DOI: https://doi.org/10.30994/sjik.v13i1.1114 ISSN: 2252-3847 (print); 2614-350X (online)

The Effect of Health Education through Providing Marmet Massage on the Knowledge of Breastfeeding **Mothers in Increasing Breast Milk Production**

Meirna Eka Fitriasnani^{1*}, Fithri Rif'atul Himmah², Erik Irham Lutfi³, Mayasari Putri

1,2,4 Department of Midwifery, Faculty of Health Sciences, Universitas Kadiri, Indonesia Department of Ners, Faculty of Health Sciences, Universitas Kadiri, Indonesia *Corresponding Author: meirna.eka@unik-kediri.ac.id

ABSTRACT

Mother's milk can educate and improve the quality of the nation's young generation. Every baby who is breastfed will have natural immunity against disease because breast milk contains many antibodies, active immune substances that will fight the entry of infections into the baby's body. Inadequate breast milk production causes the baby's needs to not be met and exclusive breastfeeding fails. The aim of this research is to determine the effect of health education through giving marmet massage on the knowledge of breastfeeding mothers to increase breast milk production. The research design uses a pre-experimental approach with a one group pre test post test design. The population in this study were breastfeeding mothers in Tamanan Village, Kediri City in November 2023. The sample of breastfeeding mothers in Tamanan Village, Kediri City was 16 people with a sampling technique using purposive sampling. Based on the results of statistical tests using the Wilcoxon signed rank test, it is known that the p value of 0.001 is smaller than the value of $\alpha = 0.05$ (0.001 < 0.05) so that H0 is rejected and H1 is accepted, meaning that there is an influence of providing health education through Marmet Massage on knowledge. breastfeeding mothers to increase breast milk production. It can be concluded that providing health education through Marmet Massage to the knowledge of breastfeeding mothers to increase breast milk production in Tamanan Village, Kediri City. Respondents were advised to choose an alternative to increase breast milk production by using marmet massage.

Keywords: health education, knowledge of breastfeeding mothers, marmet massage

Received March 5, 2024; Revised April 10, 2024; Accepted May 10, 2024



STRADA: Jurnal Ilmiah Kesehatan, its website, and the articles published there in are licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

Copyright © 2024 Institut Ilmu Kesehatan STRADA Indonesia

BACKGROUND

National development is carried out in all fields and one field that is no less important than other fields is the health sector. Health development aims to increase awareness, willingness and ability to live healthily for everyone in order to achieve the highest level of public health, as an investment for the development of socially and economically productive human resources. Sustainable Development Program or Sustainable Development Goals (SDGs), Indonesia has 17 SDG targets that it wants to achieve by 2030. One of the points is ensuring access to safe, nutritious and sufficient food for everyone, stopping all forms of malnutrition, reducing stunting and wasting. in toddlers and address nutritional needs (Ministry of Health, 2020).HIV/AIDS (Human Immunodefeciency Virus/Acquired Immunodefeciency Virus Syndrome) is a disease that continues to grow and become a global problem that plagues the world, including in Indonesia. New case reports continue to increase every year, but it is difficult to know the true number of HIV (Human Immunodefeciency Virus) infections (Ministry of Health, 2021).

Nutrition problems in Indonesia are one of the main problems in human development. As a country with a diverse population, Indonesia is faced with the dynamic problem of malnutrition. In Indonesia, the percentage of children under five who are malnourished and malnourished in rural areas is higher than in urban areas. Some data on disparities in the health sector can be seen in the 2018 Riskesdas results. The proportion of malnourished and malnourished babies is lowest in Riau Islands Province (13%) and highest in NTT Province (29.5%) or three times the lowest. The United Nations Children's Fund (UNICEF) states that breast milk saves the lives of babies, especially in developing countries. Difficult economic conditions, poor sanitation conditions, and clean water that is difficult to obtain cause giving formula milk to contribute to the greatest risk of malnutrition and the emergence of various diseases such as diarrhea due to unhygienic preparation and administration of formula milk (Dahniarti, 2017). In 2020 WHO again presented data in the form of exclusive breastfeeding rates globally, although there has been an increase, this figure has not increased significantly, namely around 44% of babies aged 0-6 months worldwide who received exclusive breastfeeding during the 2015-2020 period. of the 50% target of exclusive breastfeeding according to WHO. The low level of exclusive breastfeeding will have an impact on the quality and vitality of the next generation. Globally in 2019, 144 million children under five are estimated to be stunted, 47 million are estimated to be underweight and 38.3 million are overweight or obese (WHO, 2020).

Mother's milk can educate and improve the quality of the nation's young generation. Every baby who is breastfed will have natural immunity against disease because breast milk contains many antibodies, active immune substances that will fight the entry of infections into the baby's body. Currently around 40% of under-five deaths occur in the first month of a baby's life, giving breast milk will reduce 22% of deaths of babies under 28 days old, thus the death of babies and toddlers can be prevented through early exclusive breastfeeding 3 from the time the baby is born at the beginning of their life. (Endah & Masdinarsah, 2011). The reality in the field shows that breast milk production in the first days after giving birth is an obstacle in providing early breast milk. Providing breast milk in the first hours of birth, if it cannot be done by the mother, will cause the breastfeeding process to be delayed. If the breastfeeding process is delayed, it will have an impact on the release of the hormone prolactin as a stimulation of breast milk production in the mother during breastfeeding. Lack of breastfeeding by mothers for babies causes the problem of ineffective breastfeeding. If not addressed, the problem of ineffective breastfeeding will cause problems for babies such as decreased immune system, problems with body and brain development, and can result in

increased infant mortality rates. Alternatives to stimulate the hormones prolactin and oxytocin in mothers after giving birth, apart from expressing breast milk, can also be done by caring for and massaging the breasts or the marmet technique, frequently breastfeeding the baby even though the milk has not yet come out, breastfeeding early and regularly and balanced with oxytocin massage (Mudyatiningsih & Lasri, 2018).

The guinea pig technique of manually removing breast milk and assisting the Milk Ejection Reflex has worked for thousands of mothers in a way that it didn't before. Even experienced breastfeeding mothers who have been able to express breast milk are said to produce more milk with this method. The Marmet technique is a combination of milking and massaging techniques. Expressing using hands and fingers has the advantage that apart from being able to regulate negative pressure, it is more practical and economical because it is enough to wash hands and fingers thoroughly before expressing breast milk (Arfian, 2020). With the alternative of increasing breast milk production through marmet massage, it is hoped that there will be an increase in postpartum mothers who breastfeed their babies so that the coverage of exclusive breastfeeding will be higher, which will have a long-term impact on reducing the number of infant deaths due to malnutrition.

METHODS

This research design is a pre-experimental one group pretest-posttest design. The independent variable in this study was giving guinea pig massage. The dependent variable in this study is knowledge of breastfeeding mothers. The research instrument is a questionnaire. This research was conducted in Tamanan Village, Kediri City. The population in this study were all breastfeeding mothers in Tamanan Village, Kediri City. In this research, the sampling technique used purposive sampling.

The data collection stage includes the implementation stage where at this stage respondents consisting of breastfeeding mothers were given a questionnaire to determine the knowledge of breastfeeding mothers in an effort to increase breast milk production. Furthermore, respondents were given health education as well as giving demonstrations about guinea pig massage, which is an effort to increase breast milk production. Next, respondents were given another questionnaire to find out the extent of increased knowledge of breastfeeding mothers regarding efforts to increase breast milk production.

The next stage is the data collection procedure including: Ask permission from the Head of Tamanan Subdistrict, Kediri City. After obtaining permission from the Head of Tamanan Subdistrict, Kediri City, then conducting the research, the researcher provided an explanation to potential respondents about the purpose of the research and if they were willing to become respondents, they were invited to sign a consent form. The questionnaire sheet is kept by the researcher for data processing, which is carried out after the intervention is complete.

The next step is to carry out data processing which includes editing, namely checking the correctness of the data obtained or collected. Carried out when the data is collected or after the data is collected, coding is the activity of giving numerical codes (numbers) to data consisting of several categories, transferring, namely moving data that has been filled in and the results of observations into certain media and the last is tabulating, namely the data obtained, then processed by researchers in the form of a frequency distribution table. Then data analysis was carried out using the Wilcoxon Test.

RESULTS

Characteristics of Respondents

Table 1. Frequency distribution of respondents based on parity in Tamanan Village, Kediri City

DOI: https://doi.org/10.30994/sjik.v13i1.1114 ISSN: 2252-3847 (print); 2614-350X (online)

No.	Parity	Frequency(n)	Prosentase (%)
1.	Primipara	9	56,25
2.	Multipara	7	43,75
3.	Grandemultipara	0	0
	Total	16	100

The table above shows that the majority of respondents were primiparas, namely 9 respondents (56.25%).

Table 2. Frequency Distribution of Respondents Based on Education in Tamanan Village, Kediri City

No.	Education	Frequency(n)	Prosentase (%)
1.	No School	0	0
2.	Elementary School	0	0
3.	Junior High School	5	31,25
4.	Senior High School	9	56,25
5.	College	2	12,5
	Total	16	100

The table above shows that the majority of respondents have a senir high school, namely 9 respondents (56.25%).

Table 3. Frequency Distribution of Respondents Based on Occupation in Tamanan Village, Kediri City

No.	Work	Frequency(n)	Prosentase (%)
1.	Housewives	4	62,5
2.	Civil Servant	2	12,5
3.	Private	10	25
4.	Farmer	0	0
	Total	16	100

Based on the table above, the majority of respondents were private, namely 10 respondents (62.5%).

Special Data

Table 4. Frequency Distribution of Respondents Based on Knowledge Level of Breastfeeding Mother Before Being Given Health Education about Marmet Massage as an Effort to Increase Breast Milk Production

No.	Knowledge	Frequency(n)	Prosentase (%)
1.	Good	3	18,75
2.	Enough	8	50
3.	Not Enough	5	31,25
	Total	16	100

Based on the table above, it can be interpreted that half (50%) of the respondents studied before being given health education about guinea pig massage to increase breast milk production had a sufficient level of knowledge.

Table 5. Frequency Distribution of Respondents Based on Knowledge Level of Breastfeeding Mother After Being Given Health Education about Marmet Massage as an Effort to Increase Breast Milk Production

No.	Knowledge	Frequency(n)	Prosentase (%)
1.	Good	11	68,75
2.	Enough	3	18,75
3.	Not Enough	2	12,5
	Total	16	100

Based on table above, it can be interpreted that the majority (68.75%) of the

respondents studied after being given health education about increasing breast milk production through marmet massage had a good level of knowledge.

Table 6. Frequency Distribution of Respondent Characteristics Based on The Effect of Health Education through Providing Marmet Massage on the Knowledge of Breastfeeding Mothers in Increasing Breast Milk Production

24	Knowledge Level				Total			
Marmet = Massage =	Good		Enough		Not Enough		Total	
Wassage =	F	%	F	%	F	%	F	%
Before	2	12,5	10	62,5	4	25	16	100
After	11	68,75	3	18,75	2	12,5	16	100
p value = 0,001	α=	0,05						

Based on the table above, it can be interpreted that the level of knowledge of breastfeeding mothers before being given health education about guinea pig massage to increase breast milk production can be interpreted, the majority (62.5%) of respondents have a sufficient level of knowledge and a small portion (25%) of respondents have a sufficient level of knowledge. Enough, respondents had a low level of knowledge and (12.5%) had a good level of knowledge. Meanwhile, the level of knowledge of breastfeeding mothers after being given health education about guinea pig massage to increase breast milk production can be interpreted as that the majority (68.75%) of respondents have a good level of knowledge and a small portion (18.75%) have a sufficient level of knowledge, knowledge and (12.5%) have a high level of lack of knowledge.

Based on the results of statistical tests using the Wilcoxon signed rank test, it is known that the p value of 0.001 is smaller than the value = 0.05 (0.001 < 0.05) so that H0 is rejected and H1 is accepted, meaning that there is an influence of health education through giving marmet massage on the level of knowledge breastfeeding mothers in increasing breast milk production in Tamanan Village, Kediri City.

DISCUSSION

Identification of Breast Milk Production Before Providing Health Education Through Marmet Massage on the Knowledge of Breastfeeding Mothers in Increasing Breast Milk Production

Based on the research results, it can be interpreted that half (50%) of the respondents studied before being given health education about guinea pig massage to increase breast milk production had a sufficient level of knowledge. Factors that influence breast milk production (Astuti, 2015) include: Baby factors, namely the lack of gestational age of the baby at the time the baby is born, will affect the baby's sucking reflex. The baby's health conditions such as the baby's lack of ability to suck breast milk effectively, among other things due to poor mouth and jaw structure, cleft lip, the baby's metabolism or digestion, so that he cannot digest breast milk, also affects breast milk production, apart from that the more often the baby breastfeeds can facilitate breast milk production. Maternal factors consist of maternal physical factors that influence breast milk production, namely the presence of maternal endocrine disorders and hypoplastic breast tissue. Breast milk production is also influenced by maternal nutrition and maternal fluid intake. Mothers who breastfeed need an additional 300-500 calories during the breastfeeding period. Apart from the respondent's age, other factors that influence breast milk production are the psychological factors of the mother who is in a state of stress, chaos, anger and sadness, lack of support and attention from family and partner to the mother which can influence the lack of breast milk production. Apart from that, mothers are also worried that their breast milk is not sufficient for their baby's needs and there are changes in maternal attainment, especially in mothers who are having a baby for the first time or are primiparous.

Socio-cultural factors also influence breast milk production, such as the existence of myths and wrong perceptions about it and the media that markets formula milk, as well as a lack of community support are things that can influence mothers in breastfeeding. Working mothers and social activities also influence the continuity of breastfeeding. Another factor that influences breast milk production is the mother's job. Working mothers have less time to breastfeed their children so that breast milk delivery cannot be maximized. Based on the research results, it can be interpreted that the majority (62.5%) of respondents are self-employed. Poedianto (2002) stated that working mothers are one of the obstacles that hinder exclusive breastfeeding.

Apart from employment factors, breast milk production is also influenced by the mother's education level. The higher the level of education, the greater the mother's curiosity about caring for herself and her baby, including the breastfeeding process and breast milk production. Based on the research results, it can be interpreted that the majority (56.25%) of respondents had secondary education. This influences the mother's knowledge and curiosity about the breastfeeding process and how to increase breast milk production.

Identification of Breast Milk Production After Providing Health Education Through Marmet Massage on the Knowledge of Breastfeeding Mothers in Increasing Breast Milk Production

Based on the research results, it can be interpreted that the majority (68.75%) of the respondents studied after being given health education about increasing breast milk production through marmet massage had a good level of knowledge. According to Fitriyani (2011), 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 obtained through the eyes and ears. This is possible due to the lack of knowledge of pregnant women regarding efforts to increase breast milk, especially the marmet technique and oxytocin massage, which is still lacking due to differences in the sensing process carried out by each respondent, even though they have been given the same treatment.

The knowledge of breastfeeding mothers is getting better because there are several factors, namely education, employment, parity, age, experience, beliefs, sources of information, environment, socio-culture. One of them is education, education can be obtained formally and non-formally, formal education is obtained by following a structured planned program by an institution, department or ministry of a country. Meanwhile, non-formal education knowledge is obtained from everyday life from various experiences both experienced and learned from someone. Health education about guinea pig massage greatly influences the knowledge of breastfeeding mothers. Health education is an activity that can increase knowledge.

According to Wawan and Dewi (2010), knowledge or cognitive is a very important domain in shaping a person's actions (Over Behavior) from experience and research. It turns out that behavior that is based on knowledge will be more lasting than behavior that is not based on knowledge.

The Effect of Health Education through Providing Marmet Massage on the Knowledge of Breastfeeding Mothers in Increasing Breast Milk Production

Based on the results of statistical tests using the Wilcoxon signed rank test, it is known that the p value of 0.001 is smaller than the value = 0.05 (0.001 < 0.05) so that H0 is rejected and H1 is accepted, meaning that there is an influence of health education through

ISSN: 2252-3847 (print); 2614-350X (online)

giving marmet massage on the level of knowledge breastfeeding mothers in increasing breast milk production in Tamanan Village, Kediri City.

The results of this study are in line with research conducted by Selistyaningtyas (2021) which stated that there was an increase in breast milk production in post partum mothers after being given a combination of marmet massage and oxytocin for 3 days. Other research states that the bivariate results using the independent T-test obtained p value (0.007) $< \alpha$ (0.05), which means there is a significant influence between the breast milk production of postpartum mothers in the intervention group and the breast milk production of postpartum mothers in the control group and the average breast milk production. from 15 respondents in the intervention group it was 1.113cc while 15 respondents in the control group was 0.547cc (Darmasari, 2019). The combination of oxytocin massage and marmet massage is a combination that is believed to provide good results in producing breast milk in post partum mothers. The hormones that play a role in the breast milk production process are the hormones estrogen and progesterone which help the alveoli mature and the hormone prolactin which functions for breast milk production. This is because the marmet technique aims to empty breast milk and the lactiferous sinuses which are located under the areola so that it will send impulses to the hypothalamus in the anterior pituitary to stimulate the release of the hormone prolactin and then stimulate the alveoli cells to produce breast milk.

Marmet massage is a combination of expressing breast milk and massaging the breasts so that the breast milk reflex can be optimal. The technique of expressing breast milk using the marmet method aims to empty breast milk from the lactiferous sinus which is located under the areola so it is hoped that emptying breast milk in the lactiferous sinus will stimulate the release of prolactin. It is hoped that the release of the hormone prolactin will stimulate the mammary alveoli to produce breast milk. The more breast milk is removed or emptied from the breast, the better the milk production in the breast will be (Widiastuti, Arifah, & Rahmawati, 2015). The marmet technique is a combination of massaging and pumping the breasts which can increase the release of the hormones prolactin and oxytocin. Yokoyama, in his research publication, explains that giving massage to the breasts accompanied by emptying the contents of the breasts will activate the hormone prolactin which produces breast milk and the hormone oxytocin which functions to make the breasts contract so that the milk can come out smoothly. Meanwhile, breast massage only removes breast milk that has been stored in the mother's breast sinuses, so it is very effective if to facilitate breastfeeding, massage is carried out accompanied by the process of emptying the breast milk to stimulate the two hormones that work in the breastfeeding process (Widiastuti, Arifah, & Rahmawati, 2015). The technique of expressing breast milk using the marmet method in principle aims to empty breast milk from the lactiferous sinus which is located under the areola so it is hoped that emptying breast milk in the lactiferous sinus area will stimulate the release of the hormone prolactin. The release of the hormone prolactin will then stimulate the mammary alveoli to produce breast milk. The more breast milk is removed or emptied from the breast, the more breast milk will be produced (Lelly, 2017).

The results of this research are in accordance with research conducted by (Saras, 2019) which shows that giving marmet techniques and oxytocin massage has proven effective in producing breast milk for post-partum mothers at the Mardi Rahayu Maternity Home, Semarang with a p value of 0.000. Oxytocin massage and marmet massage are one solution to overcome breast milk insufficiency according to (Biancuzzo, et al, 2003, 69).

CONCLUSION

Based on the research results, it can be concluded that there is an influence of health education through giving marmet massage to increase breast milk production in breastfeeding mothers in Tamanan Village, Kediri City.

REFERENCES

- Astuti, Sri, dkk. (2015). Asuhan Kebidanan Nifas dan Menyusui. Bandung: Erlangga.
- Dahniarti. (2017). Pengaruh Pijat Oksitosin Terhadap Produksi ASI pada Ibu Post Partum di Puskesmas WOHA Bima Tahun 2017, 1-14.
- Darmasari, Sagita, dkk. (2019). Effectiveness of The Combination of Marmet Technique and Oxytocin Massage Against The Breast Milk Production of Mother Postpartum. Jurnal Kedokteran Kesehatan Universitas Sriwijaya, 6(3), pp 110-114.
- Endah, Siti Nur, & Masdinarsah, Imas. (2011). Pengaruh Pijat Oksitosin Terhadap Pengeluaran Kolostrum Pada Ibu Post Partum Di Ruang Kebidanan Rumah Sakit Muhammadiyah Bandung. Skripsi: Stikes Jenderal A. Yani Cimahi.
- Kemenkes RI. (2020). Profil Kesehatan Indonesia Tahun. Jakarta : Kementerian Kesehatan RI.
- Khairani, L., Komariah, M., & Mardiah, W. (2012). Pengaruh Pijat Oksitosin Terhadap Involusi Uterus Pada Ibu Post Partum Di Ruang Post Partum Kelas III RSHS Bandung. Skripsi: Universitas Padjadjaran.
- Kristiani, D., Latifah, L. (2013). Pengaruh Teknik Relaksasi Autogenik Terhadap Skala Nyeri pada Ibu Post Operasi Sectio Caesarea (SC) di RSUD Banyumas. Skripsi: Universitas Jenderal Soedirman.
- Kurniatika, R. (2014). Peningkatan Berat Badan Bayi Baru Lahir yang mendapatkan ASI Eksklusif Setelah 1 bulan di Klinik Lolly Medan. Skripsi: Universitas Sumatera Utara
- Lelly, A. V. (2017). Pengaruh Teknik Marmet Terhadap Kelancaran Produksi ASI, 2-3.
- Lisa, & Ismayucha. (2018). Efektifitas Kombinasi Pijat Oksitosin dan Breast Care Terhadap Kelancaran ASI pada Ibu Post Partum Normal, 47.
- Mardiyaningsih, dkk. (2011). Efektivitas Kombinasi Teknik Marmet dan Pijat Oksitosin terhadap Produksi ASI Ibu Post Sectio di Rumah Sakit Wilayah Jawa Tengah. Jurnal Keperawatan Soedirman, 6 (1), pp 31-38.
- Maryunani, A. (2012). Inisiasi Menyusui Dini, ASI Eksklusif dan Manajemen Laktasi. Jakarta: Trans Info Media.
- Mudyatiningsih, S., & Lasri. (2018). Hubungan Pengetahuan Tentang Manajemen Laktasi Dengan Sikap Ibu Post Partum Dalam Proses Menyusui Di Ruang Bersalin RS Panti Waluya Malang.
- Naziroh, Umy, dkk. (2019). Pengaruh Pijat Oksitosin terhadap Kelancaran ASI pada Ibu Primipara. Hospital Majapahit, 11(1), pp 17-23.
- Pollard, M. (2015). ASI Asuhan Berbasis Bukti. Jakarta: EGC.
- Rahmawati, A., & Widyasih, H. (2009). Perawatan Masa Nifas.
- Saragih, Ice Septriani. (2015). Dukungan Keluarga dalam Pelaksanaan Pijat Oksitosin untuk Meningkatkan Produksi ASI pada Ibu Nifas di wilayah kerja Puskesmas Medan Johor. Skripsi: Universitas Sumatera Utara.
- Sari, Eka Puspita, & Riamandini, Kurnia Dwi. (2014). Asuhan Kebidanan Masa Nifas (Postnatal Care). Jakarta: Trans Info Medika.
- Selistiyaningtyas, dkk. (2021). Pemberian Pijat Marmet dan Oksitosin untuk Meningkatkan Produksi ASI Pada Asuhan Keperawatan Ibu Post Partum dengan Sectio Caesaria. Jurnal Ners Muda, 2(1), pp 61-68.
- Wijayanti, Lilis. (2014). Pengaruh Pijat Oksitosin Terhadap Produksi ASI pada Ibu Post Partum di Puskesmas Mergangsan Yogyakarta. Skripsi: STIKES Aisyiyah.
- Wiji, Rizki Natia. (2014). ASI dan Panduan Ibu Menyusui. Yogyakarta: Nuha Medika.
- Yiyin. (2018). Pengaruh Pijat Oksitosin terhadap Pengeluaran ASI Pada Ibu Postpartum di RSIA Aisyiyah Samarinda. Skripsi : Poltekkes Kalimantan Timur.