

THE EFFECT OF MARMET MASSAGE ON BREAST MILK PRODUCTION IN POSTPARTUM MOTHERS

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Abstract

Breast milk is an exclusive nutritional intake for babies during the first 6 months after birth. The importance of fulfilling the baby's right to breast milk is even regulated by the government in Government Regulation of the Republic of Indonesia no. 33 of 2012. Fulfillment of nutrition for babies must be balanced with breastfeeding mothers' understanding of the proper procedures for smooth breastfeeding. Because there are not a few problems found by breastfeeding mothers who have difficulty giving breast milk because the productivity of milk in their breasts is small and the process of discharge is not smooth. Understanding to overcome these problems is very important for the smooth fulfillment of baby nutrition. There are several techniques that can be applied by breastfeeding mothers to increase milk productivity. One of them is the marble technique or marble massage. The purpose of this study was to determine the effect of guinea pig massage on milk production in postpartum mothers. This study used the scoping review method by analyzing scientific papers related to the benefits of guinea pig massage on increasing breast milk production. The results of this study indicate that the guinea pig massage technique is a significantly effective way to increase the productivity of breastfeeding mothers during the puerperium because massage indirectly expresses breast milk, causing increased and smoother milk production.

Keywords: Marmet Engineering; Breast Milk Production; Postpartum Mother.

INTRODUCTION

Childbirth is a natural event experienced by every mother after pregnancy until her time. After delivery is complete, every mother must immediately prepare for another task, namely breastfeeding. In normal delivery, initiation of breastfeeding can be done immediately after the baby is born. ASI (breast milk) is an exclusive nutritional intake for infants for six months after birth. The Indonesian government has also stipulated regulations regarding exclusive breastfeeding in Government Regulation of the Republic of Indonesia No. 33 of 2012. This

regulation is the right step because there are so many benefits of breastfeeding for babies. According to Lawrance in (Notoatmodjo, 2014) Breastfeeding is seen as a solution that can reduce infant mortality, the risk of stunting, obesity, and chronic disease. Babies who are breastfed are fourteen times more likely to survive their first six months than those who are not breastfed. Even so, there are still many cases where breastfeeding mothers have difficulty giving breast milk due to several reasons, such as babies having difficulty sucking milk, abnormalities in the mother's breast, and the mother's lack of knowledge about breastfeeding. These difficulties tend to cause mothers to stop breastfeeding and start giving formula milk as a substitute for breast milk. The lack of understanding of a breastfeeding mother about the guinea pig massage technique which is one of the most effective techniques to deal with problems such as the lack of smooth milk coming out.

The marmet massage technique is a massage technique on the breast manually with the aim of re-stimulating the natural reflex ability to release milk or Let Down Reflex (LDR). The stimulation that occurs from massage will produce 2-3 times more milk than without using the guinea pig technique (Marmi, 2012). The milking technique by the guinea pig method aims to empty the milk from the lactiferous sinuses which are located below the areola so that it is hoped that emptying the milk in the lactiferous sinuses will stimulate the release of prolactin. The release of the prolactin hormone is expected to stimulate the mammary alveoli to produce breast milk (Widiastuti et al., 2015).

Based on the statement above, the author tries to conduct an in-depth study of the benefits of the guinea pig massage technique on the productivity of breast milk for breastfeeding mothers who are in the puerperium by exploring scientific papers related to the guinea pig massage technique.

RESEARCH METHODS

The research method applied in this study is the scoping review method. Scoping review is a method used to identify in-depth and comprehensive literature obtained through various sources with various research methods and has a relationship with the research topic (Arksey & O'Malley, 2005). The purpose of the scoping review method is to answer questions from a predetermined research topic by using various sources of similar research articles and then grouping them and making conclusions. In preparing the scoping review research, there are several steps that must be carried out (Nurhamsyah et al., 2018). This stage is based on the opinion of Arksey and O'Malley (2005) regarding the framework for compiling a scoping review which was further modified by (Levac et al., 2010). The stages are:

1. Identify research questions that are tailored to the research objectives,
2. Identify sources of relevant literature through various sources.
3. Conduct a selection of literature that has been obtained and then adjusted to the research topic.
4. Mapping and collecting the literature used.

5. Compile and report the results of the analysis of the selected literature.
6. Consultation with competent parties.

RESULT AND DISCUSSION

The following is a table that presents a summary of detailed content analysis from scientific sources that focus on the role of guinea pig massage in breastfeeding mothers.

Table 1. Summary of Selected Article Content Analysis

No	Author, Year of Publication, Name of Journal/Site	Title	Research sites	Research purposes	Types of research	Research result
1	(Murdiningsih & Rohaya, 2021)	Effect of the Marmet Technique towards the smoothness of breast milk Expression for the mother post partum in BPM Palembang City	Palembang, Indonesia	The purpose of this study was to determine the effect of the Marmet Technique on breastfeeding in postpartum mothers.	quasi-experimental research	Based on 30 respondents with conditions before and after the application of the guinea pig technique, - respondents with smooth breastfeeding decreased from 19 (63.3%) to 6 people (20%), while breastfeeding expenditure increased significantly before and after the guinea pig technique, namely from 11 (36) 7%)

						to 15 (50%) and for milk production increased greatly from 0 to 9 (30%)
2	(Emilda & Juliastuti, 2020a)	The Effectiveness of Oxytocin and Marmet Massage on Increased Prolactin Hormone for Smooth Breastfeeding in Postpartum Mothers in Langsa City Health Office, Indonesia	Department of Midwifery, Polytechnic of Health, Ministry of Health, Aceh, Indonesia	The purpose of this study was to analyze the differences in the effectiveness of Oxytocin and Marble Massage on Prolactin Hormone levels for the smoothness of breastfeeding in postpartum mothers in the working area of the Langsa City Health Center.	quasi-experimental research	The results showed that the highest prolactin hormone level was in the Massage method of 1178.0 ng/ml and the highest prolactin hormone level was 357.9 ng/ml, the highest was 357.9 ng/ml. The mean prolactin hormone level in the oxytocin massage group was 195.694 ng/ml and in the Marmet group was 538.195 ng/ml. The average prolactin hormone level with the oxytocin

						<p>massage method was 195.6 ng/ml with Std. deviation of 106.8 ng/ml while the average of the Mamet massage method is 538.9 ng/ml with Std. deviation 269.6 ng/ml. Independent T-test statistical test results obtained Prolactin Hormone Levels for Current ASI value $p = 0.000$, it can be concluded that there is a significant difference between the oxytocin and mammary massage methods</p>
3	(Sulistiawati et al., 2020)	The Effect of Marmet Technique on Mother's Satisfaction in Breastfeeding	Department of Maternity and Pediatrics, Faculty of Nursing,	To determine the effect of the Marmet technique on satisfaction	quasi-experimental research	The results of the Wilcoxon Signed Rank Test statistical test in the treatment

			Universitas Airlangga	of mothers in breastfeeding		group with a sig (2-tailed) value obtained p = 0.000 where p <0.05 indicates that there is a significant effect of the Marmet technique on mother's satisfaction in breastfeeding. However, in the control group, the value of p = 0.083 was obtained, where p> α > 0.05, meaning that there was no significant effect of the Marmet technique on mother's satisfaction in breastfeeding.
4	(Sulistiawati et al., 2020)	The Effectiveness Of The "Bomb" Method (Breastcare, Oxytocin Massage, And Marmet Technique)	STIKES Husada Jombang, Indonesia	The research objective was to assess the effectiveness of the BOM method (Breastcare, Oxytocin, and Marmet	quasi- experimental research	The results obtained from 60 samples obtained a p value of 0.000 <0.05, so that it can be concluded that there is a

		On Increasing Breast Milk Production In Breastfeeding Moments Age 0-6 Months At Prambon Public Health Clinic, Nganjuk District.		Teachnique) in increasing milk production.		significant difference between the two groups, where the BOM method (Breastcare, Oxytocin, and Marmet Teachnique) is very effective for breast milk production
5	(Risnawati & Trisanti, 2018)	Efek Teknik Marmet Terhadap Produksi Air Susu Ibu Pada Ibu Nifas	Srikandi Kudus Clinic, Indonesia	The purpose of this study was to determine the effect of guinea pig techniques on post partum mother's milk production	quasi-experimental research	The results showed that before being given the Marmet Technique in the pre-intervention breastfeeding group, 9 respondents (81.8%) were fluent, 2 respondents were breastfeeding smoothly (18.2%) and in the pre-control group, 6 respondents (54.5%) were breastfeeding Not Current, 5 respondents (45.5%) ASI

						Smooth. And after being given the Marmet Technique in the post-intervention group, 0 respondents (0%), 11 respondents (100%), and in the post-control group, 4 respondents (36.4%) for non-fluent breastfeeding, 7 respondents (63 ,6%) breast milk smoothly.
6	(Ningrum et al., 2017)	Pengaruh Pemberian Teknik Marmet Terhadap Produksi Asi Pada Ibu Post Partum Di Bpm Wilayah Kerja Puskesmas Sukorame Kota Kediri	Health Polytechnic Ministry of Health Malang, Indonesia	The purpose of this study was to determine the effect of the guinea pig technique on the milk production of postpartum mothers.	quasi-experimental research	The results obtained were calculated p-value (0.0074) <= (0.05) then H0 was rejected, meaning that there was an effect of the guinea pig technique on breast milk production. The delivery of the Marmet

					Technique can be applied to assist in the adequacy of breast milk production.	
7	(Ulfah, 2013)	Efektivitas Pemberian Teknik Marmet Terhadap Pengeluaran ASI Pada Ibu Menyusui 0-6 Bulan di Wilayah Kerja Puskesmas Arjasa Kabupaten Jember	Universitas Jember, Indonesia	This study is intended to identify the effectiveness of the application of the guinea pig technique for expressing breast milk in breastfeeding mothers 0-6 months in the working area of the Arjasa Public Health Center, Jember	quasi-experimental research	The results showed that in the treatment group before being given the guinea pig technique, 8 respondents (53.3%) did not smoothly express breast milk and 7 respondents (46.7%) gave smooth breastfeeding, whereas after giving the guinea pig technique, it was found that all respondents (15 respondents) in the treatment group the milk production was smooth. The results of data

processing with SPSS obtained a p value (0.000) $< \alpha$ (0.05) which means H_0 was rejected, so it can be concluded that the use of guinea pig techniques is effective for breastfeeding mothers 0-6 months in the working area of the Arjasa Health Center, Jember Regency.

Based on an analysis of seven selected scientific papers from journals and theses, it is known that there is a significant role from the application of the guinea pig massage technique for the productivity of breast milk and the smooth release of breast milk during the puerperium. The results of univariate analysis in a study conducted by Murdiningsih and Rohaya showed that the application of guinea pig massage to 30 postpartum mothers indicated that the productivity of breast milk had increased very significantly after the application of the marmet technique, from 11 (36) (7%) to 15 (50%) and for breastfeeding increased significantly from 0 to 9 (30%).

An analysis of research conducted by (Emilda & Juliastuti, 2020b) regarding the application of oxytocin massage techniques and guinea pig massage in increasing the hormone prolactin for the smooth breastfeeding of mothers during the postpartum period. The results of the study revealed that there were differences in the effectiveness of oxytocin and guinea pig massage on levels of the hormone prolactin for smooth breastfeeding in postpartum mothers at the Langsa City Health Office. The Marmet massage method has an average of 538.9 ng/ml Std. deviation of 269.6 ng/ml on the fluency of ASI, while the oxytocin massage method averaged 195.6 ng/ml with Std. deviation of 106.8 ng/ml liquid milk. The

results of the independent t-test statistic showed that the level of the hormone prolactin for smooth breastfeeding was $p=0.000$. From these results it can be concluded that there is a significant difference between the oxytocin and guinea pig massage methods. Respondents who used the oxytocin massage method had the highest prolactin level of 357.9 ng/ml and the lowest prolactin hormone level of 29.8 ng/ml. Meanwhile, respondents with the guinea pig massage method had the highest prolactin level of 1178.0 ng/ml and the lowest prolactin hormone level was 160.9 ng/ml. Mamet technique is more optimal in the smooth production of breast milk. It can be concluded that there is a significant difference between the oxytocin and mamet massage methods. Respondents who used the oxytocin massage method had the highest prolactin level of 357.9 ng/ml and the lowest prolactin hormone level of 29.8 ng/ml. Meanwhile, respondents with the massage method had the highest prolactin hormone level of 1178.0 ng/ml and the lowest prolactin hormone level was 160.9 ng/ml. The mamet technique is more optimal in smoothing breast milk.

Mamet massage techniques are more effective than breast pumps. Mamet massage is more effective in stimulating the pituitary and releasing the hormones prolactin and oxytocin at the start of breastfeeding. With the Mamet massage method, it will affect the vegetative nerves and subcutaneous tissue which can relax the tissue so as to facilitate blood flow in the ductal system. The results of this research are in line with the results of research by Dwi Retno Wati, Siti Mudrikatin in 2020 with the research title The Effectiveness Of The "Bomb" Method (Breastcare, Oxytocin Massage, And Marmet Technique) On Increasing Breast Milk Production In Breastfeeding Moments Age 0-6 Months At Prambon Public Health Clinic, Nganjuk District. This study showed the results of a p value of 0.000 <critical limit of 0.05, so it can be concluded that there is a significant difference between the two groups, where the BOM method (Breastcare, Oxytocin, and Marmet Teachnique) is very effective in increasing milk production.

In Raden Roro Maria Ulfah's 2013 research, Astri Dwi Ningrum's research, et al in 2017 and Indah Risnawati and Ika Trisanti's research in 2018 which have in common, namely research on the effectiveness or effect of applying marmet massage to post partum or postpartum breastfeeding mothers. In this study, the results showed that there was a significant effect on the productivity of breast milk before and after the application of the marmet massage technique. Indah Risnawati's research showed that before being given the Marmet Massage Technique in the pre-intervention breastfeeding group, 9 respondents (81.8%) were not smooth, 2 respondents were breastfeeding smoothly (18.2%) and in the pre-control group, namely 6 respondents (54.5%) for Non-Smooth ASI, 5 respondents (45.5%) Smooth ASI. And after being given the Marmet Technique in the post-intervention group, 0 respondents (0%), 11 respondents (100%), and in the post-control group, 4 respondents (36.4%), 7 respondents (63.6%) ASI smoothly. Based on these results, it can be concluded that the application of the marmet massage technique can help postpartum mothers meet the baby's exclusive breastfeeding needs for 6 months.

CONCLUSION

Based on the results of an analysis of 7 scientific papers, both journals and theses, it can be concluded that the guinea pig massage technique is a significantly effective way to increase the productivity of breast milk for breastfeeding mothers during the postpartum period because of its benefits which are able to stimulate the natural reflex ability to release milk from the breasts. The guinea pig technique is able to affect milk productivity because massage indirectly expresses milk by hand causing emptying of milk in the lactiferous sinuses which are located below the areola thereby stimulating the anterior pituitary to release the hormone prolactin and then stimulating the mammary alveoli to produce milk.

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