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The Effect of Infant Massage Education on Pregnant Women's Knowledge in the Pregnant Mothers' Class in Linggasari Village, Kembaran I Health Center Work Area.

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ABSTRACT

Infant massage provides many benefits for infants and toddlers, such as strengthening the immune system, promoting relaxation, improving digestion and respiration, and aiding in better sleep. However, many parents, particularly pregnant women, are unaware that infant massage can be performed independently, often choosing traditional healers due to fear of doing it incorrectly. This study aims to evaluate the effect of infant massage education on the knowledge of pregnant women in a mothers' class. A One-Group Pretest and Posttest design was used. The population consisted of 59 pregnant women in the working area of Kembaran I Health Center, and the sample was purposively selected, comprising 18 women who attended the class in Linggasari Village. A questionnaire with 20 closed-ended questions was used for data collection. Data analysis involved univariate analysis to describe respondents' characteristics and bivariate analysis to assess knowledge differences before and after the education session. The Paired t-test results showed a significant increase in knowledge, with scores rising from 14.28 before the session to 17.28 afterward (p = 0.0001, p < 0.05). This demonstrates a substantial improvement in the mothers' knowledge due to the infant massage education. Healthcare providers, particularly midwives at the Kembaran I Health Center, play a crucial role in offering information and training on proper infant massage techniques, enabling pregnant women and community health volunteers to perform the massage independently. Healthcare providers, particularly midwives at the Kembaran I Health Center, should continue to offer information and practical training on infant massage techniques, potentially expanding sessions to include fathers and other caregivers. Developing easy-to-access resources, such as instructional videos or brochures, may further support parents in building confidence and competence in performing infant massage at home. Involving community health volunteers in such training sessions could extend the reach of this education, promoting widespread benefits for infant health in the community. Healthcare providers, particularly midwives at the Kembaran I Health Center, should continue to offer information and practical training on infant massage techniques, potentially expanding sessions to include fathers and other caregivers. Developing easy-to-access resources, such as instructional videos or brochures, may further support parents in building confidence and competence in performing infant massage at home. Involving community health volunteers in such training sessions could extend the reach of this education, promoting widespread benefits for infant health in the community.

Keywords: Infant massage, Pregnant women, Knowledge improvement, Health education



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Introduction

Infant massage is an ancient therapeutic practice with roots in many cultures. In Ancient Egypt, the Ebers Papyrus, one of the oldest medical texts, documents the use of massage for healing. In India, Ayurvedic texts, dating to around 1800 BCE, emphasize the importance of massage for health and well-being. Massage is also integral to traditional Chinese medicine, where it was one of the four key medical practices during the Tang Dynasty. These cultural traditions have underscored the significance of touch in promoting physical and emotional health, a practice that continues today in the form of infant massage (Roesli, 2015). In modern times, infant massage is recognized for its numerous health benefits, such as enhancing circulation, supporting the immune system, improving digestion, and aiding sleep (Lubis et al., 2023). It also fosters a deep connection between parents and their babies. Despite these benefits, many parents hesitate to perform infant massage themselves, often due to fears of doing it incorrectly, leading to reliance on traditional healers (Mauliddina, 2011). This reluctance reveals a knowledge gap, emphasizing the need to empower parents with the skills and confidence to perform infant massage on their own. Historically, massage has been closely linked to spiritual and physical healing across various civilizations. In Ancient Egypt, massage was not only therapeutic but also spiritual. In India, Ayurvedic practices, particularly "abhyanga" (infant massage), are deeply ingrained in childrearing traditions, where mothers massage their babies with warm oils to enhance vitality (Panigrahi et al, 2016). Similarly, in China, massage was seen as a vital medical treatment, with "Tui Na" still widely used today to stimulate the body's energy flow or "qi,"

promoting healing and balance (Matos et al, 2021). These long-standing traditions highlight the universal importance of touch in health and development.

Physiologically, infant massage has been shown to stimulate the circulatory and nervous systems, boosting growth and immune function. It can alleviate colic, gas, and constipation, while also strengthening respiratory function, particularly in preterm infants (Field, 2014). Regular massage also aids in sleep regulation, which is crucial for infants' growth. Studies have found that babies who receive massages sleep more soundly and for longer periods (Field, 2014). Emotionally, massage fosters bonding between parent and child through eye contact, skin-to-skin touch, and verbal communication, promoting attachment and emotional security. These interactions can reduce stress for both the baby and parent (Chen et al, 2021). Developmentally, infant massage enhances sensory awareness, stimulating multiple senses and supporting brain and motor development. Historically, infant massage was often performed by traditional healers, especially in communities where specialized knowledge of the body was passed down through generations. However, there has been a shift toward encouraging mothers to perform massage themselves, as a mother's touch is uniquely beneficial for an infant's emotional and psychological well-being. Babies who receive regular physical contact tend to be more emotionally secure and exhibit fewer behavioral problems later in life (Field, 2014). The act of massaging a baby can also help build a mother's confidence in her caregiving abilities, which is particularly important for first-time mothers (Barlow et al., 2015).

Despite these benefits, many mothers hesitate to perform infant massage due to fear of doing it wrong. Cultural traditions



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often reinforce the practice of relying on traditional healers, though with the right education, parents can safely and effectively perform massage themselves (Mauliddina, 2011). This hesitation points to a gap in knowledge, with research showing that mothers who receive direct information about infant massage are significantly more likely to feel confident in performing it (Salamah, 2021). Studies have also shown that education level plays a role in this confidence, with welleducated mothers more likely to understand and perform infant massage (Nina, 2022). A mother's access to information about infant massage directly influences her interest in practicing it. Sinulingga's (2023) research found that mothers who had good knowledge of infant massage were much more likely to express interest in performing it regularly. The correlation between knowledge and interest further emphasizes the importance of providing mothers with accurate, culturally sensitive information. Overcoming fears of making mistakes can be achieved through proper education and guidance, empowering mothers to feel confident in their ability to perform infant massage (Nina, 2022).

providers, Healthcare particularly midwives, play a critical role in promoting infant massage. As a mother's first point of contact during pregnancy and postpartum, midwives are well-positioned to provide education on infant care practices, including offering massage. Βv workshops, demonstrations, and one-on-one consultations, midwives can help mothers develop the confidence and skills they need to incorporate infant massage into their daily routines. For example, during a recent community service activity at the Kembaran I Health Center, postgraduate students provided education on infant massage to pregnant women, empowering them to perform the practice independently (Lubis et al., 2023).

Infant massage is a practice with deep historical roots and is recognized for its numerous benefits to infant health, including improved circulation, enhanced immune function, and better sleep patterns. However, despite its recognized advantages, many parents, particularly in rural or traditional settings, remain hesitant to practice infant massage themselves. This hesitation often stems from a lack of confidence or fear of doing it incorrectly, leading many to seek the assistance of traditional healers. Such reliance on external sources for care not only limits parents' autonomy but also perpetuates a knowledge gap, particularly among expectant mothers, who may be unaware of the physical and emotional benefits of performing infant massage independently.

This topic warrants further research because of the significant role that education plays in empowering parents, especially mothers, to confidently engage in infant care practices such as massage. Educating pregnant women about the benefits and techniques of infant massage can address cultural barriers and provide the knowledge needed to encourage self-sufficiency. It is essential to understand how education influences mothers' confidence in performing massage, as it is a practice that can positively impact their relationship with their child, as well as their child's physical and emotional development. By investigating the impact of education on this practice, we can bridge the gap between traditional practices and modern ultimately enhancing health strategies, maternal and child well-being.

This research is important because infant massage not only provides physical benefits for the baby but also promotes emotional bonding between parents and children, reducing stress and fostering a secure attachment. The integration of infant massage into mainstream parenting practices, through effective education, has the potential



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to improve long-term health outcomes for both infants and their families. In conclusion, infant massage offers numerous physical, emotional, and developmental benefits. However, many mothers remain unaware or unsure about performing it due to cultural practices, fear of making mistakes, and limited access to reliable information (Salamah, 2021). Education is key to bridging this gap. Research consistently shows that mothers who receive education and support on infant massage are more likely to feel confident in performing it, leading to better outcomes for both the mother and baby (Field, 2010). Midwives and healthcare providers play a crucial role in offering this support. As more mothers become aware of the benefits and receive the necessary education, the practice of infant massage will likely continue to grow, ultimately benefiting the overall health and well-being of infants and their families.

Research Method

This study employed preexperimental design with a One-Group Pretest and Posttest approach. The independent variable in this research is the education of infant massage and the dependent variable is knowledge of pregnant women. The study population consisted of 32 pregnant women residing in Linggasari Village, within the working area of the Kembaran I Health Center. The sample was selected through purposive sampling, consisting of 18 pregnant women who attended the pregnant mothers' class in Linggasari Village during the time of the study. The inclusion criteria for this study were all mothers who participated in the pregnant mothers' class and agreed to be research subjects, while the exclusion criteria included mothers who attended the class but did not consent to participate in the study.

Data collection was conducted using a questionnaire containing 20 closed-ended

questions, administered before and after the intervention, to measure the difference in the knowledge of pregnant women before and after the infant massage education session. Data analysis involved univariate analysis to describe the characteristics of the respondents and bivariate analysis to determine whether there was a significant difference in knowledge before and after the infant massage education. The Paired t-test was used to analyze the data.

Results and Discussions

This activity was conducted on Tuesday, July 16, 2024, from 09:00 AM to 12:00 PM in one of the pregnant mothers' classes in Linggasari Village, within the working area of the Kembaran I Health Center, Banyumas Regency. The event was attended by 18 pregnant women, 1 midwife, 4 community health volunteers (kader), and 2 students. Before the educational session began, the students introduced themselves and explained the activities that would take place. Prior to delivering the education on infant massage and demonstrating the massage technique, an initial assessment of the participants' knowledge about infant massage was conducted.

The educational content on infant massage was provided through a leaflet, while the technique was demonstrated in a live simulation by the instructional team using a baby doll. Following this, a demonstration was carried out by a representative participant using the doll provided. The participants were quite enthusiastic, with three participants asking questions, and at the end of the session, two participants gave feedback and summarized the material presented. After the educational session concluded, a final assessment of the participants' knowledge was conducted to evaluate the impact of the session.

1. Pregnant Women Characteristics by Age, Education, Work Status, and Parity



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Univariate analysis was made with the aim of describing the characteristics of the research subjects presented in Table 1. The table below presents the demographic characteristics of the pregnant women participants, categorized by age, education level, work status, and parity.

These variables provide insight into the socioeconomic and reproductive profiles of the study subjects, which may influence their knowledge and practices related to infant massage. The distribution of participants across different age groups, educational backgrounds, employment status, and parity is shown, reflecting the diversity within the study sample.

Table 1 Frequency Distribution of Characteristics of Research Subjects

Variable	N	%				
Age						
17-25 years old	7	38,9				
(Late Teenagers)						
26-35 years old	10	15,6				
(Early Adult)						
36-40 years old	1	5,6				
(Late Adult)						
Education Level						
Primary Education	-	-				
Secondary	14	77,8				
Education						
Higher Education	4	22,2				
Work Status						
Working	13	72,2				
Not Working	5	27,8				
Parity						
Primipara	8	44,4				
Multipara	7	38,9				
Grandemultipara	3	16,7				

Based on the table above, it shows that the majority of pregnant women participating in the class in Linggasari Village fall into the early adult age group, accounting for 55.6%, while 5.6% are in the late adult age group. Regarding the educational background of the pregnant women, most have completed secondary education, representing 77.8%, while 22.2% have higher education. In terms of employment, a significant majority of pregnant women are

employed, making up 72.2%, while those who chose not to work constitute only 27.8%. Furthermore, when considering the number of children born, it is evident that most of the pregnant women in the study are expecting their first child, or are primiparas, at 44.4%. Therefore, based on this overview, it can be concluded that the majority of pregnant women attending the infant massage education in the pregnant mothers' class in Linggasari Village,



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under the Kembaran I Health Center, are in the early adult age group, have a secondary

education level, and are pregnant with their first child

Tabel 2 Frequency Distribution of Knowledge Levels of Pregnant Women Before and After
Giving Baby Massage Counseling

2.16 2.0.7					
Before Variable Counseling	After				
	Counseling	Counseling			
	f	%	f	%	
Good	5	27,8	13	72,2	
Adequate	11	61,1	5	27,8	
Insufficient	2	11,1	-	-	

Based on Table 2, it is shown that the level of knowledge among pregnant women about infant massage prior to the educational intervention was adequate for 61.1%, while a small proportion, 11.1%, exhibited insufficient knowledge. After the educational intervention,

the majority of pregnant women demonstrated improved knowledge, with 72.2% achieving a higher level of understanding, while a smaller group, comprising 27.8%, maintained an adequate level of knowledge

2. Comparing Knowledge Before and After Infant I

A bivariate analysis was conducted in this study to determine whether there was a significant difference before and after the educational intervention on infant massage in the pregnant mothers' class in Linggasari Village, under the Kembaran I Health Center. The Paired t-test was used for this analysis.

Table 3 The difference in knowledge of pregnant women before and after the infant massage education in the Pregnant Mothers' Class in Linggasari Village, under the working area of Kembaran I Health Center

	Pre Educatiom	Post Education	р
Mean	14,28	17,28	0,0001
Standard deviation	6,09	4,52	

Based on Table 3, the mean knowledge score of pregnant women before the educational intervention was 14.28 with standard deviation 6.09, which increased to 17.28 with standard deviation 4.52 after receiving the infant massage education. This increase was statistically significant, as indicated by a p-value of 0.001 (p < 0.05). This demonstrates a significant difference in the

knowledge of pregnant women before and after the educational intervention.

Based on the results of the education session for 18 pregnant women in Linggasari Village, under the Kembaran I Health Center, it can be concluded that the education on infant massage successfully increased pregnant women's knowledge about the technique. The educational intervention had a significant



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impact on maternal knowledge, with the majority of mothers gaining good knowledge about infant massage after the session.

However, improving mothers' skills in performing infant massage cannot be achieved through a single educational session alone. Continuous outreach by the health center and other related parties is essential to ensure that mothers acquire sufficient knowledge and skills. Regular follow-up sessions and practical demonstrations are necessary to enhance mothers' confidence and competence in performing the massage independently.

To further support this effort, healthcare providers, particularly midwives at the Kembaran I Health Center, should continue offering information and practical training on infant massage techniques. Expanding the

Conclusion

Based on the results of the education session for 18 pregnant women in Linggasari Village, under the Kembaran I Health Center, it can be concluded that the education on infant massage successfully increased pregnant women's knowledge about the technique. The educational intervention had a significant impact on maternal knowledge, with the majority of mothers gaining good knowledge about infant massage after the session.

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To further support this effort, healthcare providers, particularly midwives at the Kembaran I Health Center, should

sessions to include fathers and other caregivers could also improve the overall support system for the infant. Additionally, developing easy-to-access resources such as instructional videos or brochures may empower parents to perform the massage at home, reinforcing the lessons learned during the education session.

Involving community health volunteers in such training sessions could extend the reach of this education, helping to promote health widespread benefits for infant throughout the community. This collaborative approach will not only improve maternal knowledge but also foster a supportive environment where mothers feel empowered and capable of providing the best care for their infant.

continue offering information and practical training on infant massage techniques. Expanding the sessions to include fathers and other caregivers could also improve the overall support system for the infant. Additionally, developing easy-to-access resources such as instructional videos or brochures may empower parents to perform the massage at home, reinforcing the lessons learned during the education session.

Involving community health volunteers in such training sessions could extend the reach of this education, helping to promote widespread benefits for infant health throughout the community. This collaborative approach will not only improve maternal knowledge but also foster a supportive environment where mothers feel empowered and capable of providing the best care for their infants.

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Karangdadap, Pekalongan Refency that have been allowed the author to conduct this research.

Conflic of Interest

It is recommended that midwives continue to provide skills training, particularly in infant massage, during pregnancy preparation. This will enable pregnant women to become more proficient in infant massage techniques and apply them routinely from the moment the baby is born. Such practices will help strengthen the emotional bond between mother and baby, as well as support the baby's healthy growth.

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