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Original Research Article

EFFECT OF OXYTOCIN MASSAGE THROUGH THE BACK ON BREAST MILK PRODUCTION IN POSTPARTUM MOTHERS

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ABSTRACT

Introduction. Every minute one Indonesian baby dies because they do not get breast milk in the first hour of birth, problems with breastfeeding can be due to milk production not coming out. One way to overcome the non-smooth milk production is by doing oxytocin massage through the back. This massage can relax the mother so that it stimulates the oxytocin reflex and smooth milk production. The purpose of this study was to determine the effect of oxytocin massage through the back on breast milk production in postpartum mothers. **Method.**This study uses a Quasy Experimental design involving 50 respondents who were taken by Systematic Random Sampling. Respondents were divided into 2 groups, namely the control group with 25 respondents and the experimental group with 25 respondents. Collecting data using a checklist observation. Data were analyzed using Paired simple T-test with a significant level of 0.05. **Result&Analysis.**This study showed that there is an effect of oxytocin massage through the back on breast milk production in postpartum mothers with p value = 0.000 (< 0.05). **Discussion.** Oxytocin massage through the back can stimulate the reflex hormone oxytocin. It is hoped that health workers can provide health education about oxytocin massage through the back to the community so that later it is hoped that all people will be able to apply oxytocin massage through the back to overcome the inability to produce breast milk.

Keywords: Massage Oxytocin, Milk Production, Post Partum

INTRODUCTION

Newborns need to get optimal care from birth, one of which is the ideal food. Newborn babies do not need other intakes other than breast milk from their mothers. But in reality, exclusive breastfeeding is not as easy as imagined. Various obstacles can arise in an effort to provide exclusive breastfeeding for the first six months of a baby's life (Dağli & Çelik, 2021) .

For mothers who breastfeed their babies, the smooth flow of breast milk is very important to meet the baby's needs. Exclusive breastfeeding without complementary breastfeeding is recommended until the baby is six months old. Breastfeeding or breastfeeding babies is carried out in various walks of life around the world, because of the many benefits that come from exclusive breastfeeding and the practice of breastfeeding for 2 years (Nuampa & Payakkaraung, 2021).

The target of achieving breastfeeding is difficult to achieve because one of them is breast milk does not come out. The problem is that the process of releasing breast milk is not smooth, which is one of the reasons why a person cannot breastfeed their baby so that the breastfeeding process is disrupted / hampered because it requires an approach to the community to be able to change bad habits, namely before the 6-month-old baby is given complementary foods and helps mothers in the breastfeeding process. by introducing various methods to facilitate breastfeeding (Utami et al., 2020).

In Indonesia (Ministry of Health, 2018) the coverage of infants receiving exclusive breastfeeding in 2018 was 68.74%. In 2018, East Java got 77.51%, and in particular in Tuban Regency (data from the Tuban District Health Office) in the same year it got 73.85%, then in 2019 it increased to 79.6%. However, in 2020 there was a decline to 76.93% of infants who received exclusive breastfeeding. Based on the data above, it shows that the success of exclusive breastfeeding is still not getting optimal results.

From the results of the study "The Effect of Oxytocin Massage on Breast Milk Production" by Liva Matia (2016) it is known that of the 37 postpartum mothers who received oxytocin massage the majority experienced changes in breast milk production as many as 31 people (83.8%), and 6 people (16.2%) of them did not experience an increase in breast milk production. In other words, oxytocin massage has an effect on the smooth release of breast milk.

Production and expenditure of breast milk are two factors that can affect the release of breast milk. The hormone prolactin is a hormone that can affect the production of breast milk while the hormone oxytocin is a hormone that affects the production of breast milk. One alternative to facilitate breast milk production is by doing oxytocin massage. Oxytocin massage is carried out along the spine (vertebrae) with the aim of stimulating the hormone oxytocin after childbirth (Wati, 2020).

There are several factors that can affect the oxytocin reflex, namely the mother's thoughts, feelings and emotions. Oxytocin release can be inhibited or increased by maternal feelings. The hormone oxytocin will cause the muscle cells that surround the milk-making ducts to constrict or contract so that milk is pushed out of the milk-producing ducts and flows ready to be sucked by the baby. If the mother has strong thoughts, feelings and emotions, it is likely to suppress the oxytocin reflex in inhibiting and reducing milk production (Rihardini et al., 2021).

METHOD AND ANALYSIS

This research belongs to the type of experimental analytical research with a quasi-experimental design with a cohort time approach. By involving the control group and the experimental group, it was started with a pre-test, and after the treatment was given a re-measurement (post-test).

The 57 existing populations, sampling was used by means of probability sampling and obtained as many as 50 respondents. Respondents in this study were post partum mothers on the first day at Medika Mulia Hospital, Tuban Regency. The variables in this study were oxytocin massage through the back and milk production. The instrument used is the Standard Operating Procedure (SOP) for oxytocin massage through the back and is an observation sheet for assessing milk production with the criteria: breasts feel full or tense before breastfeeding. Milk comes out gushing when the areola is squeezed. Milk comes out gushing without squeezing the breast and still dripping after feeding. After feeding the baby will sleep / calm for 3-4 hours.

Each item has a 1-point Likert scale and then added up to obtain a total score that ranges from 0-5. The data obtained were analyzed using the Paired simple T test using SPSS for Windows with the level of significance used for the test was 0.05.

In this study, the process of data collection and collection was obtained through:

1. Manage a permit letter to conduct research signed by the chairman of the Tuban Nahdlatul Ulama Institute of Health Sciences.
2. Asking permission from Medika Mulia Tuban Hospital and related parties to obtain research permits.
3. The research was carried out after the permission was granted.
4. Self-introduction, informing the aims and objectives of the prospective respondent.
5. Provide informed consent as an agreement to become a respondent.
6. Primary data collection by direct observation of breast milk production in postpartum mothers, breast milk production in postpartum patients at 4-6 hours after delivery. Observations were made before (pretest) and after (posttest) oxytocin massage through the back. Oxytocin massage through the back according to the SOP is done for 2-3 minutes and three times a day.

RESULT

1. Table Distribution of Breast Milk Production Respondents in the

Experimental Group on the First Day of Postpartum Mothers at Medika Mulia Hospital, Tuban in 2021

Breast milk production	N	Presentation (%)
Fluent	6	24.0
Not smooth	19	76.0
Amount	25	100

Based on the data in table, it can be concluded that almost all 19 (76.0%) respondents experienced non-smooth milk production on the first day of the experimental group.

2. Table Distribution of Breast Milk Production Respondents in the Control Group on the First Day of Postpartum Mothers at Medika Mulia Hospital, Tuban in 2021

Breast milk production	**N**	Presentation (%)
Fluent	3	12.0
Not smooth	22	88.0
Amount	25	100

Based on the data in table, it can be concluded that almost all 22 (88.0%) respondents experienced non-smooth milk production on the first day of the control group.

3. Table Distribution of Respondents Based on Breast Milk Production in the Experimental Group After Getting Oxytocin Massage on the Third Day at Medika Mulia Hospital Tuban in 2021

Breast milk production	**N**	Presentation (%)
Fluent	21	84.0
Not smooth	4	16.0
Amount	25	100

From table 3 it can be concluded that almost all 21 (84.0%) respondents had smooth breast milk production on the third day of the experimental group.

4. Table Distribution of Respondents Based on Breast Milk Production in the Control Group on Day Three at Medika Mulia Tuban Hospital in 2021

Breast milk production	N	Presentation (%)
Fluent	5	20.0
Not smooth	20	80.0
Amount	25	100

From the data in table, it can be concluded that almost all 20 (80.0%) respondents did not produce breast milk smoothly on the third day of the control group.

5. Table Cross Table of the Effect of Oxytocin Massage Through the Back on Breast Milk Production in Post Partum Mothers at Medika Mulia Hospital Tuban in 2021

		Breast milk production				Total	
		Fluent		Not smooth			
		N	%	N	%	N	%
Oxytocin massage through the back	Conducted	21	84	4	16	25	100
	Not done	5	20	20	80	25	100
Total		26	52	24	48	50	100

From the data in table, it can be seen that almost all 21 (84.0%) respondents had smooth breast milk production, there were in the group that was treated with

oxytocin massage through the back, more than the non-smooth milk production, only a small percentage of 4 (16.6%).).

DISCUSSION

1. Milk Production in the Experimental Group (First Day)

From table 1, it was found that almost all post partum mothers in the experimental group before being given oxytocin massage through the back experienced non-smooth milk production.

Several factors can affect breast milk production, such as food factors because the breast milk-making glands cannot work perfectly without enough food, peace of mind and mental factors, inappropriate use of contraception can affect breast milk production, breast anatomical factors also affect the number of lobes. In the breast is reduced, the lobules are reduced, poor resting pattern factors will experience weakness in carrying out their functions thereby reducing the formation and expenditure of breast milk, the baby's sucking factor if the mother breastfeeds the child immediately is rare and lasts for a short time then the child's sucking is reduced thereby reducing milk output,the factor of breast care, namely by stimulating the breasts will affect the pituitary to secrete more progesterone and estrogen hormones and the hormone oxytocin, and the drug factor is estimated that drugs containing hormones can affect the hormones prolactin and oxytocin which function in the formation and expenditure of breast milk.

Here, the most dominant non-smooth milk production factor in the experimental group is in stressful conditions such as confusion or confused thoughts, fear and anxiety. When there is stress from the mother who is breastfeeding, there will be a blockade of the let down reflex. This is caused by the release of adrenaline (epinephrine) which causes vasoconstriction of the alveolar blood vessels, so that oxytocin has little hope of reaching the target myoepithelium organ (Pinem et al., 2021). Because the let down reflex is not perfect, a thirsty baby is dissatisfied. This dissatisfaction will be an additional stress for the mother.

From the results of research and theory, it was found that the production of breast milk in the experimental group, namely in the category of breast milk production, was not smooth because of the measurement of breast milk production during the pre test. This is influenced by the level of stress in post partum mothers because breast milk is not smooth so that the baby continues to cry and fuss because of the lack of milk production. And there is also a resting factor where the mother experiences weakness and fatigue after

giving birth so that with a lack of rest the formation and expenditure of breast milk is reduced.

2. Milk Production in the Control Group (First Day).

Table 2 shows that almost all post partum mothers in the control group were the same as the experimental group who received oxytocin massage through the back, namely experiencing non-smooth milk production.

Here there are several factors that can affect breast milk production such as food factors because the breast milk-making glands cannot work perfectly without enough food, the mental calm factor and the mind of breast milk production are strongly influenced by psychological factors, mothers who are always in a state of depression, sadness and lack of self-confidence. can reduce the volume of breast milk and even breast milk production does not occur, the use of inappropriate contraceptives can affect breast milk production, the anatomical factors of the breasts also have an effect because the number of lobes in the formation and release of breast milk is reduced, the sucking factor for the baby if the mother breastfeeds the child immediately is rare and lasts for a short time. then the child's suction is reduced thereby reducing milk expenditure,the factor of breast care, namely by stimulating the breasts will affect the pituitary to secrete more progesterone and estrogen hormones and the hormone oxytocin, and the drug factor is estimated that drugs containing hormones can affect the hormones prolactin and oxytocin which function in the formation and expenditure of breast milk.

Production Breast milk in the control group on the first day is influenced by the food eaten by the mother, if the mother's food regularly and contains sufficient nutrients needed will affect the production of breast milk, because the glands that make breast milk cannot work perfectly without sufficient food. To form a good breast milk production, the mother's diet must meet the amount of calories, protein, fat and vitamins and minerals that are sufficient besides that the mother is recommended to drink more or less 8-12 glasses/day. And mothers must pay attention to the resting factor where if they lack rest they will experience weakness in carrying out their functions, thereby reducing the formation and expenditure of breast milk (Nirmalasari, 2021)

From the results of research and theory, it was found that the production of breast milk in the control group, namely in the category of breast milk production, was not smooth because it was caused by

the resting factor, where the resting factor of the mother affected the production of breast milk, because mothers who experienced weakness and fatigue after giving birth would inhibit the formation and expenditure of breast milk. . And it was also found a factor of peace of mind and soul where psychological factors and stress in post partum mothers, where to get smooth milk production the mother must be in a calm state, confident that her breast milk will come out smoothly. While in the field, mothers experience stress because the baby continues to cry and fuss because of the lack of milk production.

3. Milk Production in the Experimental Group After being given Oxytocin Massage Through the Back (Day Three)

Table 3 shows the milk production in post partum mothers who received oxytocin massage through the back, most of their milk production was smooth.

Smooth breastfeeding is strongly influenced by the hormone oxytocin where the hormone oxytocin has a role in the development and maturation of breast function. Oxytocin is produced in the hypothalamus and stored in the posterior pituitary gland in the brain. When the baby sucks, the stimulus is sent to the brain so that the oxytocin hormone is released and flows into the blood, then enters the breast causing the muscles around the alveoli to contract and make milk flow in the milk ducts. The hormone oxytocin also makes the milk ducts wider so that milk flows more easily. And if breast milk does not come out because the oxytocin hormone is not stimulated, if you face problems like this, it is necessary to do other stimuli to stimulate an increase in the oxytocin hormone. According to the Association of Indonesian Breastfeeding Mothers (AIMI) in Kompas (2013) there are several other stimuli to stimulate an increase in the oxytocin hormone, namely calming down, skin contact with the baby, seeing baby photos, Hypnobreastfeeding, warm drinks, warming the breasts, stimulating the breasts, and massage. Oxytocin massage through the back will help facilitate milk production because the mother feels relaxed and relieves anxiety and tension in the mother.

From the results of research and theory conducted on post partum mothers at Medika Mulia Hospital, Tuban. Most of the milk production is smooth because the mother is given oxytocin massage through the back. Here, oxytocin massage through the back is very effective for relaxing the mother, so that the mother feels comfortable and reduces stress and anxiety levels. By making the mother more comfortable, the oxytocin reflex can

increase. Regular massage can also affect the smooth production of milk, the more often the mother massages, the more the hormone oxytocin in the body increases so that milk production increases smoothly.

4. Milk Production in the Control Group (Day Three)

The data in table 4 shows that the milk production in post partum mothers who did not receive oxytocin massage through the back was almost entirely non-smooth.

Here there are several factors that can affect breast milk production such as food factors because the breast milk-making glands cannot work perfectly without enough food, the mental calm factor and the mind of breast milk production are strongly influenced by psychological factors, mothers are always in a state of depression, sadness and lack of trust. self can reduce the volume of breast milk and even breast milk production does not occur, the use of inappropriate contraceptives can affect breast milk production, the anatomical factors of the breasts also have an effect because the number of lobes in the formation and production of breast milk is reduced, the sucking factor of the baby if the mother breastfeeds the child immediately is rare and lasts for a short time, the child's suction is reduced thereby reducing milk expenditure,the factor of breast care, namely by stimulating the breasts will affect the pituitary to secrete more progesterone and estrogen hormones and the hormone oxytocin, and the drug factor is estimated that drugs containing hormones can affect the hormones prolactin and oxytocin which function in the formation and expenditure of breast milk.

Mother's feelings that inhibit or increase the release of oxytocin, such as feelings of fear, anxiety, anger, sadness, anxiety, upset, shame or severe pain will affect the oxytocin reflex which will eventually suppress breast milk production. On the other hand, feeling happy, happy, feeling loving the baby, hugging, kissing, and hearing her baby cry or feeling proud to be able to breastfeed her baby, will increase milk production (Murdiningsih & Rohaya, 2021). And there is also one effect of not smooth breastfeeding, namely lack of confidence and various forms of emotional tension will decrease the volume of breast milk and even production will not occur (Virgian & Setiawati, 2021). To produce good breast milk, you must be in a calm state (Marcelina et al., 2020).

From the results of research and theory found in the control group on the third day almost all of the milk production was not smooth because there were still

factors that inhibited the production of breast milk, namely the factor of peace of mind and mind where emotional tension and lack of confidence in the mother would hinder the production of breast milk. . When the mother's milk production is not smooth, the mother does not continue to try to breastfeed her baby, so the mother depends on giving formula milk to her baby.

5. Effect of Oxytocin Massage Through the Back on Milk Production.

Table 5 shows that there is an effect of oxytocin massage through the back on breast milk production in postpartum mothers at Medika Mulia Tuban Hospital in 2021. With the results of statistical tests using the Paired simple T test, p value = 0.000 where p value 0.000 < 0.05. From the results obtained, it is known that most of the respondents who were given treatment in the form of oxytocin massage through the back of their milk production smoothly.

The results of this study are in line with the results of research conducted by Almutairi (2021) with the title "The Effect of Oxytocin Massage on Breast Milk Production of Post Partum Mothers in BPM, Klaten Regency". Based on the results found p value 0.000 < 0.05, which means that there is an effect of oxytocin massage on postpartum mothers on milk production.

This significant change indicates that oxytocin massage through the back has an impact on post partum patients whose milk production is not smooth. Oxytocin massage is a stimulation on both sides of the spine to relax the level of tension and anxiety in postpartum mothers, resulting in increased oxytocin reflexes (Depkes RI, 2007).

In this study, the experimental group was given oxytocin massage through the back while the control group was not. Smooth milk production was seen in the experimental group. Where in the experimental group on the first day most of the milk production was not smooth, because the mother felt stressed, emotional tension and lacked confidence. But after being given treatment in the form of oxytocin massage through the back on the third day the level of stress and tension decreased because the mother felt relaxed so that milk production was smooth and the mother was more confident. While the control group, most of the milk production was not smooth in post partum mothers. Where on the first day most of the milk production is not smooth because the mother feels stress, emotional tension and lacks confidence.

Oxytocin massage therapy through the back is an independent action, which

is carried out by nurses and can also be done by the patient's family. Nurses do massage on the spine which is done 2-3 minutes and do 2-3 times in one day. By doing oxytocin massage on the mother's back provides comfort to the mother. This shows conformity with the theory, by doing massage along the spine (vertebrae) to the fifth-sixth rib will stimulate the hormones prolactin and oxytocin, so that breast milk can automatically run more smoothly. In addition to facilitating breastfeeding, oxytocin massage provides comfort for postpartum mothers, reduces breast swelling, reduces milk blockage, stimulates the release of the hormone oxytocin, maintains milk production when mother and baby are sick. Based on the results of the study, it can be analyzed according to the theory. Oxytocin massage is an act of spinal massage starting from the 5th-6th rib to the scapula which will accelerate the work of the parasympathetic nerves to convey commands to the back of the brain so that oxytocin comes out. While the control group on the third day most of the milk production was not smooth, due to factors of peace of mind and mind where emotional tension and lack of confidence in the mother could inhibit milk production. In accordance with what is described in the author's book, Cahyani & Rejeki (2020) and there is also one effect of not smooth breastfeeding, namely lack of confidence and various forms of emotional tension will decrease the volume of breast milk and even production will not occur. To produce good breast milk, you must be in a calm state (Düzgün & Özer, 2020). This therapy is in accordance with Takayanagi & Onaka (2021) that being given oxytocin massage will further facilitate the production of breast milk in post partum mothers. Because by doing oxytocin massage on the back will provide comfort to the mother.

The success of the therapy that was carried out was due to the application of oxytocin massage through the back that went well and was carried out with the correct Standard Operating Procedure (SOP) instructions. The success was also supported by the cooperative nature of the patients who followed the researcher's guidance well. And the successful application of oxytocin massage through the back has a positive impact on breast milk production in post partum mothers.

Based on existing research and theory, oxytocin massage therapy through the back is proven to affect the smooth production of breast milk compared to other therapies. This research is supported by the opinion of Agea-Cano et al. (2020) that oxytocin massage is an effective way

to facilitate and increase breast milk production.

CONCLUSION

There is an effect of oxytocin massage through the back on breast milk production in postpartum mothers at Medika Mulia Tuban Hospital.

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