

Effect of Oxytocin Massage on Breast Milk Production among Postpartum Mothers

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Abstract:

Exclusive breastfeeding in the world is still very low. Various obstacles can arise in providing exclusive breastfeeding during the first six months of a baby's life. This causes a lack of provision of nutrients to infants, which can cause infant death. In a preliminary study conducted in the Postpartum Room at Bhayangkara Lumajang Hospital in February 2022, based on the results of interviews with 10 normal postpartum mothers, it was found that postpartum mothers complained that their milk did not come out and was not smooth and felt that their milk production was lacking, especially on the first day of the baby's birth. This study aimed to analyze the effect of oxytocin massage on breast milk production in postpartum mothers at Bhayangkara Lumajang Hospital. This type of research is pre-experiment by designing one group pre-post test design. Sampling using the method of simple random sampling with a sample of 36 respondents was carried out in August 2022. The instrument used for data collection was a checklist sheet. The results showed that almost all 36 respondents to produce milk after having oxytocin massage for postpartum mothers at Bhayangkara Lumajang Hospital in 2022 were in the current category with a total of 33 respondents (91.7%). It obtained a p-value=0.000, which means that oxytocin massage affects breast milk production (ASI) in postpartum mothers at Bhayangkara Lumajang Hospital.

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INTRODUCTION

Mother's milk (*Air Susu Ibu*=ASI) is the first and best food for babies because it contains nutrients that are very much needed in the growth and development of children's intelligence (Prasetyono, 2018). Breast milk is the most important part that mothers must consider as it provides many benefits for both mother and child (Pramuka et al., 2023). A breastfed baby can be called exclusive breastfeeding if the baby is not given any additional drinks during the first six months of life, as the first six months is the golden period of baby development (Pakilaran et al., 2022). Exclusive breastfeeding in the world is still very low. Exclusive breastfeeding is not as easy as imagined. Various obstacles can arise in providing exclusive breastfeeding during the first six months of a baby's life. This causes a lack of provision of nutrients to infants, which can cause infant death (Badriah, 2018). Breastfeeding problems in postpartum cause signs and symptoms such as not dripping/sizzling milk, the baby being unable to grip the mother's breasts, and pain and blisters that last for the second week and beyond (Wahyuningsih et al., 2023). Apart from the end, malnutrition can also cause stunting in children and is at risk of increasing the incidence of malnutrition (Ardiana et al., 2021a; Ardiana et al., 2021b).

According to data from the World Health Organization (WHO) and UNICEF, the coverage of exclusive breastfeeding in infants under 6 months is 41% and is targeted to reach 70% by 2030 (Saragih et al., 2021). Based on data from United Nations Children's Fund (UNICEF), in 2018, only 39% of babies under 6 months were exclusively breastfed worldwide. This number did not increase in 2020, namely 40% of successful exclusive breastfeeding worldwide (Raj et al., 2020).

The decrease in milk production in the first days after giving birth can be caused by a lack of stimulation of the prolactin and oxytocin hormones, which play a very important role in the smooth production of breast milk. If the baby does not suckle the nipple half an hour after delivery, the hormone prolactin will decrease, and it will be difficult to stimulate prolactin so that new milk comes out on the third day or so (Kristiyanasari, 2018). The impact of non-smooth production and expenditure of breast milk can cause problems for both mother and baby, including engorgement, mastitis, breast abscess, blocked ducts, insufficient milk syndrome, babies who cry a lot, baby jaundice (Marmi, 2019).

Breast milk release can be accelerated by non-pharmacological measures, namely through oxytocin massage. Oxytocin massage is carried out along the spine and is an attempt to stimulate the release of the prolactin and oxytocin hormones. Oxytocin massage will make the mother feel comfortable and relaxed after experiencing labor, and this feeling of comfort stimulates the release of the hormone oxytocin to produce breast milk (Roesli, 2018). In addition, therapeutic communication with health workers and families can also relax mothers. It is hoped to reduce maternal stressors (Putri et al., 2022).

Based on a preliminary study conducted in the Postpartum Room at Bhayangkara Lumajang Hospital in February 2022, based on the results of interviews with 10 regular postpartum mothers, it was found that postpartum mothers complained that their milk did not come out and was not smooth and felt that their milk production was lacking, especially on the first day of the baby's birth. this makes the mother worry, so the mother chooses to give formula milk to meet her baby's needs, and the mother also has never received information about oxytocin massage. Even to help increase mothers' knowledge, health cadres have assisted them. Hopefully, this can reduce the incidence of non-existent breastfeeding and stunting (Ardiana et al., 2019). This study aimed to analyze the effect of oxytocin massage on breast milk production in postpartum mothers at Bhayangkara Lumajang Hospital.

METHOD

The type of research used is pre-experiment, with this research design using one group pre-post test design. This research is located at Bhayangkara Lumajang Hospital and will be conducted in August 2022—sampling using the method of simple random sampling with a total of 36 respondents. Data collection is done by using an instrument checklist sheet. The analysis used in this study is bivariate. Bivariate analysis determines the relationship between the independent and dependent variables using a test Mc Nemar, with $\alpha=0.05$. The research code of ethics Number conducted this research: KEPK/156/STIKes-HPZH/VII/2022.

RESULT

Characteristics of Pregnant Women

Table 1. Characteristics of Respondents based on Age, Education, Occupation, Parity, Gestational Age, and Newborn Weight of the Baby (n=36)

Variable	Frequency	Percentage
Age (years old)		
< 20	8	22.2
20 – 35	23	63.9
>35	5	13.9
Education		
Elementary School	6	16.7
Junior High School	7	19.4
Senior High School	19	52.8
College	4	11.1
Occupation		
Housewife	28	77.8
Private sector employee	4	11.1
Teacher	4	11.1
Parity		
Primipara	8	40.0
Multipara	12	60.0
Gestational Age		
<37 weeks	0	0
37-42 weeks	36	100
>37 weeks	0	0
Newborn Baby's Weight		
< 2500	0	0
2500-3500	32	88.9
>3500	4	11.1

Based on Table 1, it is known that most respondents were aged 20-35 years (63.9%), most patients with multipara parity status were 58.3%. While all pregnancies were 37-42 weeks (100%), and newborn baby's weight was at most 2500-3500 grams, as much as 88.9%.

Effect of Oxytocin Massage on Breast Milk Production

Table 2. The Effect of Oxytocin Massage on Breast Milk Production (n=36)

Milk production	Oxytocin Massage				p-value
	Before		After		
	f	%	f	%	
Fluent	0	0	33	91.7	0.014
Not smooth	36	36	3	8.3	
Amount	36	100	36	100	

Table 2 shows that for all respondents before being given oxytocin massage, the milk production category was not smooth; for as many as 36 respondents (100%) and almost all respondents after being given oxytocin massage, milk production in the fluent category, as many as 33 respondents (91.7%).

The results of cross-tabulation before all respondents carried out the oxytocin massage, the milk production was in the non-fluent category with a total of 36 respondents (100%), and after the

oxytocin massage was carried out, almost all respondents had milk production in the smooth category, with a total of 33 respondents (91.7%) and current tidal category with a total of 3 respondents (8.3%). The result of a p-value of 0.000 indicates that oxytocin massage affects milk production in postpartum mothers.

DISCUSSION

Milk Production Before Oxytocin Massage in Post-Partum Mothers

The category was not smooth before being given oxytocin massage, with 36 respondents (100%). This shows that before the intervention was given, all respondents did not do oxytocin massage.

Mother's milk, abbreviated as ASI, is the liquid produced by the secretion of the mother's breast glands (PP-ASI). Breast milk is an emulsion of fat in a solution of protein, lactose, and organic salts secreted by both mothers' breast glands which are useful as the main food for babies (Roesli, 2018).

According to Astutik (2019), the factors that influence breast milk production are the mother's and baby's factors. The factors that affect milk production in postpartum mothers include gestational age at delivery, mother's age, parity, nutrition, psychological factors or anxiety, and breast care.

According to the researchers' assumptions, the milk production of the respondents before being given oxytocin massage was entirely in the non-fluent category. Based on the analysis, it is influenced by age, education, and parity factors. This is by the measurements in Table 5.1, which shows that almost half of the respondents are <20 years and > 35 years. Age is one of the factors that affect the expenditure of breast milk. Mothers aged <35 years produce more breast milk than mothers aged more than 35 years. However, mothers <20 years of age have less milk production because of their maturity. Age greatly determines maternal health and is related to pregnancy, childbirth, and postpartum, as well as how to care for and breastfeed the baby. Mothers aged <20 years are still immature and not ready physically and socially to face pregnancy and childbirth (Saraung et al., 2017).

Other factors that influence breast milk production are education and parity. Some of the respondents are at the elementary-junior high school education level. Proverawati et al. (2020) state that the number of deliveries a mother has experienced gives experience in giving ASI and knowing how to increase milk production so that there are no problems for mothers breastfeeding. With experience, someone can have better knowledge than those who do not have experience.

According to the researchers' assumptions, the results of this study showed that before the oxytocin massage was carried out, all respondents' milk production was in the non-fluent category. Factors of age, education, and parity influence this non-fluent milk production. Therefore, efforts are needed to accelerate milk production, one of which is by giving oxytocin massage. Oxytocin massage stimulates the release of the prolactin hormone, which plays a role in breast milk production. Besides that, it is important to maintain nutrition, stress levels, and breast care, which can be started from the third trimester of pregnancy. So that when entering the birth phase, the mother's breasts will be ready to produce milk.

Milk Production After Oxytocin Massage in Post-Partum Mothers

After doing the oxytocin massage, almost all the respondents' milk production was in the fluent category, with 33 respondents (91.7%) and three respondents (8.3%) in the non-fluent category.

Mother's Milk (ASI) is the most recommended food for babies in the first six months of life. The most important time in breastfeeding is the first few days after giving birth. Suppose a mother is properly assisted when breastfeeding; she will likely successfully continue breastfeeding. The reality shows that little milk production on the first day after giving birth hinders early breastfeeding. Mothers who do not breastfeed their babies in the first days of breastfeeding are caused by anxiety and fear of the mother about the lack of milk production and the mother's lack of knowledge about the breastfeeding process. Mother's anxiety and fear cause a decrease in the hormone oxytocin so that breast milk cannot come out immediately after delivery. One of the efforts to overcome the decrease in milk production is through oxytocin massage (Rini & Kumala, 2016).

This oxytocin massage is a good solution to overcome non-fluency in breast milk. Oxytocin massage is massage along the spine (vertebrae) to the fifth - sixth ribs and attempts to stimulate the hormones prolactin and oxytocin. This massage increases the hormone oxytocin, calming the mother so that breast milk comes out automatically. This oxytocin massage stimulates the oxytocin reflex or the let-down reflex. By doing this massage, the mother will feel relaxed, and the fatigue after giving birth will disappear, so the hormone oxytocin comes out, and the milk comes out quickly (Susianti & Usman, 2020).

According to the researchers' assumptions, almost all the respondents' milk production was in the smooth category after being given oxytocin massage. However, there are still three respondents in the category of non-current milk production. Based on further studies, this is due to the level of anxiety and stress due to primiparas with a mother's age <20 years. Stress in primiparous mothers who breastfeed comes from various sources, including several new changes experienced by the mother in the form of changes in biology, physiology, psychology, and changes in roles and new responsibilities they have. Breastfeeding for primiparous mothers is a new experience in their lives. The increasing demands on tasks and responsibilities of primiparous mothers will increase their stress. At the same time, the lack of experience of breastfeeding in primiparous mothers also increases the stress experienced with age. Age has a relationship with the psychological stress experienced by a person. The age of the respondents who are still quite young, namely <20 years, coping mechanisms when experiencing stressors in their lives, of course, still need to be honed because they are still in the developmental stage.

In addition to giving oxytocin massage, it is also important to have support from the husband in the breastfeeding process. The importance of the father's role in supporting the mother while breastfeeding gave rise to the term Breastfeeding Father or breastfeeding father. If the mother feels supported, loved, and cared for, positive emotions will appear, increasing the production of the hormone oxytocin, so milk production increases.

The Effect of Oxytocin Massage on Breast Milk Production in Post-Partum Mothers at Bhayangkara Lumajang Hospital in 2022

The results of the cross-tabulation before the oxytocin massage were carried out by all respondents in the category of non-fluent milk production with a total of 36 respondents (100%), and after the oxytocin massage was carried out, almost all respondents in the milk production category were smooth with a total of 33 respondents (91.7%) and the variety was not smooth with the number of 3 respondents (8.3%).

Based on statistical tests using the test Mc Nemar the result is a p-value of 0.000; oxytocin massage affects milk production in postpartum mothers. The results of this study indicate that after being given oxytocin massage, the postpartum mother's milk production becomes smooth.

This is to the theory of Guyton and Hall (2018) that massage performed on the back can stimulate the release of endorphins. These hormones provide a sense of relaxation and induce

calm so that massage can reduce muscle tension. On the back, there is often muscle tension, but doing oxytocin massage will comfort the back area and increase milk production.

According to Rahayu (2019), oxytocin massage is one of the solutions to overcome the uneven production of breast milk. Oxytocin massage stimulates the Let-Down reflex when the baby sucks the areola, which will send a stimulus to the neurohypophysis to produce and release oxytocin intermittently. Oxytocin will enter the mother's bloodstream and stimulate the muscle cells around the alveoli to contract and make the milk that has accumulated inside flow into the ducts, according to the researcher's assumption that oxytocin massage performed on postpartum mothers in the morning and evening for two days can increase milk production because it can trigger the release of the hormone oxytocin which is very important in expressing breast milk. When oxytocin massage is performed, oxytocin will trigger epithelial cells surrounding the alveoli and ducts to contract so that milk flows from the alveoli (milk factories) to the ducts to the sinuses and nipples resulting in milk release and increased milk production. By increasing milk production, exclusive breastfeeding can be given to babies. Breastfeeding can improve the closeness between mother and baby. Babies often in their mother's arms because of breastfeeding will feel their mother's love. He will also feel safe and secure, mainly because he can still hear his mother's heartbeats, which he has known since he was in the womb. Feeling protected and loved will form the basis of the baby's emotional development and create a confident personality and a good spiritual foundation.

CONCLUSION

Before the oxytocin massage, all the respondents' milk production was in the non-standard category, with 36 respondents (100%). After the oxytocin massage, almost all the respondents' milk production was in the smooth category, with 33 respondents (91.7%), and the variety was not smooth with three respondents. (8.3%). So, it can be concluded that oxytocin massage is essential in breast milk production. Future researchers are expected to be able to develop research variables more broadly and specifically.

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CONFLICT OF INTEREST

There isn't any conflict of interest.

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