ideal for successful exclusive breastfeeding. There needs to be a communication strategy that is guided by a baby-friendly approach coupled with coordination and partnership efforts as well as identification of innovative communication tools to continue to protect breastfeeding practices from attempts to market milk substitute products [13].

A socioecological model for assessing the social determinants of breastfeeding can be used to determine what factors need to be addressed in order to have a comprehensive approach to the promotion of breastfeeding. It is increasingly recognized that in addition to providing information and counseling regarding breastfeeding, it is also very important to improve public policies and support systems that are closest to the lives of breastfeeding mothers. Including social support/support has a big influence on a person's health status. Breastfeeding support also needs to include personalized messages. These messages should be given to the mother and her support group including other family members. Successful breastfeeding includes support groups that can be developed formally or informally[14].

A well-designed advocacy and communication strategy is a key component of the program process. Breastfeeding Such a strategy needs to reach a variety of audiences through social mobilization, social marketing, mass communication, interpersonal communication and/or social media. A well-designed communication plan needs to be implemented through a participatory process that involves listening to women and families. It should build on locally relevant strategies, messages and activities to promote breastfeeding as a normative behavior[9].

Research shows that health education, training and support for pregnant and breastfeeding mothers are important elements for promoting exclusive breastfeeding [15].

Social and cultural factors are believed to influence breastfeeding practices. So it is believed that communication is needed for targeted behavior change to occur, and strategies and programs are also needed that are adapted to different contexts and relevant target groups, including community leaders, baby fathers and grandparents, as well as mothers themselves regarding the choice of breastfeeding. Family and community support and encouragement can help make this commitment easier. Family-based education involving fathers and other relatives is also an important opportunity. Community support is needed to be a welcoming place where women feel comfortable breastfeeding their babies anywhere and anytime. There is a need to strengthen relationships between communities and health facilities to be able to encourage community networks to support breastfeeding[16].

Support and encouragement from family and society can help make the commitment easier in supporting the decision for women to breastfeed their babies. Women's support to women's groups and other forms of social support are valuable opportunities for breastfeeding mothers to share experiences and overcome challenges in an environment that supports mothers in their decision to breastfeed. Includes actions required during an emergency, including how to best support mothers who choose to breastfeed. including future caregiving and the importance of infant care and feeding practices [16]. A limitation in this research is the need to involve religious figures as people closest to them who can also provide motivation to breastfeeding mothers who have not been involved in this research.

Conclusions and Suggestions

The conclusion of this research is that the material needed for training includes breastfeeding techniques, communication techniques and knowledge about exclusive breastfeeding. The training carried out was significantly related to knowledge in the elderly group, attitudes in the cadre group, motivation skills in the cadre group, community leaders, the elderly and ordinary mothers. Training/education using pocket books is able to increase abilities as a motivator for exclusive breastfeeding in the city of Bogor.

The suggestion in this research is that there is a need to follow up on the use of pocket books and encourage mothers who have been trained to become exclusive breastfeeding motivators to be able to motivate pregnant women to successfully provide exclusive breastfeeding.

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The Influence of Psychological Factor on Breast Milk Production in Breastfeeding Mothers with COVID-19 Survivors in Tegal

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ABSTRACT

The role of breastfeeding mothers very important, not only for the baby's growth but also for their own health. Lactation offers numerous health benefits, including preventing infectious diseases and reducing depression among mothers. One of the factors that affect the worsening of exclusive lactation is the anxiety felt by mothers, especially during the COVID-19 pandemic. The anxiety experienced by breastfeeding mothers is due to their thoughts or knowledge, will transmit the COVID-19 virus to her baby through breast milk, while one of the effects of anxiety on breastfeeding mothers is that milk production isn't smooth or doesn't come out. This study aims to determine the effect of psychological factors on breast milk production in COVID-19 survivors. It's an analytic design using an observational research design with a cross sectional approach. The population study involved 46 breastfeeding mothers with COVID-19 survivors in Tegal with purposive sampling and Chi Square analysis test. The results showed that in mothers who didn't experience anxiety, their milk production didn't decrease, while in mothers who experienced anxiety there was reduced milk production. The results showed that there was an influence of psychological factors on breast milk production in breastfeeding mothers COVID-19 survivors with a P-value of 0.011. It's hoped that the Tegal City government will cooperate with health workers to make breastfeeding mothers with COVID-19 calmer and less anxious.

Keywords: psychology; milk production; breastfeeding; COVID-19 survivors

Introduction

The role of breastfeeding is very important, not only for the baby's growth and development but also for her own health. Breastfeeding has many benefits, from preventing infectious diseases to reducing maternal depression. This should be taken into consideration by mothers to not hesitate in breastfeeding. Breast milk is more than just food and is a living tissue with many immune factors that will continuously provide active protection against infection when the baby's body cannot yet protect itself. Breast milk contains the right amount of energy, protein, vitamins, water and other nutrients for infants. WHO and UNICEF recommend that children should only be breastfed for at least six months and continue until
the child is two years old in order to reduce morbidity and mortality in children [1].

According to WHO and UNICEF in 2018, the global exclusive breastfeeding rate is quite low at only 41 percent. In Indonesia itself, the exclusive breastfeeding rate only reached 37 percent. The factors that influence the worsening of exclusive breastfeeding are due to the anxiety felt by mothers which causes them not to breastfeed their babies. The anxiety experienced by breastfeeding mothers is due to the thought or knowledge that the mother will transmit the Covid 19 virus to her baby through breast milk.[2]. According to WHO, the Covid 19 virus is not transmitted through breast milk for

mothers who are confirmed or suspected COVID-19 patients, UNICEF and WHO continue to encourage the continuation of breastfeeding during the pandemic without separating mothers from their babies [3].

The IDAI COVID-19 Task Force reported that at the end of July 2021, 447 children under 1 year of age died due to COVID-19, of which 16% were newborns. Therefore, breastfeeding activities should not be interrupted regardless of the mother's status, even though the breastfeeding mother has been confirmed positive for COVID-19. If the current condition does not allow, mothers who are identified with Covid-19, breast milk can still be given by continuing to carry out strict health protocols, meaning that mothers can still breastfeed directly and if the mother is treated, she must be supported so that she can express breast milk [4].

Women who are positive for COVID-19 should be encouraged to safely breastfeed, hold their babies in skin-to-skin contact, and be nursed together. Infants born to mothers with suspected, or confirmed COVID-19 should be breastfed according to standard infant feeding guidelines, while exercising the necessary PPI precautions. Parents and caregivers who need to be separated from their child, and children who need to be separated from their parents/caregivers should have access to appropriately trained health or non-health personnel for mental health and psychosocial support. If a mother who has contracted Covid-19, feels too unwell to breastfeed, then she can be supported to safely breastfeed her baby through a variety of other means including: pumping, relactation and obtaining donor breast milk [5].

The results of Ratih's research state that the anxiety of breastfeeding mothers during the covid 19 pandemic is an unpleasant feeling and is a normal reaction to situations that cause anxiety, conflict is subjective and arises because individuals experience anxiety. The Covid 19 pandemic situation causes anxiety in breastfeeding and the symptoms will be visible as long as the situation still exists [6].

Anxiety in postpartum mothers has an impact on breast milk production, breast milk that is not smooth or breast milk does not come out. Based on the results of Salat & Suprayitno's research, (2019) stated that more than 50% of breastfeeding mothers who experience anxiety result in breast milk production that is not smooth [7]. The impact when breast milk production is not smooth is like the mother experiencing pain due to swollen breasts, mastitis and even abscesses in the breast which can cause infection. Infected breasts cannot be given as a result, the baby's nutrition is not fulfilled, the baby's lack of immunity, the lack of Bounding attachment between mother and baby, and the baby has a risk of death due to diarrhea 3.94 times greater han babies who receive exclusive breastfeeding. [8].

From the results of research conducted in the Margadana area of Tegal City in May 2021, there were 6 breastfeeding mothers suffering from Covid-19. Based on the results of the survey in the community, it was stated that breastfeeding mothers who were confirmed with Covid-19 experienced many obstacles including the fear that the baby would be infected, this could interfere with the mother's psychic so that it could reduce milk production, symptomatic mothers felt unable to provide breast milk. Thus, support for breastfeeding mothers is very important to increase the mother's confidence in providing breast milk. Based on the background of the problem above, there are several factors that influence Covid-19 survivor mothers in providing breast milk. Thus, it is necessary to conduct a study that aims to determine the effect of psychological factors on breast milk production in COVID-19 survivor mothers.

Methods

This type of research is analytic using observational research design with a cross sectional approach. The population in this study were 230 breastfeeding mothers with COVID-19 who lived in Tegal in 2022. The sample in this study amounted to 46 people with purposive sampling technique, namely sampling using certain considerations in accordance with the desired criteria to be able to determine the number of samples to be studied.[9] The sample criteria in this study were mothers who had suffered from COVID-19 while still breastfeeding their babies aged 0-12 months and lived in Tegal and were willing to become respondents. In this study, the data analysis was univariate analysis to produce frequency distributions and presentations, while the univariate variables included respondent characteristics including: mother's age, baby's age, education, occupation, parity. Psychological factors that include: anxious and not anxious and breast milk production factors which include reduced or not reduced breast milk. While the bivariate analysis compares the cross distribution between the two variables concerned using the Chi Square analysis test. The hypothesis in this study is the Alternative Hypothesis (Ha): $\rho \neq 0$ there is an influence of

psychological factors on breast milk production or Null Hypothesis (H0): ρ = 0 there is no influence of psychological factors on breast milk production. The ethical eligibility letter was issued by the research ethics commission of the Poltekkes Kemenkes Semarang with ethical number No. 0329/EA/KEPK/2022.

Results and Discussion

Table 1.
Respondent characteristics

No	**characteristic**	F	%
1	Mother's age		
	20-35years	40	87
	>35 years	6	13
2	Baby's age		
	<=6 months	20	35,5
	>6 - 12 months	26	56,5
3	Education		
	Elementary-Middle School	5	10,9
	High School	21	45,7
	College	20	43,5
4	Employment		
	Not working	24	52,2
	Working	22	47,8
5	Parity		
	1 time	23	50
	2-3 times	22	47,8
	>/=4 times	1	2,2

Table 2.
The influence of psychological factors on breast milk production

Psychology	Milk production during		*p-value*
	Not reduced	Reduced	
Not Anxious	10 (100%)	0 (0%)	*0,011*
Anxious	21 (58,3%)	15 (41,7%)	
Total	31 (67,4%)	15 (32,6%)	46 (100%)

This study was conducted in Tegal region in June 2022 online through google form. With 46 respondents of breastfeeding mothers. The results of the study are described.

Based on the research results in table 1. The characteristics of respondents based on age, education, occupation and parity showed that most respondents were aged 20-35 years as many as 40 (87%), the age of the baby was mostly >6-12 months as many as 26 (56.5%), most mothers' education was high school 21 (45.7%), most mothers did not work as many as 24 (52.2%) and parity most mothers had given birth once as many as 23 (50%). From the Covid-19 monitoring data in Jakarta in September 2020, it shows that the highest Covid-19 cases were at the age of 30-39 years with 11,707 cases, and the age of 20-29 years was the second highest with 10,089 cases. Seeing this data, most of the positive covid-19 patients in Jakarta come from the productive age group.[10]. This is probably because 20-35 year olds who are actively working have a more dynamic lifestyle with a high social level. They often gather and discuss to complete a job in the office. Then in their break time they make a habit of eating together so they do not apply health protocols. In addition, there are still many people who think that those who are young are more resistant to Covid-19, but in reality this contributes to the number of infections among

productive age, highly educated and working people.

The results of this study are in accordance with research conducted by Vittria which shows that breastfeeding mothers who suffer from Covid-19 are mostly in the age range of 20-35 years as much as 70% and the age of the baby in the range of 6.5-12 months as much as 67% and parity in mothers who have only given birth once as much as 50%. [11] The age factor affects a person's readiness at the time of motherhood, at an age that is classified as productive pregnancy is planned and desired by young or newly married couples. So that someone is more enthusiastic about receiving information about pregnancy. Pregnancy that is desired or planned allows for lower stress and anxiety compared to unplanned pregnancies. Parity is related to the mother's experience in caring for the baby, some primiparous mothers with little experience can actually increase stress or anxiety [12].

Based on table 2. shows that psychological factors in breastfeeding mothers with COVID-19 survivors, that in mothers who do not experience anxiety their milk production is not reduced as many as 10 people (100%) while in mothers who experience anxiety there are 15 people (41.7%) reduced milk production. The results of the analysis test showed that there was an influence of psychological factors on breast milk production in breastfeeding mothers with COVID-19 survivors with a P-value of 0.011. This is in accordance with the results of Yunita S's research which states that of the 7 breastfeeding mothers who did not experience anxiety, all (100%) had smooth milk production, while of the 11 mothers who experienced mild anxiety, most (72.7%), namely as many as 8 breastfeeding mothers, had poor milk production and of the 15 breastfeeding mothers who experienced moderate anxiety, all (100%) had poor milk production. The results of the analysis show that there is a relationship between anxiety of breastfeeding mothers and the smoothness of breast milk production [7].

According to Endang Wahyuningsih, factors that affect breast milk production are the mother and baby. Factors from the mother that are very influential are the factors of peace of mind and spirit.[13] Stress such as confusion, fear, and anxiety are factors that will form a blockade in the let down reflex, this is due to the release of adrenaline which causes vasoconstriction of the alveoli vessels, so that oxytocin has little hope of reaching the myopepithelium cell organ. This is in accordance with the theory that psychological disorders in mothers cause reduced milk production because it will inhibit the let down reflex. In the let down reflex, there are factors that can inhibit, including mothers who experience anxiety [14].

This is in accordance with the results of Prabawani's research, which states that the smooth release of breast milk is influenced by several factors, one of which is psychological factors, namely anxiety. Someone who experiences anxiety will have a negative impact on their health, such as lowering the body's immune system. That way the body will find it difficult to fight various diseases so that people will become susceptible to illness, due to the weak immune system in the body [15].

Another study conducted by Pri hastuti stated that most breastfeeding mothers experienced anxiety about Covid-19 conditions, totaling 16 people (53.3%) and not anxious about Covid-19 conditions, totaling 14 people (46.7%). Most of the breast milk has not come out until the second day after giving birth totaling 21 people (70.0%), while breast milk comes out until the second day after giving birth totaling 9 people (30.0%). The results of the analysis show that there is an effect of Covid-19 pandemic anxiety on breast milk production of postpartum mothers [16].

One of the factors affecting failure in the breastfeeding process can be caused by the absence of breast milk. The smoothness of breast milk is strongly influenced by psychological factors. The mother's psychological condition and calm emotions greatly affect the smoothness of breast milk. If the mother is stressed, depressed, uneasy, anxious, sad, and tense, it will affect the milk supply. Anxious mothers will produce less breast milk than mothers who are not anxious. Supported by the COVID-19 pandemic, people, especially breastfeeding mothers, experience anxiety, which can have an impact on breast milk production [17][18].

Based on the results of the research and supporting theories, the researcher assumes that anxiety occurs in breastfeeding mothers because they think too much about negative things during the COVID-19 pandemic. Breastfeeding mothers with COVID-19 survivors should think positively, try to love their babies, and relax when breastfeeding. When mothers think positively and stay calm, the existing hormones will work well so that it will trigger milk production and breast milk can come out smoothly, on the other hand, mothers whose psychological conditions are disturbed, such as feeling anxious, will inhibit the work of

hormones in their bodies so that it will affect milk production and milk production can decrease and cause milk not to come out.

Conclusion

Psychological factors in breastfeeding mothers with COVID-19 survivors, in mothers who did not experience anxiety their milk production was not reduced as many as 10 people (100%) while in mothers who experienced anxiety there were 15 people (41.7%) reduced milk production. The results of the analysis test showed that there was an influence of psychological factors on breast milk production in breastfeeding mothers with COVID-19 survivors with a P-value of 0.011. It is expected that the Tegal City government in collaboration with health workers to further increase its support for breastfeeding mothers, especially mothers who suffer from COVID-19 so that they can provide breast milk smoothly without any obstacles so that the mother's milk production remains smooth, does not cause anxiety and other health problems in breastfeeding mothers.

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Hydrogel Potential of Piper Crocatum (Piper Crocatum) Red Extract to Accelerate Perineum Wound Healing and Staphylococcus Aureus Bacteria Growth in Postpartum

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ABSTRACT

The prevalence of perineal rupture increases every year, as a result, the greater the chance of puerperal infection in postpartum mothers. Factors that cause puerperal infection is the care of the perineal wound that is not paid attention to. One of the complementary treatments uses herbal plants made from red betel leaf (Piper crocatum) in the form of hydrogel preparations. Proving the potential of red betel leaf hydrogel (Piper crocatum) against accelerated perineal wound healing and staphylococcus aureus bacterial growth. This type of quantitative research uses a quasi-experimental method with purposive sampling, post-test design only with control group. Sampling was in accordance with the inclusion criteria with a sample size of 45 respondents, 15 control respondents, 15 respondents to intervention I with a dose of 2x1 a day and 15 respondents to intervention II with a dose of 3x1 a day. Data was obtained from the REEDA score assessment scale which was obtained from the assessment of Redness, Edema (Swelling), Eccymosis (Bleeding), Discharge (Extraction) and Approximation (Wound union) and vaginal swab samples carried out on days 3 and 7 for 7 days. The analysis used to assess variables is the Wilcoxon and Mann Whitney tests. The analysis used to assess the variables is the Wilcoxon and Mann Whitney test. Red betel leaf hydrogel intervention 2x1 a day and intervention 3x1 a day has the potential to accelerate perineal wound healing and decrease the growth of S. aureus bacteria with p-value <0.05, so it can be interpreted that there is a significant difference effect. The greatest decreasing value in reducing the REEDA score and the growth of S. aureus bacteria was the 3x1 a day intervention group, namely 4.60 and 8.74, so it can be concluded that the 3x1 intervention was more effective than the 2x1 a day intervention.
Keywords: perineal wound; REEDA score; staphylococcus aureus bacteria

Introduction

Perineal wounds are tears that occur at the time a baby is born either spontaneously or by using tools or actions. Perineal tears generally occur in the midline and can become extensive if the fetal head is born too quickly. Perineal wound care in mothers after childbirth is useful for reducing discomfort, maintaining hygiene, preventing infection and accelerating healing. Perineal treatment generally coincides with vulvar care. Things to note are preventing contamination with the rectum, gently handling wound tissue, cleaning the blood that is the source of infection and odor [1].

The genital tract is an area prone to infection, if treatment is not optimal it can lead to infection. Deteriorating wound conditions in the perineum can be caused by pathogenic bacteria (infectious bacteria) such as *the coccus* group , namely, *Staphylococcus epidermidis, Staphylococcus aureus, Enterococcus (Streptococcus group D), group B Streptococcuss*, low-virulence pathogenic

bacteria, but chronic wounds can arise due to poor wound care [2].

According to WHO, as many as 80% of postpartum mothers in the world suffer from perineal injuries. The figures show that perineal lesions are experienced by almost all puerperal mothers globally. When viewed from the degree of perineal injury, the highest prevalence is degree 2 (73.4%), then degree 1 (17.7%), degree 3 (8.4%), and degree 4 (0.5%). The incidence of *perineal* lacerations in the world in 2009 was 2.7 million cases. This figure is predicted to increase by 6.3 million cases by 2050. The rate of perineal lacerations in Indonesia in 2013 was 57% of 1951 vaginal deliveries.3 Based on retrospective research, it is known that mothers who experience 3-4th degree lacerations in the UK increased from 1.8% in 2000 to 5.9% per 100 births in 2011 and 2nd degree lacerations increased by 23% [4]. Perineal suture wounds occur in 75% of mothers who deliver vaginally or vaginally. It is estimated that 1 – 8% of mothers will develop a postpartum infection. Lacerations are the second most common cause of primary *postpartum* hemorrhage after *uterine atony* [5].

The results of a preliminary study conducted at the Ngesrep Health Center in Semarang City obtained data on 225 normal births in January – November 2021, there were 52% or 117 cases of births with perineal laceration wounds which required a hecting or suturing process to help heal perineal wounds. Of the 117 who gave birth at the Ngesrep Health Center, around 90 mothers made good and regular postpartum visits. Then from the data from the Semarang Regency Health Profile report, it shows that the number of postpartum maternal deaths in 2020 was 48% or 12 cases of death out of the total number of maternal deaths of 25 cases. Of these, there was 1 case of maternal death due to puerperal infection. This requires re-monitoring of the case.

Perineal wounds occur spontaneously, the main causes of which are due to labor not being led as it should, labor by vacuum extraction, cunam extraction, embryotomy. Perineal lesions occur due to the sudden pressing of the head or body part of the fetus, so the skin and tissues of the perineum are torn. Parineal trauma is more common in circumstances such as the size of the fetus is too large, the long labor process, and the use of birth aids, such as forceps [7]. In addition, perineal wounds are also caused by deliberate actions, namely episiotomy [8]. Perineal wounds or *perineal ruptures* performed with the episiotomy itself must be done on indications, among others: large babies, stiff perineum, delivery with location abnormalities, labor using both *forceps* and vacum tools. Without an episiotomy in some of these circumstances will cause increased and severe damage to the *perineal region*. *Spontaneous perineal rupture* occurs due to tension in the vaginal area during childbirth, can also occur due to the psychological burden of facing the labor process and more importantly perineal rupture occurs due to mismatch between the birth canal and the fetus, because the effects caused by *perineal rupture* are very complex [9].

In general, all new wounds such as incision wounds or episiotomy areas require a healing time of about 6-7 days. Perineal infection will arise if improper perineal care results in moist conditions in the perineum due to lochea. This greatly supports the development of bacteria. Infection of the perineum can damage cell tissue and can inhibit the wound healing process. So that it will increase the length and depth of the wound and increase the size of the wound itself. Slow healing of wounds due to several problems including changes in vital signs caused by bleeding, infections such as skin redness, fever and pain, discomfort for activities, and rupture of suture wounds partially or completely due to trauma and protruding internal organs outwards due to wounds not immediately fused properly. Wounds in the perineum are declared to heal quickly when < 7 days and pronounced long healed when > 7 days. With the characteristics of wound healing, namely, no redness of fused tissues, dry wounds, no swelling, and no pain when walking, sitting and other activities. If the healing of the perineal wound is long, it will cause an increased risk of puerperal infection [10].

Although lacerations are local, proper treatment is required to avoid systemic spread of infection. Perineal infection will arise if improper perineal care results in moist conditions in the *perineum* due to lochea [11]. If *perineal* infection occurs, bacteria can enter through the birth canal during labor or after delivery can be a risk factor for *postpartum infection*. Organisms attacking the former implantation of the placenta or the presence of perineal lesions due to childbirth come from bacteria normal inhabitants of the cervix and birth canal or from the outside [12]. In addition to infection, the presence of perineal wounds in the mother also provides pain and discomfort during the postpartum period that the mother goes through. [13] Bacteria that often cause puerperal infections include *Staphylococcus aureus* which comes from gram-positive bacteria, *Escherichia coli* from gram-

negative bacteria, *Streptococcus hemolyticus*, and *Manit Salt Agar (MSA).*

Prevention of infection can be done by maintaining the cleanliness of the suture wound, changing dressings and using topical drugs made from water that can absorb and reduce pain in the perineal wound. [14] In this increasingly advanced and sophisticated era, many drugs are offered for various diseases with various drug names and types that are sometimes not known for sure the content and benefits. Therefore, people must be more selective in choosing the right drug. One drug that must be chosen selectively is a drug to stop bleeding wounds on the skin. One of the medicinal preparations to stop wounds is *hydrogel*. Where with the main mixture is water, hydrogel is a type of primer dressing that can be directly applied to injured skin. *Hydrogel* can create a moist / rehydrating atmosphere in the wound as well as provide a cooling effect. [15] The use of this hydrogel is also a preventive effort to reduce the use of antibiotics and *povidone iodine* 10% which causes resistance if used for a long time. [16]

One complementary treatment using herbal plants that can reduce the use of medical drugs such as antiseptics is red betel leaf (*Piper crocatum*). [17] Red betel leaf has antiseptic power twice as great as green betel leaf. Various functions possessed by red betel leaf are caused by the content of secondary metabolites, such as *flavonoids, alkaloids,* and *tannins*. Red betel leaf contains essential oil, *karvakrol*, and *eugenol*. [8] This herbal plant has destructive properties and interferes with the growth of bacteria. In an earlier study, *Piper crocatum methanol* extract was examined on anti-allergic inflammatory effects with a kareagent-induced rat edema test. These studies make it clear that Piper crocatum has a strong anti-allergic inflammatory effect. [18] Red betel leaf contains active compounds such as *flavonoids, tannins, essential oils, alkaloids,* and *saponins. The flavonoid content contained in red betel has antibacterial and anti-inflammatory activities that can help prevent infection in wounds. The mechanism of flavonoids' antibacterial ability* is by disrupting the potassium concentration of gram-positive bacteria causing dysfunction of their cytoplasmic membrane. [19]

The results of previous studies showed that there was an influence of red betel leaf on accelerating perineal wound healing and had the ability to inhibit growth and kill *Staphylococcus aureus* (gram positive) at a concentration of 25%, while the ability to inhibit growth and kill *Escherichia coli* (gram negative) at a concentration of 6.25%. [1,21] It can be known based on the explanation above, the effect of red betel leaf has a role in accordance with pathophysiology so that researchers develop research by making topical preparations in the form of *hydrogel* from red betel leaf extract (*Piper crocatum*), where *hydrogel* with the main mixture is water is also a type of primary dressing that can be directly applied to injured skin and can create a moist atmosphere / rehydrate the wound as well as provide a cold effect. The use of *hydrogel* has advantages over other topical drugs because it can absorb more optimally and has the lowest irritating effect, as well as the effectiveness of *hydrogel* in healing incision wounds, burns and several other diseases. The material for making *hydrogel* is water so that it reduces fluid loss in the wound area and is more comfortable if used by patients. [22]

The use of *hydrogel* can be used as a medium for preventing infection with the addition of herbal plant extracts such as red betel leaves which contain high antioxidants as anti-inflammatory, and antibacterial. In addition, this study also aims to make it easier for postpartum mothers to be more effective and practical in applying drugs, because preparations in the form of hydrogel are easy to apply topically or applied directly to the skin compared to the old way that still uses extracts, decoctions, or compresses and so on that require time for the manufacturing process, how to apply it is considered less effective.

Methods

This research was conducted in the working area of Puskesmas Ngesrep, Puskesmas Srondol and Puskesmas Bangetayu Semarang. The type of research used is quantitative with *a Quasi Experimental design of two groups post-test only with control group design*. The population in this study was *postpartum* primigravida and multigravida mothers on the first to 7th days in the working areas of the Ngesrep Health Center, Srondol Health Center and Bangetayu Health sCenter in Semarang City, Central Java for the period February – May 2022 which amounted to 160 postpartum mothers. The sampling technique used was *purposive sampling* that met the inclusion criteria and exclusion criteria totaling 45 respondents. In this study, there were three groups, namely the dry cleaning technique group consisting of 15 respondents, the intervention group of *giving red betel leaf hydrogel 2x1 days consisting of 15 respondents and the intervention group giving* red

betel leaf hydrogel 3x1 days consisting of 15 respondents. The duration of this hydrogel intervention is carried out for 7 days postpartum. Assessment of *perineal* wound healing score by looking at REEDA score, while assessment of *growth of Staphylococcus aureus* bacteria by looking at gram-positive bacterial staining. Statistical Analysis using *Wilcoxon* and *Mann Whitney*. The number of the Letter of Ethics by the Health Polytechnic Ethics Committee of the Ministry of Health Semarang is **No.97/EA/KEPK/2022**.

Results and Discussion

Table 1.
Analysis of the Effect of *Red Betel Leaf Hydrogel Administration of the Intervention Group and Control Group on REEDA Scores in Postpartum Mothers*

Variable	Data	Day 3 Mean ± SD	Day 7 Mean ± SD	*P-value*
REEDA	2x1 Intervention	5,87 ± 2,532	1,53 ± 1,767	0,01
	Control	7,53 ± 2,031	3,60 ± 2,131	0,00
	3x1 Intervensi	5,20 ± 2,624	0,60 ± 1,056	0,01
	3x1 Control	7,53 ± 2,031	3,60 ± 2,131	0,00

Table 2.
Analysis of the Effect *of Red Betel Leaf Hydrogel Intervention Group and Control Group on the Growth of* Staphylococcus aureus bacteria *in postpartum mothers*

Variable	Data	Day 3 Mean ± SD	Day 7 Mean ± SD	*P-value*
Bakteri S. aureus	2x1 Intervention	11,20 ± 4,144	3,67 ± 2,024	0,01
	2x1 Control	11,33 ± 3,288	5,33 ± 4,467	0,01
	3x1 Intervention	9,27 ± 3,173	0,53 ± 0,990	0,01
	3x1 Control	11,33 ± 3,288	5,33 ± 4,467	0,01

Table 3.
Differences in the effect of Red Betel Leaf Hydrogel Administration of the 2x1 Intervention Group and the 3x1 Intervention Group on REEDA Scores and the growth of Staphylococcus aureus bacteria

Variable	Intervention Group		*p- value*
	2x1	3x1	
	Mean ± SD	Mean ± SD	
REEDA score	4,34 ± 1,767	4,60 ± 1,056	0,032
Bakteri *S. aureus*	7,53 ± 2,024	8,74 ± 0,990	0,000

After conducting research on the effect of red betel leaf hydrogel (*Piper crocatum*) on the acceleration of perineal wound healing and the growth of *Staphylococcus aureus bacteria* obtained the following results:

The use of *red betel leaf hydrogel reduces the inflammatory process better because* saponin *and* flavonoid *compounds* act as anti-inflammatory. This is evidenced through research that states that these compounds can help reduce the number of *Polymorphonuclear* (PMN) consisting of *neutrophils*, basophil and *eosinophils. The presence of neutrophils* plays an important role in the immune system because it is the most abundant white blood type (40 – 75%) in the human body. The age *of neutrophils* ranges from 4 - 5 days, but if it has moved to the tissue the age becomes 1 - 2 days so as to minimize the spread of pathogenic microorganisms and tissue damage during inflammation. [103] After the age of PMN dies, it will be replaced with *macrophages* as the main cells in wound healing because it plays a role in the process *of bacterial phagocytosis* and repairs damaged tissue. Unlike *neutrophils* which are short-lived, the presence of *macrophages* in tissues can persist for several months. Metabolic activity that occurs in the reepithelialization process will cause an increase in oxygen demand in injured tissue. The use of *hydrogel* is a topical drug that can

minimize the loss of oxygen and fluid in the tissue so that it can release *proteases* optimally. [104,105]

The results of this analysis are in line with previous research, on the treatment of incision wounds in rabbits that are no different *from perineal wounds* of the area and length of the wound. The observation time for *perineal* lesions is taken from day one to day 7 and at the end of observation *of perineal* lesions There are those who still have not closed the skin distance up to 1 mm with a score of 1 wound with a poor wound category. In the study, the first day was the beginning of the wound so there was no change, for example, with *the perineal* wound, the first day's REEDA score was still large because of the beginning of the wound so there was no change. After days 3, 5, and 7 the end of observation / observation of incision wounds given *intervention hydrogel* red betel leaf closed on day 14 or the last day for the control group still did not close 0.5 cm. Ratna Widyawati also stated that it is believed that red betel leaf ointment with a concentration of 45% can increase the ability to attach to wounds, this is supported by an increase in the number of erythrocytes and hemoglobin due to incision wounds in rabbits. [106]

The spread of *Staphylococcus aureus* bacteria is an endemic bacteria found in health facilities and resistant to antibiotics so that it can cause *methicillin-resistant Staphyloccocus aureus* (MRSA) infection. The bacterial infection is a positive group of bacteria that attacks the *integumentary* system, soft tissues, bones and cardiovascular system in the body. Infection in the wound caused by such bacteria is swelling and odorous discharge from the *perineal wound*. [109, 110]

The discussion of smears carried out on day 3 and day 7 refers to the theory of pathogenesis (the process of infection) of bacteria from the *first day coccus* group around 6.6%, on the second day 50% the most bacterial range on day 3 is 62% and day 7 is 88.8%. So that the examination of bacteria takes day 3 and day 7.[93, 94] The results of the research analysis are in line with Ika Buana, that the purified extract *of Piper crocatum* showed an IC50 value of 53.91 ppm. The results of the antibacterial potency test showed that there was inhibition of the growth of *Staphylococcus ATCC 12228* bacteria at extract concentrations of 50% and 100%. This activity comes from secondary metabolite compounds of *alkaloids, flavonoids, saponins,* and essential oils. Red betel is extracted purification to remove ballast substances that can affect the ability of secondary metabolites to produce biological activity. The purpose of the study was to determine the antioxidant and antibacterial potential of purified extract of red betel leaf. The antioxidant potential was tested by the DPPH method (*1,1 diphenyl-2-picrylhydrazyl*) which yielded an IC50 value. The antibacterial potential is tested through the sumuran diffusion method. The result of this study was that the extract showed an IC50 value of 53.91 ppm. The results of the antibacterial potency test showed that there was inhibition of the growth of *Staphylococcus* ATCC 12228 bacteria at extract concentrations of 50% and 100%. The conclusion of this research study is that the extract has strong antioxidant and antibacterial potential. [24]

The results of the analysis of the study found that there was a significant difference between the 2x1 intervention group and the 3x1 intervention with *a p-value* value on the REEDA score variable of 0.032. So it can be concluded that the *p-value* < 0.05 can be concluded that there is a difference in influence between the provision of interventions 2x1 days and 3x1 days. However, administration of red betel leaf hydrogel with a 3x1 intervention is more effective than a 2x1 intervention in accelerating *perineal* wound healing based on REEDA scores. This was also supported by a decrease in the average REEDA score in the 3x1 intervention group of 4.60 compared to the average decrease in the 2x1 intervention group of 4.34. So it can be concluded that the decrease was most in the 3x1 intervention group. The results of this research analysis are in accordance with previous research by Fina Ulvani, that variations in extract concentration have an influence on the acceleration of wound healing. Red betel leaf extract gel with a concentration of 3% which is the highest concentration among others has the greatest healing effect with a healing percentage of 85.81% compared to gel extracts with concentrations of 1% and 2% with percentages of 65.32% and 76.58%. Based on these results, it is necessary to test the isolation of the group of compounds in red betel that have effectiveness as anti-inflammatory, it is also necessary to formulate other topical preparations with the addition of extract concentration, because the greater the dose of administration and the concentration of red betel leaf extract (*Piper crocatum*) the greater the percentage of wound healing. [20]

Research on the administration of *red betel leaf* hydrogel (*Piper crocatum*) 2x1 day intervention and intervention to reduce the growth of *Staphylococcus aureus* bacteria showed a

significant difference with a *p-value of* 0.00. So that *the p-value* < 0.05 can be interpreted as there is a difference in influence between the provision of 2x1 days and 3x1 days intervention. However, giving *red betel leaf hydrogel with a 3x1 intervention is more effective than a 2x1 intervention in reducing the growth* of Staphylococcus aureus bacteria, *this is supported by a decrease in the average growth* of Staphylococcus aureus bacteria in the 3x1 intervention group of 8.74 greater than the average decrease in the 2x1 intervention group of 7.53. So it can be concluded that the decrease was most in the 3x1 intervention group. Previous research by Tunik Saptawati, also in line with this research, namely the preparation of red betel leaf gel (*Piper crocatum*) carried out antibacterial power tests showed the ability of antiseptic power with an extract level of 25% (the highest concentration) able to inhibit the growth of gram-positive bacteria *Staphylococcus aureus* as much as approximately 45%. So the greater the concentration and large dose of administration, the greater the ability of bacterial inhibitory. *Piper crocatum* is one plant that is efficacious as an antiseptic as a mouthwash or cleans other body parts and some are crushed and attached to wounds. *Piper crocatum* is known to contain *flavonoids, saponins, tannins,* essential oils, consisting of *hydroxycavikol, cavibetol, estargiol, eugenol, carvakrol, methylugenol* and many more. Of these compounds are known to have antibacterial abilities. So it can be concluded that the preparation of red betel leaf extract gel (*Piper crocatum*) can be an alternative antiseptic that can be used to inhibit the growth of gram-positive bacteria, one of which is *Staphylococcus aureus bacteria.* [111]

Conclusion

Based on the results of research on the potential of red betel leaf extract hydrogel (Piper crocatum) to accelerate perineal wound healing based on REEDA scores and decrease in the growth of Staphylococcus aureus bacteria based on quantification of gram staining of vaginal swab results of perineal wounds in postpartum mothers, it can be concluded as follows:

The provision of perineal wound care dry cleaning technique affects the acceleration of perineal wound healing on day 3 and day 7.

Hydrogel extract of red betel leaf (*Piper crocatum*) intervention 2x1 day has the potential to accelerate perineal wound healing on day 3 and day 7 in *postpartum mothers*.

Hydrogel extract of red betel leaf (*Piper crocatum*) intervention 2x1 days has the potential to reduce the growth of Staphylococcus aureus bacteria on day 3 and day 7 in *postpartum mothers*.

Hydrogel extract of red betel leaf (*Piper crocatum*) intervention 3x1 day has the potential to accelerate perineal wound healing on day 3 and day 7 in *postpartum mothers.*

Hydrogel red betel leaf extract (*Piper crocatum*) 3x1 intervention has the potential to decrease the growth of *Staphylococcus aureus* bacteria in *postpartum mothers.*

Red betel leaf extract hydrogel in the 3x1 day intervention group to accelerate perineal wound healing based on day 3 and day 7 REEDA scores was more effective, compared to the 2x1 day intervention group in *postpartum mothers*.

Hydrogel administration of red betel leaf extract in the intervention group 3x1 days against and decreased the growth of *Staphyococcus aureus bacteria* based on quantification of gram staining results of vaginal swabs *of perineal* wounds day 3 and day 7 was more effective, compared to the intervention group 2x1 days in *postpartum mothers*.

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The Effectiveness of Breast Self-Examination Health Education (BSE) using Demonstrations and Lectures on The Level of Knowledge and Attitudes of Young Women

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ABSTRACT

Breast Self-Examination (BSE) is one of the easiest ways to detect breast cancer, but women's awareness of doing BSE is still very low. Breast Cancer patients with advanced stages, an estimated 70% visit a health facility. The purpose of this study was to determine the differences in the level of knowledge and attitudes of adolescent girls in providing BSE health education with demonstration and lecture methods. This research was conducted at SMA Negeri 1 Driyorejo, Gresik. This research method is *Quasi Experiment* with *Non Equivalent Control Group One Group Pretest-Posttest research design*. The sampling technique uses *Probability Sampling* with *Stratified Random Sampling*. Data analysis used the *Wilcoxon* test.The results showed that there was an influence on the level of knowledge and attitudes of young women before and after being given BSE health education with the demonstration method with a *p-value* of 0.001 < (0.05), there was an influence on the level of knowledge and attitudes of young women before and after being given BSE health education. with the lecture method with a *p-value* of 0.001 < (0.05), there is a significant difference in the level of knowledge of young women in the provision of BSE health education with demonstration and lecture methods with a *p-value* of 0.015 < (0.05) and there is no significant difference the attitude of young women in providing BSE health education with demonstration and lecture methods with a *p-value* of 0.491 > 0.05. From the results of this study, it is hoped that students will be able to do BSE regularly and correctly in accordance with the 6 steps of BSE as an early detection of breast cancer, and the school will apply lecture and demonstration methods in teaching and learning activities.
Keywords: breast self-examination (BSE), attitude, knowledge levels, lecture, demonstration

Introduction

Cancer is a large group of diseases that can occur in almost any organ or tissue of the body when abnormal cells grow uncontrollably, beyond their normal limits to invade adjacent parts of the body and/or spread to other organs. Based on WHO data, cancer is the second cause of death globally, with an incidence of 9.6 million deaths and in 2018 there was an increase in the percentage of breast cancer with 46.3% new cases [1]. In Indonesia, based on 2018 Basic Health Research (Riskesdas) data, the prevalence of cancer in Indonesia is 1.8 per 1000 population, up from 1.4 per 1000 population in 2013. The highest cancer case in Indonesia in women is breast cancer. East Java Province ranked number 4 in Indonesia in 2015 with the number of breast cancer cases in hospitals at 1485 after West Java with the number of breast cancer cases in hospitals, namely 1516 [2]. In 2018 in Gresik Regency there were 83 women (0.79%) who tested positive for tumors/lumps from breast examination results [3]. Reports from one of the referral hospitals in Gresik Regency, namely RSUD Ibnu Sina, there were 19 new cases of breast cancer

Breast cancer sufferers have an estimated presentation of 70% with an advanced stage of visiting a doctor or hospital. Currently, the age of breast cancer sufferers is not only in women over 35 years of age, but extends to young women [4]. (Case Fatality Rate) found in the early stages is only 7.2% so that early detection and diagnosis of breast cancer

malignancy is necessary, which plays an important role in improving the prognosis in addition to other clinical factors or as an initial step in preventing breast cancer [5].

Breast cancer prevention can be done with BSE, which is a routine self-examination of the breasts which can be done 7-10 days after menstruation (possibly when the breasts are not hard and painful), to detect any changes or find lumps in the breasts as an initial step in early cancer detection. breast [6]. Since April 21 2008, the Indonesian Government in collaboration with the Indonesian Ministry of Health and the Female Cancer Program (FCP), namely as the developer, has established BSE as a national program capable of reducing the death rate due to breast cancer by up to 20% with 7,122 times the risk of developing breast cancer for women who do not do BSE compared to women who routinely do BSE [7].

Knowledge can influence people's awareness and willingness to practice BSE and poor public knowledge about BSE will influence the low level of implementation of BSE practices. A study of the results of research conducted by [8] namely the effect of health education about BSE as an early detection of breast cancer in young women at SMA Negeri 1 Parepare, data analysis results showed that the level of knowledge before being given treatment had a mean value of 9.358, while after being given treatment it increased to 14.2462 . Supported by the results of research conducted by [9] that the level of knowledge before being given counseling about BSE was 15 students (65.2%) and as many as 22 students (95.7%) after being given BSE counseling out of a total of 23 respondents. From the research results Above, it can be concluded that knowledge influences people's awareness and willingness to do BSE.

Research conducted by [10] on the influence of breast cancer education on BSE attitudes among young women at the Al-Munawwir Islamic Boarding School showed that the attitudes of young women before being given counseling were only 25 respondents (33.8%) with a positive attitude out of a total of 111 respondents. whereas after being given counseling there was a significant change, namely 65 respondents (87.8%) had a positive attitude. The results of this research are in line with [11] at the Chemical Analyst Vocational School which shows that before being given health education, the majority of respondents had a poor attitude, 55 female students (68.8%) of the 80 total respondents, and after being given health education, the majority had a good attitude, 71 female students. (88.8%). This proves that there is an influence between health education regarding breast self-examination (BSE) on adolescent attitudes.

A person's knowledge and attitudes can be influenced by health education. Health education about BSE can use demonstration methods and lecture methods. In accordance with the results of research conducted by [12], the research results show that the demonstration method is more effective than the group discussion method in improving a person's behavior. Supported by the results of research [13] regarding the influence of BSE counseling using the demonstration method on BSE skills in women of childbearing age in Ngabean Hamlet, Bantul, Yogyakarta, it is known that there is an influence of BSE counseling using the demonstration method. In line with research [14] regarding the abilities of female students conducted at Diponegoro Dampit High School after being given health education about BSE using the demonstration method, namely 70% of respondents were able to do BSE and 30% of respondents were not able to do BSE. So it can be concluded that there is an influence between health education using demonstration methods on the ability to do BSE. According to the results of research conducted by [15] that there are differences in the knowledge and skills of women of childbearing age (WUS) in carrying out breast self-examination (BSE) in the intervention group and the control group before and after being given BSE delivery using the lecture and demonstration method at the Bakunase Community Health Center, Kupang City. . In line with the results of community service carried out by [16] that the demonstration and lecture methods used in health education about BSE were very effective in implementation.

Based on the results of a preliminary survey conducted by researchers at the Driyorejo Community Health Center, the BSE counseling program is carried out once a year as an effort to prevent breast cancer in 10 villages in the working area of the Driyorejo Community Health Center in rotation for sub-age women. SMAN 1 Driyorejo is one of the senior high schools in the working area of the Driyorejo Community Health Center with more female students than male students. Researchers took data from 10 female students via Goggle Form regarding matters related to breast self-examination (BSE). From the survey results, it was found that 80% (8 female students) did not know about the practice of BSE, 20% (2 female students) already knew about the practice of BSE. And all of the female students have never practiced BSE. Considering the low level of knowledge and attitudes towards BSE among female students, it is very important to provide health education

regarding reproductive health, especially regarding breast self-examination (BSE). At SMAN 1 Driyorejo itself, currently no one has provided counseling or training given to female students regarding breast self-examination (BSE). Therefore, young women need to understand this so they can detect breast cancer early. Based on this background, researchers are interested in conducting research with the theme "Effectiveness of Breast Self-Examination Health Education (BSE) Using Demonstrations and Lectures on the Level of Knowledge and Attitudes of Young Women at SMAN 1 Driyorejo". Submission of ethical clearance in this research to the Chair of the Research Ethics Commission of the Ministry of Health Semarang Health Polytechnic and it was declared ethically appropriate after fulfilling certain requirements with the research ethics appropriateness statement number No.051/EA/KEPK/2021.

Research Methods

This type of research is quantitative research with a Quasi-experimental method, namely a type of experimental research that uses all intact subjects (intact group) to be given treatment (treatment) with a Non Equivalent Control Group research design.

The independent variables in this research are health education using demonstration methods and lecture methods regarding breast self-examination (BSE). The dependent variable in this study is the level of knowledge and attitudes of adolescents regarding breast self-examination (BSE).

The population in this study was 696 female students with a sample of 70 female students divided into 2 intervention groups, namely health education with the demonstration method and the lecture method. The technique used was Stratified Random Sampling. Data analysis used the Wilcoxon test.

This research instrument uses a questionnaire. The questionnaire instrument in this research uses a questionnaire to measure the level of knowledge and attitudes about BSE.

The normality test for this research data used the Shapiro-Wilk test because the number of samples used in this research was <50 respondents (35 respondents in the demonstration method group and 35 respondents in the lecture method group) with the results on the pre-test variable knowledge of the lecture method being 0.054 (>0. 05) and post-test 0.024 (>0.05), pre-test lecture method attitude variable 0.163 (>0.05) and post-test 0.002 (<0.05). In the pre-test the knowledge variable with the demonstration method was 0.001 (<0.05), in the post-test 0.000 (<0.05), in the pre-test the attitude variable with the demonstration method was 0.097 (<0.05), in the post-test 0.000 (<0.05).

Results and Discussion

Table 1.1
Frequency Distribution of Demonstration Method Knowledge Level

Category	Demonstration Method			
	Pre-Test		Post-Test	
	f	%	f	%
Good	20	57,1	34	97,1
Enough	13	37,2	1	2,9
Less	2	5,7	0	0
Total	35	100	35	100

Table 1.2
Frequency Distribution of Lecture Method Knowledge Level

Category	Lecture Method			
	Pre-Test		Post-Test	
	f	%	f	%
Good	10	28,6	25	71,4
Enough	24	68,6	9	25,7
Less	1	2,9	1	2,9
Total	35	100	35	100

Table 1.3
Attitude Frequency Distribution Using the Demonstration Method

Demonstration Method				
Category	Pre-Test		Post-Test	
	N	%	N	%
Positive	0	0	34	97,1
Negative	35	100	1	2,9
Total	35	100	35	100

Table 1.4
Frequency Distribution of Attitudes Using the Lecture Method

Lecture Method				
Category	Pre-Test		Post-Test	
	N	%	N	%
Positive	8	22,9	33	94,3
Negative	27	77,1	2	5,7
Total	35	100	35	100

Table 1.5
Results of Knowledge Variable Analysis Using the Demonstration Method

Variable	Implementation	N	P-Value
Knowledge	Before	35	0,001
	After	35	

Table 1.6
Results of Knowledge Variable Analysis Using the Lecture Method

Variable	Implementation	N	P-Value
Knowledge	Before	35	0,001
	After	35	

Table 1.7
Results of Analysis of Attitude Variables Using the Demonstration Method

Variable	Implementation	N	P-Value
Attitude	Before	35	0,000
	After	35	

Table 1.8
Results of Analysis of Attitude Variables Using the Lecture Method

Variable	Implementation	N	P-Value
Attitude	Before	35	0,000
	After	35	

Table 1.9
Differences in Knowledge Level Variables

Variable	Kelompok	N	P-Value
Knowledge	Lecture Method	35	0,015
	Demonstration Method	35	

Table 1.10
Differences in Attitude Variables

Variable	Kelompok	N	P-Value
Attitude	Lecture Method	35	0,491
	Demonstration Method	35	

Based on table 1.1, before being given health education about BSE using the demonstration method on the knowledge variable, there were 20 (57.1%) respondents with good knowledge and after being given health education there were 34 (97.1%).

Based on table 1.2, before being given health education about BSE using the lecture method on the knowledge variable, there were 10 (28.6%) respondents with good knowledge and after being given health education there were 25 (71.4%).

Based on table 1.3, before being given health education about BSE using the demonstration method on the attitude variable, 35 (100%) respondents had a negative attitude towards BSE and after being given health education, 34 (97.1%) respondents had a positive attitude towards BSE.

Based on table 1.4, before being given health education about BSE using the lecture method on the attitude variable, there were 8 (22.9%) respondents with a positive attitude towards BSE and after being given health education there was an increase of 33 (94.3%) respondents with a positive attitude towards BSE.

Based on table 1.5, the knowledge variable before and after being given health education about BSE using the demonstration method showed a p-value of 0.001. The results of statistical tests using the Wilcoxon test concluded that the p-value was <0.05, so there was a difference in the level of knowledge of young women in providing BSE health education using the demonstration method.

Based on table 1.6, the knowledge variable before and after being given health education about BSE using the lecture method obtained a p-value of 0.001. The results of statistical tests using the Wilcoxon test concluded that the p-value was <0.05, so there was a difference in the level of knowledge of young women in providing BSE health education using the lecture method.

Based on table 1.7, the attitude variable before and after being given health education about BSE using the demonstration method showed a p-value of 0.000, so the results of statistical tests using the Wilcoxon test concluded that the p-value was <0.05, so there was a difference in the attitudes of young women towards providing health education with the Demonstration method

Based on table 1.8, the attitude variable before and after being given health education about BSE using the lecture method showed a p-value of 0.000, so the results of statistical tests using the Wilcoxon test concluded that the p-value was <0.05, so there was a difference in the attitudes of young women towards providing health education. REALIZE using the lecture method.

Based on table 1.9, the results of the Wilcoxon test can be seen that there is a difference in the level of knowledge in the use of lecture and demonstration methods for breast self-examination (BSE) with a p-value of 0.015 > 0.05, so the research results can be concluded that there is no significant difference in the level of knowledge in use of lecture and demonstration methods for BSE.

Based on table 1.10, the results of the Wilcoxon test on the attitude variables of the lecture method and demonstration method groups showed that the p-value was 0.491 > 0.05, so there was no significant difference in attitudes regarding the use of the lecture and demonstration methods towards BSE.

Knowledge level of young women before and after being given BSE health education using the demonstration method

Based on the knowledge variable category before being given BSE health education using the demonstration method to 35 respondents, there were 20 (57.1%) respondents with good knowledge and after being given health education there were 34 (97.1%) respondents. based on the distribution of items before being given health education about BSE using the demonstration method, the statement that was answered most incorrectly or reflected the respondent's lack of knowledge was statement number 14 regarding the tools used by BSE, namely 18 (51.4%) respondents and after being given health education with the demonstration method, 30 (85.7%) respondents answered correctly or reflected the respondent's level of knowledge as good.

Based on the results of research using the Wilcoxon test, it can be concluded that there is a difference in the level of knowledge of adolescent girls in providing health education about BSE using the demonstration method with a p-value of 0.001 (<0.05) so that the alternative hypothesis is accepted, namely providing health education using the demonstration method about BSE has an effect on increase the level of knowledge of young women.

Supported by research results [17] stated that there were differences in the level of knowledge of respondents before and after being given an explanation of BSE using the demonstration method. Similar research conducted [18] showed that the demonstration method regarding BSE influenced the level of knowledge of respondents before and after being given health education. The choice of health education method depends on

several factors, namely the characteristics of the target or respondents (number, socio-economic, age, gender), the time and place available and the specific goals to be achieved with health education such as changes in the level of knowledge and attitudes of respondents. The demonstration method is one of the methods used in health education that is appropriate to the development stages of adolescents. The demonstration method triggers young women to deepen their knowledge because the health education process is more interesting, easy for young women to understand, and can stimulate respondents to actively observe and adjust theory to reality.

Level of knowledge of young women before and after being given BSE health education using the lecture method

Based on the knowledge variable category before being given BSE health education using the lecture method to 35 respondents, there were 10 (28.6%) respondents with good knowledge and after being given health education there were 25 (71.4%) respondents. Based on the distribution of items, the statement most often answered incorrectly or reflects the respondent's lack of knowledge, namely statement number 10 regarding the time of implementing BSE, namely 9 (25.7%) respondents and after being given health education using the lecture method it was 33 (94.3%) the respondent answered correctly or reflected the respondent's level of knowledge as good

Based on the results of research using the Wilcoxon test, it can be concluded that there is a difference in the level of knowledge of adolescent girls in providing health education about BSE using the demonstration method with a p-value of 0.001 (<0.05) so that the alternative hypothesis is accepted, namely providing health education using the demonstration method about BSE has an effect on increase the level of knowledge of young women.

Supported by research conducted [19] stated that providing health education using the lecture method was able to increase respondents' knowledge. A person's knowledge will increase if they often receive information. The lecture method is very easy to use in providing information through BSE health education for targets with low and high education. The lecture method is effectively used in target groups with a number of more than 15. The effectiveness of the lecture method is very easy for teenagers to understand in conveying the topic so that there is a change in the respondent's level of knowledge according to the topic given.

Attitudes of young women before and after being given BSE health education using the demonstration method

Based on the attitude variable category before being given BSE health education using the demonstration method to 35 respondents, it was found that all 35 respondents (100%) had a negative attitude towards BSE and after being given health education there was an increase to 34 (97.1%) respondents with a positive attitude towards BSE.

Based on the results of research using the Wilcoxon test, it can be concluded that there are differences in the attitudes of young women towards providing health education about BSE using the demonstration method with a p-value of 0.001 (<0.05) so that the alternative hypothesis is accepted, namely providing health education using the demonstration method about BSE has an effect on improving attitude of young women

Supported by research conducted by [20] shows that the demonstration method is able to influence a person's attitude in implementing health education. The demonstration method is one of the methods used in health education with the aim of changing people's attitudes or actions from not doing it to routinely carrying out health activities as expected or in accordance with the research objectives because the demonstration method presents a procedure so that respondents are able to see directly the steps taken. BSE steps and explanations are complete and systematic.

Attitudes of young women before and after being given BSE health education using the lecture method

Based on the attitude variable category before being given BSE education using the lecture method to 35 respondents, the results showed that 8 (22.9%) respondents had a positive attitude towards BSE, after being given health education there was a difference, namely 33 (94.3%) respondents who had a positive attitude towards BSE. positive towards BSE.

Based on the results of research using the Wilcoxon test, it can be concluded that there are differences in the attitudes of young women towards providing health education about BSE using the lecture method with a p-value of 0.001 (<0.05) so that the alternative hypothesis is accepted, namely providing health education using the lecture method about BSE has an effect on improving attitude of young women.

This has been proven that the lecture method is able to change a person's attitude, proven by research conducted by [21] that health education using the lecture method about BSE given early to

teenagers will make it easier for teenagers to achieve a positive attitude towards BSE. The lecture method is a method of oral and easy health education delivered by the speaker in accordance with the research objectives. With good knowledge after being given health education through the lecture method, it will influence respondents' attitudes in carrying out BSE.

Differences in the level of knowledge in the use of lecture and demonstration methods for breast self-examination (BSE)

To find out the difference in the level of knowledge in the use of lecture and demonstration methods, the Wilcoxon test was carried out because the p-value was 0.015 > 0.05, so it can be concluded that the hypothesis was rejected, which means there is no significant difference in the level of knowledge in the use of the lecture and demonstration method in breast self-examination (BSE). .

The lecture method is a method used in health education with a target group of more than 15 which is delivered by the speaker to a group of people orally with a topic of discussion according to the objectives. The demonstration method is a method that provides examples of the flow of activities with the help of visual aids in accordance with the research objectives so that respondents understand more correctly [22].

The lecture method and demonstration method have an effective influence in achieving increasing a person's level of knowledge, especially about BSE. In accordance with research conducted by [23] that health education about BSE will increase awareness of early detection of breast cancer. The better knowledge a person has, the more positive steps they will take in carrying out breast self-examination regularly.

Differences in attitudes towards the use of demonstration methods and lecture methods towards breast self-examination (BSE)

Based on the research, it is known that there are differences in attitudes regarding the use of the demonstration method and the lecture method, this is shown by the p-value of 0.491 > 0.05 in the Wilcoxon test so it can be concluded that there is no significant difference in attitudes towards the use of the demonstration method and the lecture method towards breast examination. yourself (BE AWARE).

A person's knowledge and attitudes are related to each other. Insufficient knowledge about BSE will have a negative impact on attitudes towards carrying out BSE regularly. Therefore, health education is needed to increase a person's level of knowledge by achieving a positive attitude towards BSE. Supported by research conducted by [24] that the demonstration method is one of the methods that is easier to use in health education to show understanding, ideas and procedures for something that has been prepared to show how to carry out that action. Meanwhile, the lecture method is also very effective in health education because respondents receive explanations that have never been presented before

Conclusion

Based on the results of research entitled "Effectiveness of Breast Self-Examination Health Education (BSE) Using Demonstrations and Lectures on the Level of Knowledge and Attitudes of Adolescent Girls at SMAN 1 Driyorejo" with the Wilcoxon test presented, it can be concluded that there are differences in the level of knowledge of adolescent girls regarding examinations. breast self-examination (BSE) at SMA Negeri 1 Driyorejo before and after being given health education using the demonstration method, the statistical test results showed a p-value of 0.001 < α (0.05). The lecture method was effectively used in health education regarding breast self-examination (BSE). At SMA Negeri 1 Driyorejo, research results showed that there were differences in the level of knowledge of young women before and after being given health education with statistical test results of a p-value of 0.0001 < α (0.05).

Future researchers are expected to research further regarding health education methods and examine factors that influence the behavior of young women in carrying out BSE, especially regarding breast self-examination (BSE) as an early detection of breast cancer.

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The Effect of Reflexology on Blood Pressure in Pregnant Women with Hypertension

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ABSTRACT

Nearly 95% of all maternal deaths occurred in low and lower-middle-class countries in 2020, and most were preventable. The direct causes of maternal death were 33.07% of hypertension disorders, 27.03% of obstetric bleeding, 15.7% of non-obstetric complications, 12.04% of other obstetric complications, 6.06% of infections in pregnancy, and 4.81% of other causes. This study aimed to explore the effect of reflexology on blood pressure in pregnant mothers with hypertension. A quasi-experimental design with a non-randomized pretest-posttest design was carried out in this study. The results showed that there was a statistically significant difference in the systolic blood pressure of hypertensive pregnant women before (147.30 ± 16,458) and after (130.55 ± 14,095) given reflexology massage therapy (p-value = 0.0001 (α < 0.05); with a difference in pressure reduction up to 16.75 mmHg). In line with systolic blood pressure, Table 3 also shows that there is a statistically significant difference in the diastolic blood pressure of hypertensive pregnant women before (90.75 ± 8.571) and after (82.05 ± 8.912) given reflexology massage therapy (p-value = 0.001 (α < 0.05); with a difference in pressure drop of up to 8.7 mmHg). Reflexology massage can be used as an alternative solution to lower blood pressure in pregnant women with hypertension. However, further research needs to be done on how reflexology massage can be applied properly to pregnant women to determine its impact on the mother and unborn baby.
Keywords: Hypertension, Reflexology; Pregnant

Introduction

The maternal mortality rate is very high. Approximately 287,000 women died during and after pregnancy and childbirth in 2020. Nearly 95% of all maternal deaths occurred in low and lower-middle-income countries in 2020, and the majority were preventable[1].

The Maternal Mortality Rate (MMR) is still in the range of 305 per 1000 Live Births (KH) to 183 per 1000 KH in 2024[2]. MMR in Indonesia in 2017 was 177 deaths per 100,000 live births. MMR in Indonesia has experienced a gradual decline from 207 per 100,000 live births in 2013 to 177 per 100,000 live births in 2017[3]. Data in Indonesia shows a gradual decreasing trend but has not yet reached the SDGs target of less than 70 per 100,000 live births[4]. Research and development of science in the health sector is very necessary in sustainable efforts to reduce MMR combined with scientific research.

The direct causes of maternal death were 33.07% of hypertension, 27.03% of obstetric bleeding, 15.7% of non-obstetric complications, 12.04% of other obstetric complications, 6.06% of infection during pregnancy and 4.81% of other causes[5]. This cause of maternal death shows that maternal death can be prevented if service coverage is accompanied by good service quality[1].

Hypertensive disorders of pregnancy, including chronic hypertension, with or without preeclampsia/eclampsia, gestational hypertension, HELLP syndrome, preeclampsia with or without severe symptoms, or eclampsia pose a significant risk of morbidity for the mother and fetus. Although appropriate prenatal care with close observation to detect signs of preeclampsia and prompt delivery to reduce or avoid side effects have resulted in reduced morbidity and mortality, it still persists. Although hypertension itself is a cause for concern during pregnancy, the adverse effects of progression to preeclampsia/eclampsia are a major concern[6]–[8].

Preeclampsia prevention can be done primary, secondary or tertiary. Primary prevention includes avoiding pregnancy in women at high risk of developing PE, changing lifestyle or increasing nutritional intake in the entire population to reduce the incidence of this disease. Therefore, it is likely that most cases of PE cannot be prevented. Secondary prevention is based on stopping the known pathophysiological mechanisms of the disease before the onset of the disease. Current efforts focus on selecting high-risk women and proposing effective interventions, as early as possible, to avoid the disease or its severe complications. Tertiary prevention relies on the use of treatment to avoid complications of PE. Magnesium sulfate, for example, is the drug of choice to reduce eclampsia rates, but at least 71 women need to be treated to prevent one case of eclampsia. Therefore, tertiary prevention may be difficult to achieve without exposing many people to potentially unnecessary risks. In light of the above, this paper aims to review the current evidence regarding primary and secondary prevention of preeclampsia[9].

Although there are various pharmacological treatment options for this condition, many patients fail to comply, making non-pharmacological options an attractive alternative. Foot reflexology massage has been proven to reduce blood pressure (BP). A randomized clinical trial was conducted to test the effectiveness of foot reflexology massage in reducing blood pressure and heart rate (HR). The result is that foot reflexology massage is effective in reducing heart rate in stage-2 HT patients and is partially effective in reducing blood pressure[10].

Another study conducted in Bali showed that the average difference in blood pressure before and after foot reflexology intervention in the treatment group was 10.39 mmHg and the average difference in the control group was 0.94 mmHg (p-value of 0.000 ($p < 0.05$)). So it can be concluded that there is an effect of foot reflexology massage on blood pressure in hypertension sufferers[11]. The results of other studies showed a decrease in systolic blood pressure by 24.54 mmHg and diastolic blood pressure by 9.75 mmHg after foot reflexology massage[12]. This study aimed to analyze the effectiveness of reflexology therapy on the blood pressure of pregnant women.

Methods

The type of research carried out was quasi-experimental with a non-randomized pretest-posttest design. The population in this study were all pregnant women with a gestational age of 24 – 42 weeks at the Sei Durian Community Health Center, Kubu Raya Regency who had systolic blood pressure ≥120 mmHg and/or diastole ≥80 mmHg. The research was conducted in June 2020 – January 2021. The number of samples used in this research was 20 respondents. Blood pressure is measured using a digital blood pressure meter.

The inclusion criteria in this study were a history of pregnancy hypertension, no history of infectious/chronic diseases, second and third trimester pregnant women, primary and multiple pregnant women and no anemia. Meanwhile, pregnant women with a history of malaria, history of abortion, history of essential hypertension and history of placental abruption were excluded from this study. To guarantee the rights and obligations of researchers and respondents, this research has received ethical approval from the Health Research Ethics Commission (KEPK) of the Pontianak Ministry of Health Polytechnic No. 024/KEPK-PK.PKP/II/2021.

The collected data was analyzed using the SPSS application to compare the average systolic and diastolic blood pressure before and after reflexology massage.

Results and Discussion

Table 1.
Characteristics of Respondents

Characteristics	n	%
Age (years old)		
<20 dan >35	16	80
20 – 35	4	20
Parity		
Primigravida	6	30
Multigravida	9	45
Grande multigravida	5	25
Gestational Age		
Trimester II	6	30
Trimester III	14	70

Table 2.
Difference in average systolic blood pressure of pregnant women before and after reflexology massage

Sistole	Mean±SD	Median	Min	Max	p-value
Before	147.30±16.458	140.00	139	191	0.0001*
After	130.55±14.095	130.00	105	171	

*Uji *Wilcoxon*

Table 3.
The difference in average diastolic blood pressure of pregnant women before and after a reflexology massage

Diastole	Mean±SD	Median	Min	Max	p-value
Before	90.75±8.571	90.00	78	113	0.0001*
After	82.05±8.912	80.00	69	106	

*Uji *Wilcoxon*

Based on Table 1, it shows that the majority of respondents were <20 and >35 years old (80%), multigravida (45%), and gestational age in the third trimester (70%). Many researchers have identified young age as a risk factor for hypertension during pregnancy, as was the case in this study. Other studies report that higher age is also an important risk factor for hypertension in pregnancy, especially in developing countries. In a study reported in 2011, women who had at least two previous births represented 15.1% vs. 13% when comparing hypertensive and non-hypertensive women. Previous research found multiparity as a risk factor for hypertension in pregnancy but reported an increased risk in nulliparous women having different partners[13].

Based on Table 2, it can be seen that there is a statistically significant difference in the systolic blood pressure of hypertensive pregnant women before (147.30 ± 16,458) and after (130.55 ± 14,095) given reflexology massage therapy (p-value = 0.0001 ($\alpha < 0.05$); with a difference pressure drop up to 16.75 mmHg). In line with systolic blood pressure, Table 3 also shows that there is a statistically significant difference in the diastolic blood pressure of hypertensive pregnant women before (90.75 ± 8.571) and after (82.05 ± 8.912) given reflexology massage therapy (p-value = 0.001 ($\alpha < 0.05$); with a pressure drop difference of up to 8.7 mmHg).

This study has results that are in accordance with previous research which showed a significant difference in blood pressure reduction in pregnant women with preeclampsia after foot massage treatment. The treatment group showed that there was a significant difference in mean systolic blood pressure between the pre-test and post-test on the seventh to the twelfth day ($p < 0.05$). Meanwhile, a significant difference in mean diastolic blood pressure between pre-test and post-test was found in the eighth to twelfth treatment period ($p < 0.05$)[14].

A study reported in Egypt in 2016 showed that there was a statistically significant reduction in systolic blood pressure, diastolic blood pressure, and edema volume in the treatment and control groups after 6 weeks of treatment. In addition, there were statistically significant differences between

the two groups after treatment in systolic blood pressure, diastolic blood pressure, and edema volume, which were more decreased in the reflexology group[15].

The results of other research showed that there was a decrease in systolic blood pressure in experimental group patients by 6.29 mmHg and a decrease in diastolic blood pressure by 3.44 mmHg. The statistical test results showed a significant decrease in the experimental group with a p-value of 0.000 ($p<0.05$). The results of this study show that foot reflexology massage therapy can reduce the patient's blood pressure even though the patient is still in the hypertension category[16].

Reflexology is a specialist massage where controlled pressure is applied to specific points, known as reflexes, mainly on the feet, but also on the ears, face, hands and back. Each reflex is believed to be associated with a particular body structure or organ. By applying pressure to these points, the reflexologist aims to improve homeostasis and, as a result, restore and maintain physiological and psychological health and well-being. The exact mechanism of action of reflexology is unknown; Currently, modulation of the autonomic nervous system and release of endorphins after reflexology are the most popular hypotheses. However, due to the lack of a model underlying the theory and physiology of reflexology, many health professionals continue to question its credibility. Nevertheless, increasing evidence suggests that stimulation of certain reflexes can activate the relevant parts of the brain. Reflexology may be a valuable tool as studies have reported positive effects on quality of life, stress levels, and pain levels[17].

Conclusion

Reflexology massage is effective for reducing systolic and diastolic blood pressure in pregnant women with hypertension. Reflexology massage can be used as an alternative solution to lower blood pressure in pregnant women with hypertension. However, further studies need to be carried out on how reflexology massage can be applied properly to pregnant women to determine its impact on the mother and unborn baby.

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The Effectiveness of 'Cermati' Media (Intelligent Measuring Anthropometry) to Increase Knowledge and Skills of Cadres in Stunting Screening

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ABSTRACT

Stunting is still a problem in Indonesia. In 2022, the stunting rate will still be high, namely 21.6%, with the expected national target in 2024 being 14%. The lack of understanding and skills of cadres in anthropometric measurements causes many of the results of weighing, data collection and recording of stunting detection to be inaccurate. The purpose of this study was to determine the effect of 'cermati' media (intelligent measuring anthropometry) to increase knowledge and skills of cadres in stunting screening. The research design was a quasi-experimental design with a pre-posttest with control group design conducted in Blora Regency from June to August 2023. The instrument used is a questionnaire. The population in this study were all cadres in Blora Regency. The sample in this study were 26 experimental respondents and 26 control respondents. Data analysis used the independent t-test. The results showed that there was an effect of the 'cermati' media (intelligent measuring anthropometry) to increase knowledge (p-value 0.000) and skills of cadres in stunting screening (p-value 0.000). Thus, the 'cermati' media (intelligent measuring anthropometry) can be used as an effort to increase knowledge and skills of cadres in stunting screening.
Keywords: media; knowledge; skill; cadre; stunting

Introduction

Progress has been made worldwide in reducing rates of linear growth stunting in children under 5 years of age, although rates remain high in many regions [1]. Based on the results of the Indonesian Nutrition Status Survey (SSGI), the stunting rate in Indonesia in 2022 is still high, namely 21.6%, with the expected national target in 2024 being 14% [2]. In 2018, 100 districts in 34 provinces were designated as priority locations for reducing stunting. One hundred priority districts or cities for stunting intervention in Central Java include Blora District [3]. Based on SSGI data for 2022, the prevalence of stunted toddlers in Blora Regency is still relatively high, namely 25.8%[2].

In efforts to prevent stunting cases, valid data is needed regarding the condition of toddlers, especially when collecting data at posyandu. The lack of understanding and skills of posyandu cadres in anthropometric measurements causes many weighing results, data collection and recording of stunting incident detection to be inaccurate. [3][4].

The results of inaccurate processing of data and information about stunting not only affect the performance of nutrition officers, but also impact decision making and nutrition interventions that do not comply with established Standard Operating Procedures (SOP). Another impact is influencing the performance and quality of health services at community health centers as the spearhead of implementing stunting programs at the district or city level. Apart from that, the formation of negative stigma for families in society is also the impact of errors in informing mothers whose children are detected as stunting [3].

Child anthropometric standards are used to assess or determine a child's nutritional status. Assessment of children's nutritional status is carried out by comparing the results of measurements of body weight and length or height with Children's Anthropometric Standards [5]. Stunting can be diagnosed through the anthropometric index of body length (PB/U) or height (TB/U) according to

age compared with the WHO-MGRS (Multicentre Growth Reference Study) standard with a z-score value of less than -2SD or standard deviation (stunted) and less than -3SD (severely stunted) [6]. This anthropometric measurement is one method of measurement that can be carried out by parties other than health workers, such as cadres [7].

The involvement of cadres in implementing the stunting program is in line with the pillar of handling stunting in Indonesia in point 3, namely convergence, coordination and consolidation of national, regional and community programs. Mentioned in PDTT Ministerial Decree No. 19 of 2017 in point 9, namely the implementation and empowerment of the community in health promotion and sub-districts [8]. However, the government's hopes of obtaining accurate data from the results of growth monitoring at posyandu are hampered by the low knowledge and skills of posyandu cadres in carrying out anthropometric measurements [9].

Posyandu cadres are volunteers and not all of them are specifically trained in anthropometric measurements. There is a significant difference in the accuracy of children's body length and stunting status of children under two years old as measured by cadres and health workers. Body length measurements made by cadres are less accurate than health workers [10]. Based on the research results, it is known that the level of knowledge of health cadres in terms of anthropometric measurements is still lacking [8]. Cadre skills are still lacking, especially in measuring the length or height of toddlers [11]. Several things that have not been done correctly include improper installation of the microtoice, incorrect positioning of the toddler when being measured [12].

Cadres' knowledge and actions in assessing and monitoring the growth of toddlers can be improved through training [13]. So far, cadres have received basic and refresher training regarding service activities at Posyandu using a conventional approach, namely training given through lectures and questions and answers by trainers. One of the weaknesses of conventional methods is that they only increase knowledge, but do not improve the skills of trainees. The methods used in training must be appropriate to the problems, situations and conditions of the trainees, so that cadres' skills in anthropometric measurements can increase [14].

There is a relationship between the level of cadre knowledge about anthropometric measurements and their skills in measuring toddler growth. Skilled respondents have a high level of knowledge with a percentage (88.5%)[15]. To determine nutritional status, cadres and parents must have knowledge of the z-score method to compare the nutritional status of toddlers with anthropometric data. However, cadres and parents who do not have this knowledge will experience difficulties in calculating and knowing the results.

Training activities to measure the nutritional status of toddlers using anthropometry have increased knowledge among mothers and participants supported by participant skills through training and simulation methods which can make a positive contribution in reducing and preventing cases of stunting. [16]. Using the Healthy Towards Card (KMS) is very easy to use as a height measurement tool. However, there are some assessments that are considered difficult, such as reading the growth curve according to gender, determining the month and reading the child's height [17].

Smart media for measuring anthropometry is a booklet media that is equipped with wall-mounted nutritional circle visual aids. This booklet consists of 5 chapters, namely toddlers, nutritional status, stunting, anthropometric measurements, wall-observed nutrition circle manual book. Wall-observed nutritional circle is a tool stunting screening demonstration from anthropometric table conversion based on Minister of Health Regulation (PMK) number 2 of 2020 in the form of a rotating circle attached to the wall of the posyandu, so that interpretation of measurement results can be carried out directly by cadres and mothers of toddlers for female toddlers aged 0-24 months, 25-60 months, and two red variants for male toddlers aged 0-24 months, 25-60 months. By conducting training for health cadres regarding anthropometric assessments, it is hoped that measurement errors can be minimized so that the results can be achieved accurate data in carrying out stunting screening. The aim of this research is to determine the effectiveness of monitoring media (smart anthropometric measurements) to increase cadres' knowledge and skills in carrying out stunting screening.

Methods

This research is a quasi-experimental research with a pre-post control group design. The research was conducted in Blora Regency in June-August 2023. The population in this study was all health cadres in Blora Regency. The sample in this study was health cadres with inclusion criteria: 1) Have never attended anthropometry training; 2) Can read and write 3) Willing to be a respondent. The exclusion criteria in this study are: 1) Respondents who withdrew. The side technique used was purposive sampling with a sample size of 52

respondents consisting of 26 control groups and 26 treatment groups.

The independent variable in this research is media monitoring and the dependent variable is the level of knowledge and skills of cadres in carrying out stunting screening. In the control group, the training was carried out using the lecture method, while in the treatment group the training was carried out using the lecture method and careful media (smart anthropometric measurements), namely a close look booklet with a wall nutrition circle visual aid. The initial condition of the subjects between the treatment group and the control group needs to be compared to determine the homogeneity of the subjects using the Levene's test. The data normality test used Kolmogorov-Smirnov and research data analysis used the independent t-test. This research has received ethical approval by the Semarang Ministry of Health Polytechnic Ethics Commission. 1076/EA/KEPK/2023.

Results and Discussion

Table 1.
Characteristics of Respondents

Characteristics of Respondents	Control group (n=26)		Treatment group (n=26)	
	f	%	f	%
Age				
<20 years	1	3.85	2	7.69
20-35 years	10	38.46	7	26.92
>35 years	15	57.69	17	65.38
Education				
Elementary school	2	7.69	7	26.92
Junior high school	17	65.38	10	38.46
Senior High School	7	26.92	9	34.62
Occupation				
Yes	15	57.69	19	73.08
No	11	42.31	7	26.92
Long time as a cadre				
≤3 years	7	26.92	5	19.23
>3 years	19	73.08	21	80.77

Table 2.
Test of Changes in Knowledge Scores Before and After Treatment

Knowledge	Control group			Treatment group			P
	Min	Maks	Average ± SD	Min	Maks	Average ± SD	
Pretest	35	65	50.58 ±9.932	25	75	51.92 ±13.934	p=0.000[b]
Posttest	50	75	62.12 ±7.372	65	100	84.04 ±8.369	p=0.000[b]
Δ knowledge scor	0	35	11.540 ±9.462	15	65	32.120 ±14.295	p=0.000[b]
P	p=0,000[a]			p=0,000[a]			

Notes :
a = paired t-test
b = independent t-test

Table 3.
Test of Changes in Skill Scores Before and After Treatment

Skills	Control group			Treatment group			P
	Min	Maks	Average ± SD	Min	Maks	Average ± SD	
Pretest	10	60	42.69 ±11.852	10	70	41.54 ±14.613	p=0.000[b]
Posttest	50	70	60.77 ±7.961	70	100	86.15 ±10.228	p=0.000[b]
Δ skills scor	0	50	18.080 ±11.668	20	70	44.62 ±13.923	p=0.000[b]
P	p=0,000[a]			p=0,000[a]			

Notes:
a = paired t-test
b = independent t-test

Respondents in this study were 52 people, consisting of 26 people in the intervention group and 26 people in the control group with characteristics as shown in table 1 below.

Based on table 1, it is known that the majority of respondents' age was >35 years, namely 15 people in the control group (57.69%) and 17 people in the treatment group (65.38%). Most of the respondents' education was junior high school, namely in the control group there were 17 people (65.38%) and in the treatment group there were 10 people (38.46%). Most of the respondents worked, namely in the control group as many as 15 people (57.69%) and in the treatment group as many as 19 people (73.08%). Most of the respondents had been cadres > 3 years, namely in the control group 19 people (73.08%) and in the treatment group 21 people (80.77%).

The initial condition of the subjects between the treatment group and the control group needs to be compared to determine the homogeneity of the subjects between the two groups. The distribution table of subject characteristics shows that there are no differences in age, education, employment, length of time as a cadre between the control group and the treatment group. Based on the test of homogeneity of variance, the Sig value is known. 0.128>0.05, so it can be concluded that the variance of the control group and treatment group data is the same or homogeneous.

The data normality test used in this research was using Kolmogorov-Smirnov, with an Asiymp.Sig (2-tailed) value of 0.200 > 0.05, so it can be concluded that the data is normally distributed. Test data analysis using parametric tests. Data analysis to determine changes in knowledge levels before and after treatment in the control and treatment groups can be seen in table 2 below.

Based on table 2, it can be seen that training using careful media (smart anthropometric measurements), namely the careful booklet with the wall-looking nutritional circle props, is statistically significant in increasing the knowledge level score in the treatment group, namely p0.000<0.05. An increase in knowledge scores also occurred in the control group at posttest, namely p 0.000 <0.05. Based on the difference in pre-test and post-test knowledge level scores in the control and treatment groups using an independent t-test, the result was p of 0.000 < 0.05 so that Ha was accepted and H0 was rejected, there was a significant difference with better results in the treatment group. This means that scrutinizing media is effective in increasing knowledge. Data analysis to determine changes in skills before and after treatment in the control and treatment groups can be seen in table 3 below.

Based on table 3, it can be seen that the media for observing (smart anthropometric measurements), namely the observing booklet with the wall-observing nutritional circle props, is statistically significant in increasing the skill score in the treatment group, namely p 0.000 < 0.05. An increase in stunting screening skills scores also occurred in the control group at post-test, namely p 0.000 < 0.05. Based on the difference in pretest and posttest practice scores in the control and treatment groups using the independent t-test, the result was a p value of 0.000 < 0.05 so that Ha was accepted and H0 was rejected. This means that media monitoring is effective in improving cadres' skills in stunting screening.

Health cadres are people who are selected, willing, able, and have the time and concern for basic social services for the community. Therefore,

training for Posyandu cadres is an effort to increase the capacity and abilities of health cadres [18]. If cadres are not active, the implementation of posyandu can be hampered, as a result, abnormalities in the nutritional status of babies and toddlers cannot be discovered clearly early. Good knowledge and a positive attitude will produce good service. The attitude of cadres in posyandu services shows a positive attitude and will be responsible in carrying out their duties to improve the level of public health [8]

There was a significant difference in the level of knowledge of posyandu cadres before and after being given the intervention. The results of this research are in line with other research that anthropometric training for cadres can increase knowledge [19], attitudes and skills of health cadres regarding early detection and risk factors for stunting [20].

Posyandu cadres' knowledge is related to the precision and accuracy of the results of weighing toddlers. Respondents who have good knowledge have a good level of accuracy of 50% and respondents who have a poor level of knowledge have an accuracy level of 15%[21].

Knowledge comes from the word "know", in the Big Indonesian Dictionary the word knows means, among other things, understanding after seeing (witnessing, experiencing, etc.), knowing and understanding. The knowledge possessed by humans is the result of the efforts they make in searching for the truth or problem they face [22]. Knowledge is everything that is known based on human experience itself and knowledge will increase according to the process of experience that one experiences. According to Bloom, knowledge is the result of knowing, and this occurs after people sense a particular object. Sensing occurs through the five human senses, namely the senses of sight, hearing, smell, taste and touch. Most human knowledge is acquired through the eyes and ears. Knowledge is a very important domain in shaping a person's actions (overt behavior).[23]. Behavior that is based on knowledge will be more lasting than behavior that is not based on knowledge [24].

Training is a short-term education to teach the knowledge, expertise and skills needed to carry out their duties and obligations, thereby contributing to the agency through the skills they have acquired and applied in their work and continuously improving the quality of their work. [25]. The term training in the Big Indonesian Dictionary means process, method, act of training or training work. Furthermore, Syihabuddin Qalyubi, et al explained that training is an effort to develop human resources in an organization [26].

Training using careful media (smart anthropometric measurements) is effective in improving cadres' skills in stunting screening. Observation media is a booklet media which is equipped with a nutrition circle display on the observation wall. The observance booklet consists of 5 chapters, namely toddlers, nutritional status, stunting, anthropometric measurements, nutrition circle wall manual book observance.

The observation wall nutrition circle is a stunting screening demonstration tool from the conversion of anthropometric tables based on Minister of Health Regulation number 2 of 2020 in the form of a rotating circle attached to the wall of the posyandu, so that interpretation of measurement results can be carried out directly by cadres and mothers of toddlers quickly, precisely and accurate. The results of the nutritional status category based on body length index or height according to age (PB/U or TB/U) consist of 4 categories, namely very short (severely stunted), short (stunted), normal, and tall. The wall nutrition circle has four variations, namely two white variants for female toddlers aged 0-24 months, 25-60 months, and two red variants for male toddlers aged 0-24 months, 24-60 months.

Empowering cadres through stunting detection and prevention education can meet expectations and is quite effective in encouraging cadres in the community[21]. The role and function of health cadres need to be improved in efforts to prevent and early detect stunting by providing ongoing guidance, stunting prevention training and giving awards[22].

Conclusion

The results of the research were that the media for observing (smartly measuring anthropometry), namely the observing booklet with the nutritional wall circle visual aids, was effective in increasing knowledge ($p0.000 < 0.05$), and effectively increasing skills ($p0.000 < 0.05$). Thus, observation media can be used as a medium to increase knowledge and skills in stunting screening.

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Breaking the Cycle of Stunting: Development and Validation of Bunda Usir Stunting (Busita) Module and Media to Early Detection of Infant Stunting

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ABSTRACT

The prevalence of stunting in Indonesia is 24.4%, which is higher than the WHO average of 20%. One of the efforts that can be made to reduce stunting rates is the early detection of stunting in infants. An interactive e-booklet media called Busita was developed to provide practical early detection tools. The aim was to develop an interactive electronic booklet that provides content from the Busita module. The research method used in this study was Research and Development (R&D). Validity testing was conducted using a group of Subject Matter Experts (SMEs), determined by the Content Validity Ratio (CVR) and Content Validity Index (CVI), and the USE Questionnaire for the media validated by five experts. The Busita module contains all essential materials inside, as proven by CVR and CVI values between 0 and 1, with an average of 0.8, which can be interpreted as very good and important. The interactive e-booklet Busita media obtained a feasibility assessment through expert validation with an average score of 84.09, covering four aspects of assessment: usefulness, ease of use, ease of learning, and satisfaction. This research also involved five cadres in a pilot study, and the results of the dependent t-test showed a p-value of <0.05. The module and the media have been shown to measure knowledge, attitude, and practice in the early detection of infant stunting.
Keywords: stunting; validity; media; module

Introduction

Stunting is the percentage of children aged 0 - 59 months with a height below minus two (moderate and severe stunting) and minus three (chronic stunting) as measured using WHO child growth standards. Stunting can be prevented with adequate nutritional intake, especially in the First 1000 Days of Life [1]. According to data from the Indonesian Nutrition Status Survey (SSGI), Indonesia has a stunting prevalence of 24.4%, this figure is still higher than Vietnam, Malaysia and Thailand [2]. According to WHO standards, an area is considered chronic if the prevalence is above 20% [3]. Central Java is 1 of 12 provinces in Indonesia with the highest prevalence of stunting in Indonesia. There are 19 districts or cities in Central Java that have a prevalence of stunting cases between 20% and 30% percent with the total cases according to the Indonesian Nutrition Status Study (SSGI) in 2021 being 20.9%[4]. According to data from the 2021 Indonesian Nutrition Status released by the Ministry of Health, it is stated that the prevalence of stunted toddlers in Semarang City is 21.3% [5].

Many efforts have been made to reduce the prevalence of stunting cases in Indonesia, such as the TPPS program carried out by the national government, RAN Pasti by Central Java, and Si Bening by the City of Semarang. The programs that currently exist focus more on toddlers who are already experiencing stunting, whereas, one very important effort to help make the program successful is through early detection which is monitored from the beginning of the baby's growth period through monitoring growth and development and providing correct nutrition at the time of birth. First 1000 Days of Life (HPK) [6] [7] [8]. Early detection efforts are generally carried out by health workers and health cadres who have undergone

training during examinations at posyandu. Proper and immediate early detection can help parents provide appropriate treatment and care.

Previous research in North Semarang District showed that only 30% of cadres had correct knowledge about early detection of stunting and recording baby development. [9]. Health cadres as the spearhead of health in the community must of course be given adequate supplies so they can provide services according to needs [10]. One of the factors that influences stunting is knowledge [11]. It is important to increase knowledge about stunting among all levels of society, but health cadres as an extension of health workers must be prioritized. The most important knowledge gained is early detection of stunting in babies who have the potential to experience stunting for health cadres [12].

Providing information to increase knowledge must also be able to adapt to current developments and user flexibility so that it can effectively increase the knowledge of readers [13]. In this digital era, there is a lot of information spread on the internet, but its source and validity cannot always be accounted for. Media is needed that is easy to understand, flexible, effective, and has been validated by experts to increase knowledge.

Many media are created to increase knowledge, attitudes and practices, such as leaflets, booklets, videos and so on. The research results revealed that one of the media that succeeded in increasing the knowledge of breastfeeding mothers was providing modules [14]. Of the many media that already exist, there is no media that has all aspects of audio, visual and interaction in order to increase knowledge, attitudes and practices, especially regarding early detection of stunting in babies. One of the effective and efficient media for increasing health knowledge in the digital era which can contain more than one aspect such as audio, visual and interaction is an interactive e-booklet [15].

Interactive e-booklets are electronic books that contain pictures, videos, graphics which are packaged attractively so they can be studied easily and can be studied anywhere [16]. Apart from providing an interesting and complete presentation, this media can also directly connect with midwives or medical personnel. Questions or information that is unclear can be asked directly so that the information obtained by the user is valid or correct.

Based on this, researchers created interactive e-booklet media in the form of an electronic booklet, Bunda Banishing Stunting, as a new innovation in creating practical early detection media. The e-booklet is declared feasible for implementation at all levels of society in order to reduce the prevalence of stunting rates in Indonesia.

Research Methods

This research is Research and Development which aims to develop a product in the form of an electronic booklet by providing material from the Busita module by utilizing technology that can be accessed via a link or barcode. Research and Development (R&D) research is a research method that aims to discover, develop, improve and produce products which are then tested until a standardized product is produced. Based on the model by Brog and Gall which has been modified by Sugiono, R&D describes the steps or flow of procedures descriptively to produce new products or develop existing products to increase effectiveness and efficiency[17].

This research focuses on developing an interactive e-booklet based on links or barcodes by providing material designed to help cadres detect stunting in babies which is validated by expert judgment as a media suitability test. Testing of this product was carried out by 5 experts consisting of expert lecturers in the field of child health, midwives and cadres as users. Validity testing using a group of Subject Matter Experts (SME) is usually determined by the Content Validity Ratio (CVR) and Content Validity Index (CVI).

This research used 5 cadres as a pilot study using the Dependent t test as data analysis. The research was conducted in February 2023 at the Bangetayu Community Health Center. This research has complied with research ethics rules and has received ethical services issued by the Health Research Ethics Committee of the Health Polytechnic Ministry of Health Semarang with No. 053/EA/KEPK/2023.

Result and Discussion

Table 1.
Penilaian Validator terhadap Butir Pertanyaan

Q-Item*	Validator					
	I	II	III	IV	V	CVR
Q1	3	3	3	3	3	1
Q2	3	3	3	3	3	1
Q3	3	3	3	3	3	1
Q4	3	3	3	3	3	1
Q5	3	2	2	3	3	0,2
Q6	3	3	2	3	3	0,6
Q7	3	3	2	3	3	0,6
Q8	3	3	3	3	3	1
					CVI	**0,8**

* : Question Item

Table 2.
Expert Validation Test Results

Validator	N	*Use-fulness*	*Ease of use*	*Ease of lear-ning*	*Statisfaction*	Total Skor
I	30	45	63	22	39	169
II	30	47	68	24	42	182
III	30	43	58	22	42	164
IV	30	51	65	27	41	185
V	30	51	69	24	41	184
Total		**237**	**323**	**119**	**204**	**883**

Table 3.
Per-Category Expert Validation Test Results

No	Dimes-ion	Questions	Skor Max	Skor Obs-erv	(%)	Mean
1	*Useful-ness*	8	280	237	84,64	5,92
2	*Ease of use*	11	385	323	83,89	5,87
3	*Ease of learn-ing*	4	140	119	85,00	5,95
4	*Statis-faction*	7	245	204	83,26	5,82
	Total	**30**	**1.050**	**883**	**84,09**	**5,88**

Table 4.
Frequency Distribution of Trial Groups

Tingkat	Kelompok Uji Coba	
	Pre test	*Post test*
	F (%)	F (%)
Pengetahuan		
Good	3 (60,0)	5 (100,0)
Enough	2 (40,0)	0 (0,0)
Not enough	0 (0,0)	0 (0,0)
Sikap		
Positive	2 (40,0)	3 (60,0)
Negative	3 (60,0)	2 (40,0)
Praktik		
Good	0 (0,0)	5 (100,0)
Enough	5 (100,0)	0 (0,0)
Not enough	0 (0,0)	0 (0,0)
Total	5 (100,0)	5 (100,0)

Table 5.
Data Analysis of Trial Group Knowledge, Attitudes, and Practices

Tingkat	Kelompok Uji Coba	*p-value**
	Mean ± SD	
Pengetahuan		
Pre test	76,4 ± 3,714	0,002
Post test	92,6 ± 6,730	
Selisih	16,2 ± 5,357	
Sikap		
Pre test	71,2 ± 3,271	0,001
Post test	85,8 ± 3,271	
Selisih	14,6 ± 3,646	
Praktik		
Pre test	68,4 ± 4,722	0,003
Post test	98,6 ± 3,135	
Selisih	24,4 ± 8,734	

* : *Dependent T Test*

The material validation assessment technique was carried out directly using a questionnaire created by the researcher and by creating a product feasibility letter. The instrument uses a 3-point Likert scale: 1 for not necessary, 2 for useful but not essential, and 3 for essential. Then assessments and conclusions are carried out to maintain the material, reconstruct the material, and delete the material. Apart from that, the USE Questionnaire which was adapted by Lund (2001) was also used to test the usability of using the Busita Interactive E-booklet and then the percentage of answers was carried out[18].

The first validation test carried out was a material validation test using the Content Validity Ratio and Content Validity Index. Lawshe's CVR (Content Validity Ratio) is one method that is widely used to measure content validity. This technique was developed by Lawshe (1975) which is basically a method for measuring agreement between raters or judges about the importance of certain items. Consisting of three options, namely 1. essential, 2 useful but not essential, and 3 not necessary. The formula proposed by Lawshe is:

$$CVR = \frac{(\mathrm{ne} - \mathrm{N}/2)}{(\mathrm{N}/2)}$$

Note: ne is the number of panelists who answered "important", N is the number of panelists.
This formula produces values ranging from +1 to -1, a positive value indicates that at least half of the panelists assess the item as important/essential. the greater the CVR from 0, the more important it is and the higher the content validity [19]. The CVI and CVR tables are described by Azwar in Triandini (2021) as follows:

1. Value range - 1 < x < 0 (Not Good Category)
2. Value range x=0 (Good Category)
3. Value range 0 < x < 1 (Very Good Category)

Lawshe also stated that after all the scores are calculated using the CVR equation, the next step is to calculate the product validity index [20].

The CVI formula is with the following equation:

$$CVI = \frac{Number\ of\ CVRs}{Number\ of\ questionnaire\ items}$$

From table 1 the CVR test, it is stated that all the material in the module is of important or essential value as evidenced by CVR and CVI values of 0 < x < 1 or in the very good or important category.

E-booklet feasibility testing is carried out online with 4 validators and 1 validator face to face or offline. This test is carried out to determine the suitability of the product to be tested. This test uses USE Questions which have been validated with a calculated r between 0.747 - 0.854 and reliability with Cronbach alpha of 0.977. From the results of these data it can be concluded that the research instrument with USE Questions is valid and reliable [21].

The validation test was carried out by 5 experts consisting of midwives, cadres, nutritionists, health promotion workers and lecturers in the field of health information. The results of this assessment are divided using the following usability level table :

1. Range <21% (Very Poor)
2. Range 21-40% (Poor)

3. Range 41-60% (Fair)
4. Range 61-80% (Good)
5. Range 81-100% (Excellent)

Filling in these USE Questions uses a 7 point Likert scale. Starting from strongly disagree to strongly agree. The results of the assessment of 5 experts obtained the following results:

From table 2 feasibility measurement uses usability measurements by calculating the maximum scale score and observation score for each question dimension. The number of respondents involved was 5 people with a 7 point Likert scale and the number of valid questions was 30 questions so that it can be calculated using the usability formula as follows:

$$Score_{max} = N\ x\ nbv\ x\ scale_{Max}:$$

$$Score_{observe} = \sum_{k=0}^{N} \sum_{l=0}^{30} scale$$

Information:

N	= Number of Respondents
nbv	= Item Value
scaleMax	= Maximum Scale
scoreMax	= Maximum Score
ScoreObserv	= Observation

Score Using this formula, the number of respondents was 5 people, the maximum score for each item was 7 points. and the number of valid questions is 30.

Scoremax = 5 x 30 x 7

Scoremax = 1.050.

From table 3 the results of measuring the usability of the USE questionnaire shown in table 4.5 show that the usefulness value is 84.64, ease of use is 83.89, ease of learning is 85.00, and statistics is 83.26. The average of all dimensions is 84.09. So it can be concluded that the Busita Interactive e-booklet product that has been developed can be stated by experts to be very suitable for conducting research trials with limited or small-scale populations to measure knowledge, attitudes and practices of early detection of stunting among health cadres. Apart from the assessment scores, researchers also received input or recommendations from validators, as follows:

Health Information: It's good but instructions or tutorials for use need to be added

1. Midwife: Crosscheck writing and adding instructions for using the application.
2. Health Promotion: Underscore that the tools are only for early detection, not for diagnosis of stunting.
3. Nutrition: Added comparison pictures of toddlers with and without stunting.
4. Cadre: It's good but there are some words that need to be improved

After expert validation and obtaining recommendations from the product design results, the researcher took the next step, namely design revision. Based on the results of the experts' recommendations in table 6, the researchers added how to use the e-booklet and illustrations of comparisons of stunting toddlers. After that, researchers will conduct product trials on a small scale to see the effectiveness of the Busita Interactive e-booklet in changing behavior, namely knowledge, attitudes and practices for early detection of stunting among health cadres.

Figure 1.
Revised Expert Recommendations

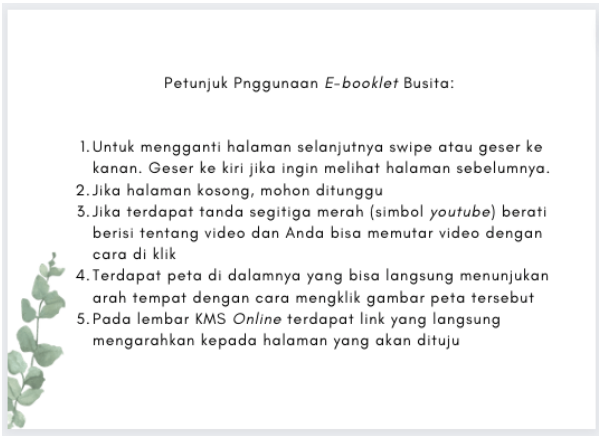

Figure 2.
Revised Expert Recommendations

After carrying out validation and revision, the researchers conducted a small-scale product trial or pilot study on 5 cadres at the Bangetayu Community

Health Center on February 5 2023. From these results, the levels of knowledge, attitudes and practices were obtained in the table below:

In table 4, the trial group consisting of 5 respondents, the level of knowledge has increased from respondents with good knowledge by 3 (60%) to 5 (100%). In the attitude category, respondents with a positive attitude also experienced an increase from the pre-test results of 2 (40%) to 3 (60%). The practice category also experienced an increase from pre-test 5 (100%) respondents in the fair category to all in the good category.

Data normality uses Shapiro Wilk because the data is <50 respondents. Data is said to be normally distributed if $p > 0.05$. In this study, all data in the trial group was declared normal or $p > 0.05$ so the test used parametrics, namely the Dependent T test.

The results of table 5 the analysis using the Dependent T test on 5 respondents in the trial group in the knowledge category showed a p-value of 0.002 or $p < 0.05$, which means that there was an influence of the Busita Interactive e-booklet in increasing the knowledge of respondents in the trial group. The results of the attitude analysis showed a p-value of 0.001 or $p < 0.05$, which means that there was an influence of the Busita Interactive e-booklet on the knowledge attitudes of respondents in the trial group. The results of the practice analysis showed a p-value of 0.003 or $p < 0.05$, which means that there was an influence of the Busita Interactive e-booklet on the knowledge practices of respondents in the trial group.

Conclusion

The Busita module from the CVR test states that all the material in the module is of important or essential value as evidenced by CVR and CVI values of $0 > x > 1$ or 0.8 which can be interpreted as being in the very good or important category. Busita Interactive e-booklet media received a feasibility assessment through an expert validation test with an average score of 84.09 with 4 assessment aspects including usefulness, ease of use, ease of learning, and satisfaction. The results of the pilot study test produced a p-value <0.05, which means that Busita media is effective in measuring knowledge, attitudes and practices for early detection of stunting in babies.

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Determinants of Exclusive Breastfeeding and Immunization Status with ARI Incidence in Toddlers in Central Buton District

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ABSTRACT

In Indonesia, infants with acute respiratory infections (ARI) are a common occurrence. Many baby deaths are brought on by ARI. The goal of the study was to ascertain the link between the prevalence of ARI in toddlers in the working area of Wamolo Public Health Center, Central Buton Regency, and exclusive breastfeeding and immunization status. Type research uses quantitative methods with a cross sectional study approach. Population is 223 and sample is 70 and sampling method used is purposive sampling. The research data consisted of primary data obtained from questionnaires and secondary data sourced from reports. The SPSS program is used to process the data. Analysis used is univariate and bivariate using chi square test at a 95% confidence level (α = 0.05). Results showed that relationship between exclusive breastfeeding and incidence ARI in toddlers was ρ=0,000< α =0,05 and relationship between immunization status and incidence ARI in toddlers was ρ=0,000< α =0,05. Conclusion shows that relationship between exclusive breastfeeding and immunization status with incidence of ARI in toddlers in working area of Wamolo Health Center, Central Buton Regency.
Keywords: ARI; toddler; breastfeeding; immunization status

Introduction

Acute Respiratory Infections (ARI) are respiratory tract infections caused by viruses or bacteria and last for 14 days. Symptoms can range from mild (cough and cold) to moderate (shortness of breath and wheezing), and even severe symptoms (cyanosis and nasal flaring). Severe complications of ARI affecting lung tissue can lead to pneumonia [1].

The World Health Organization (WHO) pays special attention to ARI in young children. WHO data shows that out of 6 million child deaths, 16% are caused by pneumonia, which is one of the manifestations of ARI. ARI in children in Indonesia is common, especially during episodes of cough and cold, which are estimated to occur 3-6 times per year (4 times annually on average) [2].

Basic Health Research (Riskesdas) on 2018 data showed an ARI prevalence rate of 4.4%. The highest prevalence of ARI was found in the age group of 1-4 years (25.8%). According to research by the Ministry of Health, the highest prevalence of ARI was in East Nusa Tenggara (NTT) Province at 15.4%, followed by Papua Province at 13.1%, West Papua Province at 12.3%, and North Sumatra Province at 6.8%, ranking thirtieth. The lowest ARI prevalence was in Jambi Province at 5.5%. The prevalence of ARI in infants was 9.4%, in children under two years old (Baduta) was 14.4%, and in children under five years old was 13.5% [2].

The three common risk factors for ARI are the environment, the individual child's condition, and behavior. Environmental factors include indoor air pollution, such as cigarette smoke and cooking fumes, ventilation, and housing density. Individual child factors include nutritional status, birth weight, age, vitamin A consumption, and immunization status. Behavioral factors encompass prevention and management of ARI in infants or the involvement of families/community in tackling ARI [3].

In 2016, data from the Sulawesi Provincial Health Office showed that ARI ranked first (119,626 cases) among the top 10 most common diseases. In 2017, there was a decrease of 3,096

cases. In 2018, the number decreased again by 2,447 cases, or 24.43%. However, in 2019, there was an increase in ARI cases by 3,676 cases, or 30.06%. In 2020, there was a decrease of 188 cases, or 20.99%. [4].

Based on data from the annual report of the Central Buton Health Office, ARI was the highest disease in 2016 with 7,231 cases. In 2017, it decreased by 5,810 cases. In 2018, there was another decrease to 4,888 cases, followed by an increase in 2019 to 6,415 cases [5].

Based on the ARI case data obtained from the Wamolo Community Health Center in Central Buton District, in 2019, there was an increase of 479 ARI cases, followed by a decrease of 114 cases in 2020. However, in 2021, there was an increase again by 172 cases, calculated from January to December [6].

The initial observation conducted in the research area of Central Buton District showed that some mothers with toddlers were observed to give formula milk rather than breastfeeding their children. Additionally, some mothers did not bring their children to the integrated health post (posyandu) for immunization. Therefore, the research aims to determine the relationship between exclusive breastfeeding and immunization status with the occurrence of ARI in toddlers at the Wamolo Community Health Center in Central Buton District.

Research Method

Center in Central Buton District. The variables examined in this study were exclusive breastfeeding, immunization status, and the occurrence of ARI in toddlers. The study population consisted of 223 toddlers registered at the Wamolo Community Health Center, with a sample size of 70 using simple random sampling. Data collection included both primary and secondary data. Data analysis was performed using SPSS version 20 software. Univariate analysis was used to determine the distribution and frequency of the variables studied, while bivariate analysis was used to determine the relationship between each variable. The chi-square test was used to determine the relationship between one variable and another variable with a confidence level of 95% (α value = 0.05).

Results and Discussion

Table 1.
Distribution of Respondent Data

Respondent	Frekuensi	Persentase
Age (Year)		
27-30	9	12,9
31-35	21	30,0
36-40	20	28,6
41-45	12	17,1
46-48	8	11,4
Education		
Tamat SD	2	2,9
Tamat SMP	30	42,9
Tamat SMA	34	48,6
Tamat Diploma	3	4,3
Tamat Sarjana	1	1,4
Age Toddler (Month)		
12 – 23	20	28,6
24 - 35	13	18,6
36 - 47	18	25,7
48 - 59	19	27,1
Gender of Toddlers		
Male	32	45,7
Female	38	54,3

Table 2.
Distribusi variabel yang diteliti

Variabel	Frekuensi	Persentase
Exclusive Breastfeeding		
Exclusive Breastfeeding	46	65,7
Not Exclusive Breastfeeding	24	34,3
Immunization Status		
Complete	70	100
Not Complete	0	0
Occurrence of ARI in Toddlers		
ARI	20	28,6
Not ARI	50	71,4

Table 3.
Distribusi variabel yang diteliti

Variabel	ARI				Total		Uji *Chi Square*
	ARI		Not ARI				
	n	%	n	%	N	%	
Exclusive Breastfeeding							
Exclusive Breastfeeding	4	8,7	42	91,3	46	100	ρ = 0,000
Not Exclusive Breastfeeding	16	66,7	8	33,3	24	100	
Imunization Status							
Complete	20	28,6	50	71,4	70	100	ρ = 0,000

The first table shows the characteristics of respondents. The highest age range among respondents is 31-35 years, with 21 respondents (30.0%). Regarding the respondents' education level, the majority have completed high school (SMA), with 34 respondents (48.6%), while the fewest respondents have completed a Bachelor's degree, with 1 respondent (1.4%). Based on the age of the toddlers, the highest number of toddlers are aged 12-23 months, with 20 respondents (28.6%), and the fewest respondents have toddlers aged 24-35 months, with 13 respondents (18.6%). In terms of gender, the majority of respondents are female, with 38 (54.3%), while the fewest are male, with 32 (45.7%).

Table 2 presents the univariate variables, namely exclusive breastfeeding. The majority of respondents, 46 (65.7%), practiced exclusive breastfeeding, while 24 respondents (34.3%) did not. The immunization status variable shows that all toddlers, 70 respondents (100%), have complete immunization status. The variable for the occurrence of ARI in toddlers indicates that 50 respondents (71.4%) did not suffer from ARI, while the fewest respondents had toddlers who experienced ARI, with 20 respondents (28.6%).

The chi-square test shows that the exclusive breastfeeding variable obtained a p-value (0.000) < α (0.05), indicating a relationship between exclusive breastfeeding and the occurrence of ARI in toddlers at the Wamolo Community Health Center. The immunization status variable obtained a p-value (0.000) < α (0.05), indicating a relationship between the immunization status of toddlers and the occurrence of ARI in toddlers at the Wamolo Community Health Center. Further details can be seen in the following Table 3.

This study shows that out of 46 respondents who exclusively breastfed their toddlers, 4 respondents (8.7%) had toddlers who experienced ARI. This could be due to the presence of disease agents caused by family behaviors that do not adhere to clean and healthy living practices, such as smoking habits, closing room ventilation, and lack of sanitation and cleanliness in their home environment.

In addition, there were 42 respondents (91.3%) whose toddlers were exclusively breastfed and did not experience ARI. This could be attributed to the fact that the majority of respondents have good knowledge about the importance of exclusive breastfeeding from birth until the age of 6 months. Furthermore, mothers introduced complementary foods only after 6 months of age and continued to breastfeed until the child reached 24 months.

The research results indicate that out of 24 respondents who did not exclusively breastfeed their toddlers, 16 respondents (66.7%) had toddlers who experienced ARI. This could also be attributed to mothers feeling anxious about their child not receiving sufficient intake from breastfeeding, leading them to give formula milk or

complementary foods before the age of 6 months. Lack of knowledge among mothers contributes to this issue.

There are still respondents who did not exclusively breastfeed their toddlers, namely 8 respondents (33.3%), and their toddlers did not experience ARI. This could be because the mothers consistently monitor the development and growth of their toddlers by regularly bringing them to the integrated health posts (posyandu), allowing the health condition of the toddlers to be monitored. This leads to the toddlers not experiencing ARI even though they are not exclusively breastfed. However, toddlers who are not exclusively breastfed are still at risk of experiencing other illnesses such as diarrhea.

When viewed in relation to the occurrence of ARI in toddlers, the variable of exclusive breastfeeding is associated with the occurrence of ARI in toddlers ($\rho < \alpha$). This indicates that exclusive breastfeeding for toddlers is beneficial for strengthening the immune system, making them less susceptible to acute respiratory infections. The association of exclusive breastfeeding until 6 months of age with the occurrence of ARI in toddlers lies in the excellent content of breast milk for the growth and development of babies.

Breast milk contains complete and sterile nutrition for babies. It fully meets the needs of babies up to 6 months of age. Breast milk can protect toddlers from the risk of illness. Therefore, mothers do not need to worry about their children and should continue to exclusively breastfeed them until they reach 6 months of age [7].

Kaur (2017) Indicates similar research stating that exclusive breastfeeding has a significant association with the occurrence of ARI in infants [8]. The research findings at the Banjarangkan Community Health Center indicate that the occurrence of ARI is significantly associated with exclusive breastfeeding [9].

The study by Permatasari shows that maternal knowledge supports attitudes and actions toward exclusive breastfeeding [10]. The results of the study conducted by Lestari (2020) show that a history of non-exclusive breastfeeding increases the likelihood of experiencing ARI by 7 times compared to toddlers who are exclusively breastfed [11]. This study is also in line with Rahayuningrum's research (2021), which states that breast milk contains all the nutrients and fluids needed to meet the nutritional needs of infants up to 6 months of age [12].

The research results indicate that all respondents have complete immunization status, with 20 respondents (28.6%) having toddlers who experienced ARI. This could be due to transmission by family members who are experiencing coughs/flu and sharing the same room with the toddler, the presence of household members who smoke, the practice of burning trash or cashew nut shells, the smoke of which enters the house and is inhaled by the toddler, making it easy for them to contract ARI.

The research findings also indicate that there are toddlers with complete immunization status who did not experience ARI, totaling 50 respondents (71.4%). This could also be attributed to the administration of complete and regular basic immunizations, which provide the baby or child with immunity to fight against harmful diseases. Additionally, the presence of positive behaviors from mothers or family members, such as keeping the child away from direct exposure to cigarette smoke or smoke from burning, and maintaining the toddler's nutritional status properly, contributes to the child having good immune resilience.

The statistical test results indicate that the immunization status variable is associated with the occurrence of ARI in toddlers ($\rho < \alpha$). This can occur because immunizations can prevent ARI in toddlers. ARI is a disease that develops from illnesses that can be prevented with immunization, such as pertussis, diphtheria, and measles. Therefore, the eradication of ARI in toddlers can be prevented by providing complete immunization.

The fact is consistent with the theory stating that complete basic immunization has been proven effective in preventing respiratory infections such as pertussis, diphtheria, tuberculosis, and measles. [13]. Exclusive breastfeeding can prevent children from the risk of illness up to death.

There are two causes of death in children in various countries, namely infectious diseases and nutritional disorders. Complete immunization and maintaining the health and nutrition of children are the best choices to address these issues [14].

This research is in line with the study conducted by Irnawulan (2021), which shows a significant relationship between immunization status and the occurrence of ARI in toddlers [15]. The findings of this research are consistent with Wahyuni's (2020) study, where ARI is more common in toddlers with incomplete basic immunization compared to those with complete immunization [16]. These results align with Nugraha's (2022) research at the Teladan Medan Community Health Center, which indicates that the more complete the immunization status of toddlers, the lower the likelihood of contracting ARI [17].

Conclusion

The research demonstrates a relationship between exclusive breastfeeding and immunization status with the occurrence of ARI in toddlers at the Wamolo Community Health Center in Central Buton District.

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Warm Aluminum Foil Blankets to Prevent Hypothermia during Early Breastfeeding after Cesarean Delivery

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ABSTRACT

Early Initiating Breastfeeding after cesarean delivery can increase the risk of hypothermia in the baby due to the cold temperature of the operating room and the mother's lowered body temperature. To prevent hypothermia, a heating method during breastfeeding initiation is needed. This study aims to evaluate the effectiveness of using aluminum foil warm blankets in preventing hypothermia in newborns after caesarean during early breastfeeding initiation. The study used a True Experiment Pretest Posttest Control Group Design with consecutive sampling. The research groups were randomly allocated. A total of 50 infants were included, with 25 infants receiving aluminum foil warm blankets in the experimental group, and 25 infants receiving warm blankets only in the control group. The treatment was given for 30 minutes in the recovery room, and the infant's temperature was measured with an axillary digital thermometer. Data analysis using the *Wilcoxon Signed Rank Test* showed that the body temperature of infants increased from moderate hypothermia (35.75°C in the experimental group and 35.8°C in the control one) to mild hypothermia (36.34°C in the experimental group and 36.12°C in the control one). *The Mann-Whitney U test* showed a significant difference in the average body temperature of newborns between the experimental group and the control group, with a p-value<0.05. The study concluded that using aluminum foil warm blankets is better than using warm blankets alone in increasing the body temperature of babies born through cesarean section during early breastfeeding initiation in the recovery room.

Keywords: blanket; early initiation of breastfeeding; temperature; labor; baby

Introduction

Thermoregulation of newborns is very important. Considering that the neonate's ability to produce heat is still low and there is a risk of hypothermia. Neonatal hypothermia is defined as a core temperature below 36.5°C [1]. Hypothermia contribute to most neonatal deaths. [2] Indonesian Health Profile 2021 reports that 73.1% of 27,566 infant deaths occurred during the neonatal period, 20,154 cases [3]. Based on data from the Banyumas District Health Service, the infant mortality rate in 2021 is 219 cases, 50% of which occur in infant aged 0-6 days [4].

As a preventive measure, the World Health Organization (WHO) has recommendedcontact skin to skin or SSC (Skin to skins contact) early initiation of breastfeeding (EIBF) as two interventions that must be carried out simultaneously to obtain optimal benefits. EIBF is placing the baby face down on the mother's chest without any clothing separating them, without interruption for at least 60 minutes or until the completion of the first breast milk feeding in all delivery methods [5].

Villinsky in 2020 reported that the mother's temperature was hypothermic due to the anesthesia procedure of Caesarean Delivery, because the operating room temperature ranging between 19°C -22°C will increase the risk of heat loss in newborn babies skin to skin contact process, it means that early initiation of breastfeeding cannot be carried out after a CS delivery.

Villinsky in 2020 reported that the temperature of mothers who experience

hypothermia due to anesthesia procedures. Operating room temperature ranging from 19°C - 22°C will increase the risk of heat loss in newborn babies during skin contact, this results in the baby becoming hypothermic. CS delivery often IEBF is not performed [6].

Efforts to prevent hypothermia during EIBF after CS are by providing active warming measures with FAW (Force Water Warming) during the perioperative period, as in Horn's 2014 study which reported that it warms the surface of the surface of the mother's skin from the beginning of the operation to the end. This period results in a neonatal core temperature of 37°C and reduces the incidence of hypothermia [1].

Based on the results of interviews with the head Perinatology room at Ajibarang Regional Hospital, the temperature of the recovery room ranges between 22°C-25°C, the temperature of the post-CS mother which is still hypothermic and warm-up activities during perioperative CS which have not become operational standards, as one of the obstacle in the implementation. This problem will impact the failure of the full 60-minute EIBF practice due to intervention in the form of warming the neonates after CS in the incubator before the EIBF process is complete and separation between mother and baby for quite a long time.

Early Initiation of Breastfeeding basically should not be delayed because the newborn's sucking reflex will reach its peak at the age of 20-30 minutes and this reflex will continue to decrease and weaken over time if it is not stimulated and this will affect the successful process of exclusive breastfeeding [7].

Based on scientific evidence, apart from active warming procedures during the perioperative period, another alternative that can be done so that EIBF practices occur according to standards is the technique of external heating that is method warming process with how to cover a blanket that has been heated with aluminum foil which is insulator hot to hold the heat from the warmed blanket. A layer of aluminum foil will trap the heat from the heated blanket covering the body mother so that the mother's body temperature after CS will increase, and this will have an effect on increasing the baby's temperature on moment contact skin Mother and baby. So that's the goal EIBF as warmer for baby can be achieved [8].

Study of Sudarmi (2019) showed that the effect of aluminum foil blankets on the body temperature of babies born during EIBF after normal labor for 1 hour, the results showed a significant difference between the treatment group and the control group [9]. The difference with this research is that the intervention carried out in this study was in the form of a heated blanket covered with a layer of aluminum foil. The subjects of this research were neonatus after CS who had skin contact with the mother after CS at a lower temperature room. Based on this background, researchers are interested in researching the effect of aluminum foil warm blankets on preventing hypothermia in BBL SC during IMD in the recovery room at Ajibarang Regional Hospital.

Research methods

This type of research is quantitative research with a Quasi Experimental type with Pretest Posttest Control Group Design. The selection of the experimental group and control group was carried out randomly, by drawing lots and the research subjects did not know the treatment they would receive. The experimental group was post-SC EIBF neonates who were given a warm aluminum foil blanket, while the control group was post-SC EIBF neonates who were given a warm blanket only.

A warm aluminum foil blanket is a cotton blanket that has been warmed using a heating device, then covered with an aluminum foil blanket on top as a heat insulator during EIBF. This aluminum foil blanket is easy to find on the market and affordable. The limitation of this blanket is that it is only used once. The following is a picture of an EIBF with an aluminum foil warm blanket.

A warm aluminum foil blanket is a cotton blanket that has been warmed using a heating device, then covered with an aluminum foil blanket on top as a heat insulator during EIBF. This aluminum foil blanket is easy to find on the market and affordable, only the limitation of this blanket is that it can only be used once. Here's a figure 1 of EIBF with an aluminum foil blanket.

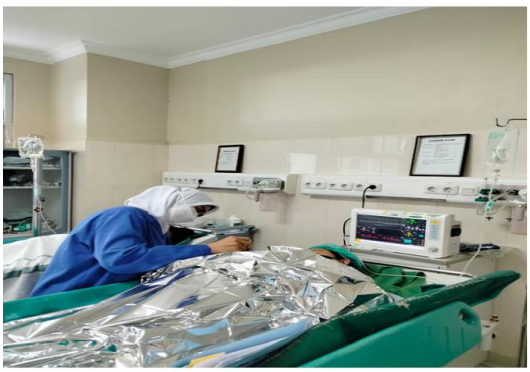


Figure 1.
EIBF with a warm blanket covered with aluminum foil blanket

The research population was BBL post-CS at Ajibarang Regional Hospital from March-April 2023. The sample size measurement using the Lameshow formula for the 2 Mean Difference Test is as follows [10].

$$n1 = n2 = \frac{2\sigma^2(Z_{1-\alpha/2} + Z_{1-\beta})^2}{(\mu_1 - \mu_2)^2}$$

$$n1 = n2 = \frac{2x0{,}4^2(1{,}96 + 0{,}84)^2}{(1{,}1)^2} = \frac{2{,}5088}{1{,}21} = 20{,}73$$

The number of samples was then maximized to 25 experimental groups and 25 control groups.

Inclusion criteria include baby born from Mother with CS elective with anesthesia spinal, age pregnancy 37-41 weeks +6 days, birth weight ≥ 2500 grams, while the exclusion criteria are babies born with genetic disorders, mothers suffering from infectious diseases, and chronic diseases, score Apgar 5 minute <7/ asphyxia currently, and gemelli.

The data collection technique is carried out by taking primary data from temperature observations baby before the intervention, 5 minutes first, and minutes to 30 after the intervention. The instrument used is a thermometer digital axillary that has been calibrated by BMD Laboratory and has been accredited ISO/IEC 17025:2017 KAN with registration number LK-232-IDN with results calibration is a good condition to use.

Post-SC surgery mothers will be observed for 30 minutes before being transferred to the postpartum room post-operative recovery room. The mother is still wearing a surgical gown and the room temperature is regulated at temperature 22°C-25°C, contact skin with the baby for 30 minutes. The blanket was warmed first before being used, on a tool warmer until the temperature was 40°C. Then EIBF was carried out using a warmed blanket covered with aluminum *foil* in the experiment group and only used a warm blanket in the control group. Baby and the mother's temperature was then measured before the intervention, 5 minutes, and 30 minutes after the intervention.

Statistical analysis was carried out using computer devices. Data analysis consisted of univariate analysis for descriptive analysis of research subjects based on the characteristics of mother's age, gestational age, baby's weight, recovery room temperature, mother's weight, mother's BMI, mother's temperature, and baby's temperature before and after the intervention, for both research group. After homogeneity and normality tests were carried out, it was continued with bivariate analysis. To determine the effect of the intervention on the baby's temperature in each research group, the Wilcoxon Signed Rank Test was used, while to determine the effect of the aluminum foil warm blanket compared to the warm blanket alone on increasing the baby's temperature, the Mann Whitney test was used. The last one is an analysis to show the increasing temperature during EIBF, to determine the strength of the relationship between maternal temperature and infant temperature in each research group, used *Spearman rank test*.

Study This has an ethical approval letter with number DP.04.03/e- KEPK.1/053/2023 dated 8 February 2023 from the Ethic Committee Poltekkes Kemenkes Yogyakarta Yogyakarta.

Results and Discussion

Table 1.
Characteristics respondents

Variable	Group				*P Value*
	Experiment		Control		
	n=25		n=25		
	Mean	SD	Mean	SD	
Gestational age	38.81	1.37	38.39	1.2	0.09
Baby's weight	3160.6	381.3	3117.4	348.28	0.49
Mother's age	64.76	11.3	64.76	9.5	0.17
Mother's BMI	25.73	2.8	26.69	2.7	0.89
Room temperature	24.32	0.47	24.53	0.54	0.55
Mother's Age	28.12	4.56	28.16	4.53	0.95

Table 2.
Characteristics Respondent Based on Baby's Sex

Sex	Group				Total		*p value*
	Experiment		Control				
	n	%	n	%	n	%	
Male	13	26	11	22	24	48	
Female	12	24	14	28	26	52	0.777
Total	25	50	25	50	50	100	

Table 3.
The Average Mother And Baby Temperature among Experiment and Control groups in the recovery room

Variable	Group Experiment n=25		Group Control n=25		*p value*
	Mean	elementary school	Mean	elementary school	
Baby's Temperature					
Before EIBF	35.75	0.22	35.80	0.28	0.29
15 minutes after EIBF	35.94	0.21	35.94	0.27	0.47
30 minutes after EIBF	36.34	0.16	36.12	0.21	0.24
Mother's Body Temperature					
Before EIBF	35.49	0.49	35.67	0.46	0.29
5 minutes after EIBF	36.01	0.41	35.94	0.37	0.16
30 minutes after EIBF	36.48	0.12	36.37	0.12	0.29

Table 4.
Differences Average Baby Temperature 15 minutes and 30 minutes among Experiment Group with Test *Wilcoxon Sign Rank*

Variable	n	Group Experiment		Z	*p value*
		Positive Rank	Mean Rank		
Baby Temperature 15 minutes and 30 minutes	25	25	13	-4,416	0,000

Table 5.
Differences Average Mother Temperature 15 minutes and 30 minutes among Experiment Group with Test *Wilcoxon Sign Rank*

Variable	n	Group Experiment		Z	*p value*
		Positive Rank	Mean Rank		
Mother Temperature 15 minutes and 30 minutes	25	25	13	-4,385	0,000

Table 6.
Difference Average Baby Temperature 15 minutes and 30 minutes among the Control Group with Test *Wilcoxon Sign Rank*

Variable	n	Control Group		Z	*p-value*
		Positive Rank	MeanRank		
Baby Temperature 15 minutes and 30 minutes	25	25	13	-4,455	0,000

Table 7.
Difference Average Mother Temperature 15 minutes and 30 minutes among Control Group with Test *Wilcoxon Sign Rank*

Variable	N	Control Group		Z	*p value*
		Positive Rank	Mean Rank		
Mother Temperature 15 minutes and 30 minutes	25	25	13	-4.39	0,000

Table 8.
Differences Average Temperature Baby 15 minutes dan 30 minutes between experiment and control group

Variable	n	Group		Z	*p value*
		Experiment Mean Rank	Control Mean Rank		
Temperature Baby					
15 minute after treatment	50	25.70	25.30	-0.098	0.922
30 minute after treatment	50	32.60	18.40	-3,485	0,000

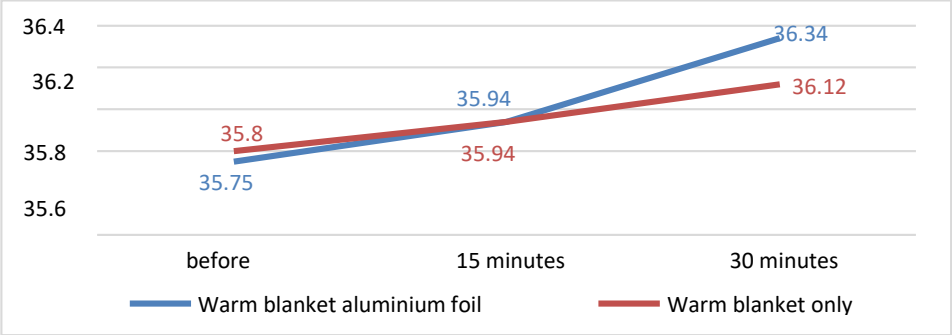
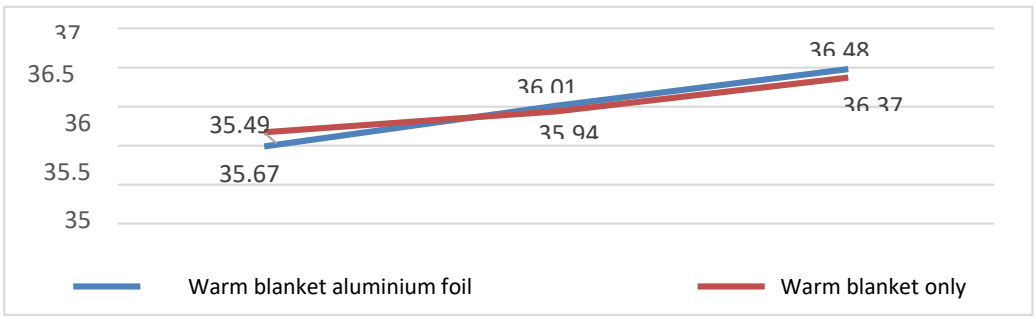


Figure 3.
Difference Average Baby's Temperature between experiment and control group

Table 9.
Difference in Mean Mother's Temperature 15 minutes dan 30 minutes between experiment and control group

Variable	n	Group		Z	*p value*
		Experiment Mean Rank	Control Mean Rank		
Temperature Mother					
15 minute after treatment	50	27.44	23.56	-0.945	0.345
30 minute after treatment	50	30.62	20.38	-2,558	0.011



Picture 4.
Difference Average Temperature Mother Group Experiment And Control

Table 10.
Differences in Baby Temperature Before and After intervention among Experiment and Control Groups

Variable	n	Group		Z	*p value*
		Experiment	Control		
		Mean Rank	Mean Rank		
Difference in baby's temperature before and after intervention	50	34.06	16.94	-4,211	0,000

Table 11.
Results Test Correlation Between Mother And Baby Temperature with Blanket Warm Aluminum *Foil.*

Correlations Group Experiment				
			Baby Temperature	**Mother Temperature**
Spearman's rho	Temperature Baby	Correlation Coefficient	1,000	,579 **
		Sig. (2-tailed)	.	,002
		N	25	25
	Temperature Mother	Correlation Coefficient	,579 **	1,000
		Sig. (2-tailed)	,002	.
		N	25	25

Table 12.
Results Test Correlation Between Mother And Baby Temperature Which with Blanket Warm only

Correlations Group Control				
			Baby Temperature	**Mother Temperature**
Spearman's rho	temperature Mother	Correlation Coefficient	1,000	,389
		Sig. (2-tailed)	.	,055
		N	25	25
	temperature baby	Correlation Coefficient	,389	1.000
		Sig. (2-tailed)	.055	.
		N	25	25

Descriptive analysis based on variable baby's weight, sex, mother's age, gestational age, mother's BMI, mother's age, and temperature recovery room is shown in the table 1.

Based on tables 1, 2, and 3, show the characteristics of the respondents and the average temperature of the Mother and baby in group experiments and group control is comparable (homogeneous) with a p-value >0.05. The average temperature of mothers and babies before and after treatment in the experimental group and after treatment in the treatment and control groups is shown in table 3. Based on table 3, most mothers and babies experienced cold stress hypothermia before intervention was carried out. The average temperature of babies before EIBF was 35.75 ℃ in the experimental group and 35.8 ℃ in the control group. The average initial maternal temperature was 35.49℃ in the experimental group and 35.67℃ in the control group. These findings are in accordance with Sa'adah's 2018 research which reported that the average temperature of babies before intervention was mild hypothermia (35.99℃) [11]. Listiyanawati's research in 2018 reported that the average initial post-CS maternal temperature was 34.92℃ [12].

Neonatal hypothermia is influenced by several factors, such as environmental factors, there are decrease temperature's room increase heat loss through radiation, physiological factors where newborn babies have less subcutaneous fat, behavioral factors such as placing the baby on the resuscitation table, cold baby clothes or baby blankets. Due to exposure to minimum temperature on operating room [2]. Hypothermia among mothers is influenced by intraoperative procedures,

such as the administration of cold fluids, inhalation of cold gases, open wounds on the body, decreased muscle activity, impaired thermoregulatory responses due to the use of anesthetic drugs, and patient exposure to minimun temperature's room.

Maternal hypothermia that occurs perioperatively can continue into the post operative period in the recovery room [13]. During skin contact, the skin temperatures of the mother and baby are reciprocally modulated, allowing the mother to act as a warmer for the baby [9]. The suboptimal maternal temperature has the potential to negatively impact neonatal outcomes during skin-to-skin contact immediately after CS in the conduction recovery room. Plus the environmental temperature of the IBS recovery room at Ajibarang Regional Hospital which is quite cold (23℃-24℃) increases the risk of hypothermia in neonatus post CS by radiation [14].

The results of the normality test for the baby's and mother's body temperature data showed no results distribute normal with a p-value <0.05, so that analysis statistics, used is Wilcoxon Signed rank Test, for compare the average temperature baby in each research group and Mann Whitney to compare temperature means baby between group study.

Enhancement of Average Neonatus And Mother Temperature among Control Group

Table 6 and Table 7 show that there are differences in the average temperature of babies and children's temperature Mother minute to 15 and 30 minutes after treatment in the control group with *p-value* = 0,000 (*p-value* <0.05).

After being given intervention for 30 minutes, the average temperature of mothers in the blanket group with warm aluminum foil increased as big as 0.99 degrees (35.49 □□C become 36.48 □□C). The average maternal temperature in the

Based on the figure showed that, there was no significant difference in maternal body temperature at 15 minutes after treatment between the experimental group and the control group. This is explained in table 9 where the results of the Mann Whitney Test are show mark p value as big as 0.345. As for after 30 minute done intervention is obtained p value is 0.000, which means there is a significant difference in the average body temperature of the mother experimental group And control.

Tables 8 and 9 explain that there is no difference in mean of Baby's temperature and mother's temperature between experiment and control group at 15 minute after treatment. Similar result to previous study of Ekorini's research 2021, that there is no effect of giving a warm blanket warm blanket alone group also increased by 0.67 egrees 35.67ºC becoming 36.34. The average temperature baby after 30 minutes given treatment Also experienced an increase of 0.59°C (35.57°C to 36.33°C) in the experiment was higher than the control group, namely 0.32°C (35.8°C to 36.15°C). Based on tables 4, 5, 6, and 7, it can be concluded that warm blankets covered with aluminum foil and warm blankets only, both have an influence on baby temperature and mother temperature moment EIBF with p-value 0,000.

A previous study by Sudarmi (2019) show the temperature baby on a group maintenance routine Also experienced an increase due to warmth from skin contact with their Mother, However enhancement temperature in the group of babies who were given EIBF with an EIBF blanket was higher than babies who were given EIBF with a regular blanket [9].

Based on Marlinda's research in 2017, it shows that the average maternal temperature in the control group there was increased only when the temperature returned to normal in group control during 22.67 minutes, whereas the experiment group showed an average time return temperature to normal during 10.07 minutes [15].

The difference in Average Temperature Baby and Mother's Temperature Before And After Treatment Between Group Experiment And Control

Temperature there was no difference in the baby's body 15 minutes after treatment between the experimental group and the control group. This is explained in table 8 where the results of the Mann-Whitney Test show a p-value of 0.922. Meanwhile, after 30 minutes of intervention, there was a visible significant difference in the baby's body temperature between the experimental and control groups with p-value of 0,000.

(blanket warmer) on changes in central temperature post-operative patients at 15 minutes with a p value of 0.196, because the heat transfer process from the blanket is not optimal in a relatively short time of 15 minutes [16], [17].

A significant difference in the mean temperature of babies and mothers between the experiment and the control group only appeared 30 minutes after the intervention with a p-value of 0.001. Similar to the previous study, Marlinda's research in 2017, showed that the temperature of the warm blanket began to decrease after 30 minutes because the heat from the blanket was transferred by radiation to a cooler environment, making it less effective at storing heat for a long time. This is different from aluminum foil blankets which can

maintain heat from warm blankets and are not affected by cold room environmental temperatures because the aluminum blankets are waterproof and windproof so that the heat from warm blankets can increase body temperature to the maximum. Heat flow will occur from an object with a higher temperature to an object with a lower temperature until thermal equilibrium is reached [15], [18].

If we compare the difference in baby's temperature before and after the intervention in the two research groups, it also shows a significant difference. Where the difference in baby's temperature before and after intervention in the aluminum foil warm blanket group was 0.59℃, while the difference in baby's temperature in the control group was 0.32℃. Table 10 explains the results of the Mann-Whitney test, the difference in mean baby temperature between the experimental and control groups obtained a p-value <0.05. So it can be concluded that the effect of the aluminum foil warm blanket is better than the warm blanket alone in increasing the temperature during EIBF of

Table 11 shows the results of the Spearman's Rank correlation test between mother and baby temperatures in the experimental group which has a moderate level of correlation with a correlation value of 0.579. Table 12 explains that the results of the Sperm Rank correlation test between the mother's and baby's temperature in the control group have a weak relationship with a correlation value of 0.389. However, both groups showed a positive direction of relationship, which means that when EIBF was carried out, the higher the mother's temperature, the higher the baby's temperature.

It's just that the strength of the relationship between the temperature of mothers and babies treated with EIBF with a warm aluminum foil blanket is higher than the strength of the relationship between the temperature of mothers and babies treated with EIBF with a warm blanket only. The increase in the baby's temperature refers to the increase in the mother's body temperature. Because on In principle, during EIBF, the mother acts as an incubator/thermoregulator of temperature for the baby's body. The results of Chiu's quoted by Sudarmi in 2021 stated that mother had own ability to arrange the temperature baby during contact with the Mother And baby. Mother is a thermoregulator for BBL moment EIBF [9]. The use of aluminum foil blankets has been proven to be effective in increasing the mother's temperature and positive influence on increasing the temperature of the baby moment EIBF after SC surgery which took place in a room recovery cold one.

post CS baby.

The superiority of this aluminum foil warm blanket has been proven in Setiyanti's 2020 research which explains that aluminum foil blankets can be used as passive external rewarming in cases of hypothermia because they are able to maintain and retain 90% of body heat for longer, and can also reduce the rate of heat transfer by covering the body. patient with an aluminum foil blanket until body temperature returns to normal. Aluminum foil blankets are relatively cheap and easy to use. Giving aluminum foil blankets is safe and beneficial for patients because it has no complications in its application.

Correlation of Mother Temperature and Baby Temperature in the Experimental and Control Groups

To determine the close relationship between the baby's body temperature and the mother's body temperature when IMD was carried out in both the experimental group and the control group, the Spermerman's Rank correlation test was carried out.

Conclusion

Based on the research results, this study showed that: 1) The average body temperature of babies before treatment was still in the moderate hypothermia category, 35.75℃ in the experimental group and 35.8℃ in the control group. After treatment for 30 minutes, the temperature increased to mild hypothermia, 36.34℃ in the experimental group and 36.12℃; 2) There is a difference in the mean temperature of babies in the experimental group and the control group after treatment for 30 minutes in the recovery room, namely 36.34 in the experimental group and 36.12 in the control group with a p value <0.000; 3) The effect of a warm aluminum foil blanket is better than a warm blanket alone in preventing hypothermia when IMD is performed on baby in the recovery room for 30 minutes; 4) There is a relationship between the mother's temperature and the temperature of the baby who was given EIBF using an aluminum foil warm blanket with a moderate level of closeness and a positive direction of the relationship. This means that the higher the mother's temperature, the more the baby's temperature will increase when EIBF uses an aluminum foil warm blanket only.

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