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HEALTH EDUCATION ON MATERNAL KNOWLEDGE AND ATTITUDES IN BABY MASSAGE INDEPENDENTLY

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Abstract

Background: Baby massage is a comfortable form of communication between mother and baby. Benefits of regular baby massage with proper techniques include increased baby weight gain, improved breast milk production, reduced maternal anxiety, and stronger bonding. **Method:** Quantitative research using a cross-sectional approach. Data analysis was conducted using univariate and bivariate techniques with chi-square statistical tests. The sample in this study consisted of 45 mothers with babies aged 0–12 months in Kedak Village, Semen, Kediri Regency. Sampling technique with accidental sampling. Respondents were given a questionnaire before and after participating in a health education session conducted using audiovisual media and leaflets. **Result:**The bivariate analysis using the chi-square test showed the value of Asymp. A significant relationship was found between pre-health education and the knowledge and attitude of mothers in massaging their baby independently, with a p-value of 0.000. Post-health education, the Asymp. significance level of p-value 0.001 indicates a relationship between mothers' knowledge and their attitude towards independently massaging their babies after health education. **Conclusion:** There is a relationship between health education and mothers' knowledge and attitude towards independently massaging their babies.
keyword : Baby massage, health education, knowledge, and attitudes.

INTRODUCTION

Comfortable communication between mother and baby is through baby massage (Rohmah & Aryaneta, 2020). Touch is also an early interaction for humans, as babies respond to physical stimuli felt by the skin as an active sense. Regular baby massage using proper techniques can be a therapy with numerous benefits for both the baby and parents (Nurlaily & Oktariani, 2018). The benefits include physical, physiological, and psychological aspects. Benefits for baby physical health are weight gain and increased breast milk production, as proven by research conducted by T. Field and Scafidi from the University of Miami, USA. The study showed that 20 premature babies experienced a weight gain of 20–47% every 3 days after being massaged for 3x15 minutes for 10 days. Babies aged 1-3 months who received 15 minutes of massage twice a week for six weeks showed greater weight gain compared to those who did not receive massage (Rohmah & Aryaneta, 2020). The baby's development progresses rapidly between the ages of 0 and 12 months (Stern, 2019). According to American psychoanalyst John Bowlby, stronger attachment will begin soon after the baby is born; the interaction

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between the baby and its mother will develop the baby's ability to respond to his mother's behavior (Bowly J., 1979).

It has been proven that mothers who interact with their babies by giving them baby massages while hospitalized experience decreased anxiety and stronger attachment. The increased attachment is also evident in a study by Gurol A. dan Holditch-Davis (Gürol & Polat, 2012). This benefit can be associated with the hormone oxytocin that is secreted due to physical contact (Matthiesen, et al., 2001). Both mother and baby will experience an increase in oxytocin levels during infant massage. Previous literature reviews have found some evidence of the effects of infant massage on reducing pain (Fitri, et al., 2021), decreasing jaundice (Lei & Liu, 2018) and increasing weight gain (Niemi, 2017).

The fact is that, although baby massage has significant benefits for both the baby and the mother if done independently, nowadays few mothers are willing to massage their babies themselves for fear of making mistakes and feeling unsatisfied with self-massage. The cause is the mother's lack of knowledge about independently performing baby massage, resulting in negative attitudes and behaviors towards self-perform baby massage stimulation (Nurlaili & Oktariani, 2018). In Indonesia, the practice of infant massage in rural communities is often carried out by traditional infant healers. Massage is not only done on healthy babies but also on sick or fussy babies and has become a routine postnatal care practice. Infant massage is a form of touch communication that initially has positive effects on a baby's growth and development. However, for some babies, massage can be painful or have negative effects, causing them to fear being touched (Zuliana, et al., 2023).

Given that many mothers are unaware of the benefits of infant massage, they often resort to traditional massage therapists when their baby is sick. These mothers are hesitant to perform massage themselves due to a lack of knowledge about infant massage techniques. Massage done too forcefully and roughly on a baby by a traditional healer can result in bleeding in the soft tissues and cause bruising on the baby's skin. Infants with bloated stomachs should not be massaged indiscriminately. Massaging could worsen any intestinal blockage causing the bloating. Knowledge is an essential factor in shaping an individual's behavior. If behavior occurs through a process based on knowledge, awareness, and a positive attitude, then the behavior is direct (Zuliana, et al, 2023).

METHOD

This study is quantitative research with a cross-sectional approach. The population for this study consists of all mothers with babies aged 0–12 months in the Kedak Village, Semen, Kediri, with a sample size of 45 mother-baby pairs. The sampling technique using accidental sampling was conducted in June-July 2024 by inviting participants to a health education socialization event at the Poskesdes Desa Kedak. Questionnaires were distributed before the Health Education socialization on infant massage for mothers of infants. Socialization is conducted using audiovisual media, and leaflets are distributed for easy recall when respondents have returned home. After conducting the health education session on infant massage independently, the mothers of the infants were also given a pre-test questionnaire. Mothers of infants who meet the inclusion criteria are selected as research respondents. Prior to

questionnaire completion, all respondents are briefed on the study and asked to sign a consent form to participate. The data obtained was then analyzed using univariate and bivariate analysis with the chi-square test.

RESULT AND DISCUSSION

A. **Frequency Distribution Based on Age, Education, Occupation, and Baby Massage Information.**

Table 1. Frequency Distribution Based On Age, Education, Occupation, And Baby Information

Characteristics of respondents	N	(%)
Mother's Age		
24-31	22	48,9
32-38	23	51,1
Education Level		
Junior high school	13	28,9
High school	21	75,6
College	11	24,4
Occupation		
Employee (Swasta)	16	35,6
Housewife	13	64,4
Entrepreneur	11	88,9
Civil (ASN)	5	11,1
Information on Baby Massage		
Ever	14	31,1
Never	31	68,9

Distribution of respondents based on mother's age shows that the majority of respondents are in the 32-38 age group, with 23 respondents (51.1%) classified as adults. The highest level of education is high school, with 21 respondents (75.6%). The highest occupation is in the employee, with 16 respondents (35.6%). Furthermore, the distribution of respondents who have never received baby massage information shows the highest at 31 respondents (14.1%).

B. Univariate Analysis

Maternal Knowledge of Baby Massage Before and After Health Education

Table 2. Frequency Distribution of Maternal Knowledge on Baby Massage Independently Before and After Health Education

Knowledge of Maternal Baby Massage Independently Before Health Education	f	%
Good knowledge	9	20
Lacking knowledge	36	80
Total	45	100
Knowledge of Maternal Baby Massage Independently After Health Education	**f**	**%**
Good	42	93,3
Lacking	3	6,7
Total	45	100

From the table above, it can be seen that the majority of mothers had is lacking knowledge about baby massage before receiving health education, with 36 mothers (80%) having lack knowledge and only 9 mothers (20%) having good knowledge. After receiving health education on baby massage, mothers' knowledge changed as follows: 42 mothers (93.3%) had good knowledge, while only 3 mothers (6.7%) had lack knowledge.

Table 3. Frequency Distribution Of Maternal Attitudes Toward Baby Massage Before and After Receiving Health Education

Maternal Attitudes towards Baby message Before Health Education	**f**	**%**
Positife	5	11,1
Negative	40	88,9
Total	45	100
Maternal Attitudes towards Baby message After Health Education	**f**	**%**
Positive	38	84,4
Negative	7	15,6
Total	45	100

From the table above, it can be seen that the data shows that the majority of mothers have a negative attitude towards baby massage before receiving health education, with 40 mothers (88.9%) having a negative attitude and only 5 mothers (11.1%) having a positive attitude. After receiving health education about independent baby massages, mothers' attitudes changed. The majority, 38 mothers (84.4%), had a positive attitude, while a small portion, 7 mothers (15.6%), had a negative attitude towards baby massage implementation.

C. Bivariate Analysis

Analysis of correlation between variables using a bivariate test. This analysis utilizes cross-tabulation and chi-square testing. Cross-tabulation between knowledge and attitudes of mothers before health education.

Table 4. Cross-tabulation between Maternal Knowledge and Maternal Attitudes towards Independent Baby Massage Before Receiving Health Education

Crosstab

			Maternal Attitudes Before Health Education		
			Positive	Negative	Total
Maternal Knowledge Before Health Education	Good Knowledge	Count	5	4	9
		Expected Count	1.0	8.0	9.0
	Lacking knowledge	Count	0	36	36
		Expected Count	4.0	32.0	36.0
Total		Count	5	40	45
		Expected Count	5.0	40.0	45.0

The table provides information that before receiving health education, 36 mothers had lacking knowledge and negative attitudes towards practicing baby massage independently. However, 9 other mothers had good knowledge on baby massage before receiving health education, and their attitudes included 4 mothers with negative attitudes and 5 mothers with positive attitudes towards independent baby massage.

Table 5. Chi-Square Test Between Mother's Knowledge And Mother's Attitude

Before Health Education

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	22.500[a]	1	.000		
Continuity Correction[b]	17.227	1	.000		
Likelihood Ratio	19.030	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	22.000	1	.000		
N of Valid Cases	45				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.00.

Based on the test results in the table above, it is noted that the p-value is 0.000 (<0,05). Therefore, it can be concluded that there is a significant relationship between a mother's knowledge and attitude before health education.

Table 6. Cross-Tabulation Between Maternal Knowledge And Maternal Attitudes After Health Education.

Crosstab

			Maternal Attitudes Before Health Education		
			Positive	Negative	Total
Maternal Knowledge Before Health Education	Good Knowledge	Count	38	4	42
		Expected Count	35.5	6.5	42.0
	Lacking Knowledge	Count	0	3	3
		Expected Count	2.5	.5	3.0
Total		Count	38	7	45
		Expected Count	38.0	7.0	45.0

The table shows that after receiving health education, 42 mothers have good knowledge; among them, 38 mothers have a positive attitude and 4 mothers have a negative attitude towards independent baby massage implementation. While the remaining 3 mothers who received health education after demonstration have lacking knowledge and negative attitudes towards independent baby massage practice.

Table 7. Chi-Square Test Between Mother's Knowledge And Mother's Attitude After Health Education

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	17.449[a]	1	.000		
Continuity Correction[b]	11.241	1	.001		
Likelihood Ratio	12.483	1	.000		
Fisher's Exact Test				.002	.002
Linear-by-Linear Association	17.061	1	.000		
N of Valid Cases	45				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .47.

Based on the test results in the table above, it is known that the p-value is 0.001 (<0,05). Therefore, it can be concluded that there is a significant relationship between mothers' knowledge and their attitudes after receiving health education

DISCUSSION

A. MATERNAL KNOWLEDGE AND ATTITUDE IN BABY MASSAGE INDEPENDENTLY BEFORE HEALTH EDUCATION

As mentioned in the research results, before receiving health education, the majority of 36 mothers had lacking knowledge and negative attitude towards baby massage independently, with a chi-square test result showing a p-value of 0.000. This is in line with Debora et al. (2024) research on the influence of baby massage health education on maternal knowledge and attitudes towards massaging their babies independently. The results showed that before receiving Health Education, the majority of mothers' knowledge was lacking, with 20 individuals (87%), while the minority had sufficient knowledge, with 3 individuals (13%). Before receiving Health Education, the majority of mothers had a negative attitude (43.5%, n=13) while a minority had a positive attitude (8%, n=10). The obtained p-value of 0.002 indicates a significant influence of Health Education on mothers' knowledge in massaging their babies. The p-value of 0.000 shows a significant impact of Health Education on mothers' attitudes towards massaging their babies. (Paninsari, et al., 2024)

This research is in line with the study by Zuliana et al. (2023) on baby massage behavior independently by respondents before health education was conducted, all included in the less category (100%). There is a significant influence of health education on baby massage on mothers' behavior in independently massaging their babies. Simple health promotion processes include health education that can be optimally used to enhance people's knowledge and attitudes toward maintaining body health. A medium is needed to deliver health education. Health promotion media is used to convey health messages or information to individuals in order to increase knowledge and encourage positive behavior change (Debora. et al. 2024). Adding literature findings, research by Dina MR. (2020) also mentioned that the majority of mothers exhibited poor behavior, with 29 respondents (96.7%) performing baby massages independently. This is due to the lack of knowledge mothers have about baby massage, leading them to feel afraid to massage their own baby and still believe it is better to go to a baby healer for the massage. Therefore, parents need to be equipped with education on the benefits and proper techniques of baby massage (Rohmah & Aryaneta, 2020).

The assumption of researchers is that information is crucial in life because it can influence one's behavior. The less information acquired, the lower the ability to motivate oneself. With information, individuals can gain a better understanding, comprehend, and perform the necessary actions while avoiding harmful behaviors toward themselves and their children.

B. MATERNAL KNOWLEDGE AND ATTITUDE IN BABY MASSAGE INDEPENDENTLY AFTER HEALTH EDUCATION

As mentioned in the research findings, after receiving health education, the majority of 42 mothers showed good knowledge. Among them, 38 mothers had a positive attitude, while 4 mothers had a negative attitude towards independently performing baby massage. Meanwhile, the remaining 3 other mothers, after

receiving health education, showed lacking knowledge and a negative attitude towards independent baby massage. The chi-square test resulted in a p-value of 0.001. This is in line with a study by Iramaya (2024), which indicated that after receiving counseling, the knowledge of mothers increased by 29 respondents (72.5%) and the positive attitude of mothers increased by 28 respondents (70%). Other research has shown that respondents with a good level of knowledge mostly perform infant massage, with a statistical test revealing a p-value of 0.039 (<0,05) (Sinulingga & Patriani, 2023).

The research conducted in Dusun Brajan, Tamantirto Village, Bantul Regency, Yogyakarta, especially in Posyandu A and B, revealed that after receiving health education on baby massage, the majority of mothers (100%) have good knowledge, and the majority of respondents (56.67%) perform baby massage according to the technique. This is possible because mothers have not been exposed to information on baby massage that can be done by themselves, or many respondents still massage their babies by traditional healers. An individual's skills can be determined by their knowledge, attitude, availability of facilities, and the behavior of healthcare providers as health facilitators (Ekawati & Anggraini, 2018). In line with the study by Syefira (2020), respondents' knowledge after receiving health education showed good knowledge in 44 respondents (88%), and positive attitudes in 35 respondents (70%) after receiving health education. (Johar, 2020).

Assuming researchers have a more positive attitude towards baby massage, the better the actions of mothers towards implementing baby massage. Information on baby massage obtained from a mother's knowledge of baby massage supported by the baby's condition will serve as a stimulus for the mother to determine her attitude, whether she supports baby massage behavior or rejects it.

CONCLUSION AND SUGGESTION

Based on the research on health education on the knowledge and attitudes of mothers in massaging babies independently in the village of Kedak Semen, Kediri Regency, with a sample of 45 mothers of babies, it can be concluded that before being given health education, 36 mothers had lacking knowledge and negative attitudes towards independent baby massage, and 9 other mothers had good knowledge of baby massage, with 4 displaying a negative attitude and 5 displaying a positive attitude towards self-administered baby massage. A chi-square test with a p-value of 0.000 (<0,05). Therefore, it can be concluded that there is a significant relationship between a mother's knowledge and her attitude before health education.

Knowledge and attitudes of mothers after receiving health education show that out of 42 mothers, 38 have good knowledge and attitudes, with 38 mothers having a positive attitude and 4 mothers having a negative attitude towards independent baby massage implementation. However, the remaining 3 mothers who received health education had lacking knowledge and a negative attitude towards performing independent baby massages, with a p-value of 0.001 (<0,05). Therefore, it can be concluded that there is a significant relationship between a mother's knowledge and her attitude after receiving health education.

DECLARATION

Conflict of Interest

The author declares no conflict of interest in this research.

Authors' Contribution

CD wrote a conceptual study, developed the methodology, collected data, and wrote and revised the manuscript. NDH is gathering data and preparing a manuscript.

Ethical Approval

Research ethics committee of Bhakti Wiyata Kediri Institute of Health Science nomor 08/Fkes/TK/2024

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Data Availability

The data supporting this research are accessible from the authors upon request.

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REFERENCE

Ekawati & Anggraini, T. Y. A., 2018. The Influence of Health Counseling to Mothers Knowledgw and Behaviour in Giving Baby Massage in Brajan Tamantirto Bantul Yogyakarta. *Media Ilmu Kesehatan,* 7(1), pp. 12-16.

Fitri, S., Nasution, S., Nurhidayah, I. & Maryam, N., 2021. Massage Therapy as a Non-Pharmacological Analgesia for Procedural Pain in Neonates: A Scoping Review. *Complementary Therpies in Medicine,* Volume 59, p. 102735.

Gürol, A. & Polat, S., 2012. The Effects of Baby Massage on Attachment between Mother and Their Infants. *Asian Nurs,* Volume 6, pp. 35-41.

Johar, S. A., 2020. The Effect of Health Education on Mother's Attitude About Baby Massage in Kelurahan Tiyaran District Bulu Regency Sukoharjo. *PLACENTUM Jurnal Ilmiah Kesehatan dan Aplikasinya,* 8(1), pp. 25-30.

Lei, M. & Liu, T., 2018. Effects of Massage on Newborn Infants with Jaundice: A Meta-Analysis.. *International Journal of Nursing Sciences,* 5(1), pp. 89-97.

Matthiesen, A. S., Ransjö-Arvidso, A. B., Nissen, E. & Uvnäs-Moberg , 2001. Postpartum Maternal Oxytocin Release by Newborns: Effects of Infant

Hand Massage and Sucking. Birth 2001, 28, 13–19.. *Birth Issues in Perinatal Care,* 28(1), pp. 13-19.

Niemi, A. K., 2017. Review of Randomized Controlled Trials of Massage in Preterm Infants. Children 2017, 4, 21. *Children 2017, 4, 21,* Volume 4, p. 21.

Nurlaily, A. & Oktariani, M., 2018. Pengaruh Pelatihan Pijat Bayi Terhadap Perilaku Ibu Di Wilayah Kelurahan Plesungan.. *Adi Husada Nursing Journal. ,* Volume 4, pp. 33-36.

Paninsari, D., Juwita, N., Malasari, N. & Purba, N. B., 2024. Pengaruh Pendidikan Kesehatan Tentang Pijat Bayi Terhadap Pengetahuan Dan Sikap Ibu Dalam Memijat Bayi Secara Mandiri. *INNOVATIVE: Journal Of Social Science Research,* 4(3), pp. 9215-9226.

Rohmah, D. M. & Aryaneta, Y., 2020. Pengaruh Penyuluhan tentang Pijat Bayi Terhadap Prilaku Ibu Dalam Melakukan Pijat Bayi Secara Mandiri. *Zona Kebidanan,* 10(2), pp. 34-41.

Sinulingga, S. & Patriani, S., 2023. Hubungan Pengetahuan dan Sikap Ibu terhadap Pelaksanaan Pijat Bayi. *Jurnal Akademika Baiturrahim Jambi (JABJ),* 12(2), pp. 302-311.

Stern, D. N., 2019. *The Interpersonal World of the Infant: A View from Psychoanalysis and Developmental Psychology.* London: Routledge.

Zuliana, Munir, Sunarti & Padhila, 2023. Pengaruh Penyuluhan Pijat Bayi Terhadap Pengetahuan dan Sikap Ibu dalam Memijat. *Window of Nursing Journal,* 4(1), pp. 47-56.