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The Effect of Oxytocin Massage on Breast Milk Production in Postpartum Mothers at Sidamulya Health Center Cirebon Regency

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Abstract. Exclusive breastfeeding affects the quality of the baby's health. But in practice, it is still relatively low. Data from the Puskesmas in 2022 achieved 55% exclusive breastfeeding and 48% achievement of exclusive breastfeeding in Sidamulya village. Low coverage of exclusive breast milk can be done by stimulating production. Oxytocin massage is one solution to overcome the smooth production of breast milk (ASI). The purpose of this study was to determine the effect of oxytocin massage to increase breast milk production in postpartum mothers at Sidamulya Health Center, Astanajapura District, Cirebon Regency. Quasi-experimental research method with pretest and posttest approach without control group. The sample of this study was 20 people who were postpartum mothers for 7-9 days at Puskesmas Sidamulya, Astanajapura District, Cirebon Regency in April – June 2023 with Total Sampling techniques. Data were analyzed using univariate analysis of frequency distribution and bivariate analysis of t-test. Univariate results of breast milk production in postpartum mothers before oxytocin massage on average day 1 = 40,625 ml, day 2 = 50,300 ml, day 3 = 57,725 ml, after oxytocin massage average day 1 = 48,025 ml, day 2 = 56,675 ml, day 3 = 63,375 ml. The paired simple t test results obtained p value = 0.000. There is an effect of oxytocin massage on milk production. It is hoped that the family can motivate the mother in the breastfeeding process by giving oxytocin massage so that the mother can exclusively breastfeed her.

Keywords: Pijat Oksitosin; Produksi ASI; Ibu Nifas

INTRODUCTION

Breast milk (ASI) is the most perfect food with nutritional content that is suitable for the body and binding protein B12 Essential amino acids are very important to increase the number of baby brain cells related to infant intelligence. Exclusive breastfeeding affects the quality of baby's health, the fewer the number of babies who get exclusive breastfeeding, the worse the quality of health of infants and toddlers. This is because improper complementary feeding can cause digestive disorders which result in impaired growth and increase Infant Mortality Rate (Kementerian Kesehatan Republik Indonesia, 2018).

Exclusive breast milk is highly recommended by the World Health Organization and the government. According to the World Health Organization (2019) there are 35.6% of mothers who fail to breastfeed their babies and 20% of them are mothers in developing countries, while based on data from Basic Health Research (Riskesdas) in 2018 it is explained that the proportion of exclusive breastfeeding is 74.5%. And the coverage of exclusive breastfeeding in West Java in 2020 was 68.09%. In Cirebon Regency 72.39%. Data from the Puskesmas in 2022 achieved 55% exclusive breastfeeding and 48% achievement of exclusive breastfeeding in Sidamulya village. This is because public awareness in encouraging the increase in exclusive breastfeeding is still low (Ministry of Health of the Republic of Indonesia, 2022). The achievement of exclusive breastfeeding in Indonesia has not reached the expected figure of 80%. Based on the 2021 Indonesian Health Demographic Survey (IDHS) report, the achievement of exclusive breastfeeding is 42% (Badan Pusat Statistik, 2022).

Low coverage of exclusive breast milk can be done by stimulating production. Efforts to stimulate the hormones prolactin and oxytocin in mothers after giving birth in addition to squeezing breast milk, can also be done by doing breast care or massage, cleaning the nipples, often breastfeeding the baby even though the milk has not come out, early and regular breastfeeding and massage. Oxytocin massage is one solution to overcome the unsmooth production of breast milk (ASI). Oxytocin massage is a massage of the spine in the 5-6th costa to the scapula which will accelerate the work of the parasympathetic nerves stimulating the posterior pituitary to secrete oxytocin (Sherwood, 2019). Oxytocin massage provides many benefits in the breastfeeding process, because of its performance that stimulates the performance of the hormone oxytocin such as increasing comfort in mothers after childbirth, reducing stress in mothers after childbirth, reducing pain in the spine after giving birth, reducing milk blockage, stimulating the release of oxytocin hormones and facilitating milk production, and accelerating the process of uterine involution thereby reducing postpartum bleeding (Armini et al., 2020).

LITERATURE

The puerperium period is the period after labor and birth of the baby, placenta, and membranes needed to restore the uterine organs as before pregnancy with approximately 6 weeks. Puerperium comes from Latin, namely puer which means baby and parous which means childbirth or means postpartum (Saleha, 2019). The puerperium period is a period of

time for 6-8 weeks after delivery. This process begins after the completion of labor and ends after the reproductive organs return to their pre-pregnancy/non-pregnant state as a result of physiological and psychological changes due to the labor process. Involution is a change in the uterus after childbirth, which gradually returns to its original state which is the same as the condition and size in the non-pregnant state (Nurhanifah, 2013).

Breast milk is milk that contains optimal nutrients, both quality and quantity. Breastfeeding is the best method of baby feeding. Breast milk contains all the nutrients and fluids needed to meet all infant nutrition in the first 6 months (Hastuti &; Wijayanti, 2017). The formation of breast milk starts from the beginning of pregnancy and milk is produced due to the influence of hormonal factors. The baby's suction movement can also stimulate nerve fibers in the nipple. These nerve fibers carry the demand for milk to pass through the spinal cord to the pituitary gland in the brain. The pituitary gland will respond to the brain to release the hormone prolactin and the hormone oxytocin. Breast milk is produced by the combined work of hormones and reflexes. During pregnancy there are hormonal changes that function to prepare the mammary gland tissue to produce milk. Immediately after giving birth, sometimes even starting at 6 months of pregnancy there will be changes in hormones that cause the breasts to start producing milk. When the baby starts sucking milk, there will be two reflexes that will cause milk to come out at the right time with the right amount as well, namely the reflex of formation / production of milk, the reflex of drainage / release of breast milk (let down reflex) (Sulistyawati &; Nugraheny, 2019).

Oxytocin massage is one solution to overcome the smoothness of breast milk products. Oxytocin massage along the spine (vertebrae) to the fifth-sixth costae bone and is an attempt to stimulate the hormones prolactin and oxytocin after childbirth (Hervilia &; Munifa, 2016). Through massage or stimulation of the spine, neurotransmitters will stimulate the medulla oblongata directly send messages to the hypothalamus in the posterior hypophysis to secrete oxytocin, causing the breasts to secrete milk (Hamzah, 2015).

According to Asih (2018) there are various ways to massage oxytocin: (1) Mother sits leaning in front, folds her arms on the table and puts her head on her arms; (2) Breasts hanging loose without clothes; (3) A person massages along both sides of the mother's spine, using thumbs or fists; (4) Press firmly to form a small circular motion with both thumbs, massage starting from the neck, down towards the shoulder blades for 2 – 3 minutes. Jovee's team doctor, dr. Irma Lidia, mentioned that a 15-minute massage not only helps people relax, but also effectively increases oxytocin levels. Oxytocin is able to increase milk production

because it causes contraction of myoepithelial cells that surround the areola tissue in the breast.

METHOD

This study uses pseudo-experimental methods with the approach used in this study is a pretest and posttest design without control group, which is a research design using observation before the experiment and after the experiment. In the intervention group, oxytocin massage was carried out, which was done 1 time for 3 days and continued to take breast milk through milking every before and after the intervention. This study aims to see the effect of oxytocin massage which can increase breast milk production in postpartum mothers at Sidamulya Health Center, Astanajapura District, Cirebon Regency.

The population in this study is 20 people in the Sidamulya Health Center, Astanajapura District, Cirebon Regency in April – June 2023. The sample size in this study was 20 people from 4 villages, namely Sidamulya village 6 respondents, Munjul village 6 respondents, Mertapad kulon village 4 respondents, and Buntet village as many as 4 respondents. In the intervention group, oxytocin massage was carried out, previously performed by hand milking was carried out for 15 minutes and breast milk was accommodated in a measuring cup to find out the extent of milk expenditure before massage was continued to do oxytocin massage for 2-3 minutes then carried out again the act of milking with hands for 15 minutes and breast milk was accommodated in a measuring cup to determine milk expenditure after oxytocin massage. This action is carried out for 3 days starting from postpartum mothers 7 days to 9 days in a row.

To obtain information from respondents, researchers collected data using tools in the form of guidelines for oxytocin massage procedures and examinations compiled by researchers themselves with guidelines on literature reviews and concepts. This instrument consists of 2 parts, namely the procedure sheet and oxytocin massage action with the release of breast milk. Univariate analysis is used to describe the data carried out on each variable of the research results. Data is presented in a frequency distribution table. Bivariate analysis is a data analysis performed to look for correlations or influences between 2 or more variables studied. Bivariate analysis is also aimed at testing research hypotheses. Hypothesis testing is carried out using a difference test. Different tests to determine the effect of oxytocin massage to increase comfort and milk production in postpartum mothers.

DISCUSSION

Based on table 1, it is known that the majority of respondents have a junior high school education background of 9 people (45%). Based on age, the majority of respondents have the age between 20 – 35 years as many as 18 people (90%). While the majority of respondents do not have a job as many as 17 people (85%). Based on parity, the majority of respondents have a multiparity of 11 people (55%).

Table 1. Characteristics of Respondents at Puskesmas Sidamulya

Characteristics of Respondents	Frequency (f)	Percentage (%)
Education		
Elementry School	8	40,0
Junior High School	9	45,0
Senior High School	3	15,0
Age		
< 20 tahun	0	0,0
20-35 tahun	18	90,0
> 35 tahun	2	10,0
Occupation		
Work	3	15,0
Not Working	17	85,0
Paritas		
Primipara	11	55,0
Multipara	9	45,0
Grandemultipara	0	0,0

Table 2. Average Breast Milk Production in Postpartum Mothers Before Oxytocin Massage at Sidamulya Health Center

Breast milk production	Mean	Std. Deviasi
Day 1	40,625	0,9716
Day 2	50,300	2,0092
Day 3	57,725	2,5156

Table 3. Average Breast Milk Production in Postpartum Mothers After Oxytocin Massage at Sidamulya Health Center

Breast milk production	Mean	Std. Deviasi

Day 1	48,025	1,2405
Day 2	56,675	2,6915
Day 3	63,375	1,7538

Based on table 2 it is known that the average milk production before oxytocin massage there is a difference from the mean and median of each day from day 1 to day 3. With the highest value in day 3 with a mean of 57.725 with a median of 57.750 and a standard deviation of 2.5156. While in table 3 it is known that there can be seen an increase in milk production after oxytocin massage both from mean and median every day from day 1 to day 3. With a high value in day 3 with a mean of 63.375 with a median of 63.750 and a standard deviation of 1.7538.

A normality test is performed to determine whether the data obtained is normally distributed or not. Normality can be done by looking descriptively at the data. The rule used to test normality is the sig score, which is in the results of Shapiro Wilk's calculation, is considered more accurate when the number of subjects we have is less than 50. If the number sig. greater than or equal to 0.05 then the data is normally distributed, but if it is less than 0.05 then the data is not normally distributed. The following is a table of normality tests using Shapiro Wilk.

Table 4. The Effect of Oxytocin Massage on Breast Milk Production at Sidamulya Health Center

Breast milk production		***Mean***	**Selisih Mean**	***p value***
Day 1	**Before**	40,625	7,400	0,000
	After	48,025		
Day 2	**Before**	50,300	6,375	0,000
	After	56,675		
Day 3	**Before**	57,725	5,650	0,000
	After	63,375		

The paired sample t-test results are known to have p values of 0.000 < 0.05 before and after endorphin, it can be concluded that Ha is accepted, thus it can be concluded that there is an effect of oxytocin massage on breast milk production at the Sidamulya Health Center, Astanajapura District, Cirebon Regency. This is in line with Marmi's opinion (2021) which states that oxytocin massage is done to stimulate the oxytocin reflex or let down reflex. In addition to stimulating let down, the benefits of oxytocin massage are to provide comfort to the mother, reduce swelling (engorgement), reduce milk blockage, stimulate the release of the hormone oxytocin, maintain milk production when mother and baby are sick. According

to Rahayu &; Yunarsih (2018), positive feelings can help oxytocin reflexes, on the contrary, negative feelings will inhibit oxytocin reflexes as well so that the emission of breast milk stops.

In accordance with the results of Wulan research (2019), a significancy value of 0.000 < 0.005 was obtained, statistically there was a difference in the average milk production before and after the oxytocin massage combination. Likewise, the results of Umbarsari's research (2017) showed the results of the Independent T-Test test value p-value = 0.006 which means $p < 0.05$ states that there is an effect of oxytocin massage on the average time of breast milk expenditure. Supported by research Doko et al. (2019) showed the results of giving oxytocin massage by husbands from the first day to day 14 in normal puerperal mothers affected the increase in milk production. Likewise, the results of Roulina's research (2018) there is an effect of oxytocin massage on breast milk production in postpartum mothers. The results of further research conducted by Lestari (2017) there are differences in oxytocin massage on breast milk production and oxytocin hormone levels.

This is reinforced by the results of Arsih's research (2018) which found that there is an effect of oxytocin massage on breast milk production in postpartum mothers at BPM Lia Maria, Sukarame District. The results of another study conducted by Muslimah et al. (2020) found that there was an effect of a combination of breast treatment and oxytocin massage on breast milk production in postpartum mothers. Sulaeman et al. (2019) also argue that oxytocin massage has an influence on breast milk expenditure in primiparous postpartum mothers. Likewise, the results of research by Saputri et al. (2019) oxytocin massage has a significant influence on breast milk production before and after being done in postpartum mothers. Strengthened by the results of Rahayu and Yunarsih's research (2018) showed the results that oxytocin massage can increase the comfort and milk production of postpartum mothers.

CONCLUSION

Oxytocin massage has an influence on the milk production of postpartum mothers at the Sidamulya Health Center, Astanajapura District, Cirebon Regency in 2023. Thus, it is recommended that the Sidamulya Health Center can provide oxytocin massage services to breastfeeding mothers and follow up at home so that breastfeeding mothers can exclusively breastfeed their babies.

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