

The Effectiveness Of The Combination Of Acupressure Therapy With Oxytocin Massage Against The Length Of Time Of Milk Production In Puerperal Mothers

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Abstract.

According to the UNICEF report, there were 54 neonatal infant deaths per 1,000 live births worldwide in 2020. The highest neonatal mortality rate in 2020 was found in the Sub-Saharan Africa region, namely 27 deaths per 1,000 live births. In Indonesia, only 1 out of 2 babies under 6 months is exclusively breastfed, and only a little more than 5% of children are still getting breast milk at 23 months of age. Nationally, the coverage of babies receiving exclusive breastfeeding in 2019 is 67.74%. The inhibiting factor in breastfeeding is the production of breast milk which is less and slow to come out which can cause the mother not to give her baby enough. A method that is rarely used to speed up milk release and stimulate milk productivity is a combination of acupressure therapy and oxytocin massage. Knowing the effectiveness of the combination of acupressure therapy with oxytocin massage on the length of time to express breast milk in postpartum mothers. Quasi experimental with posttest only control group design. The sample in this study were all postpartum mothers at BPM. Indah Susilowati in August-October 2022 as many as 30 people, the sampling technique is total sampling. The average time for breastfeeding in the intervention group was 2.16 hours and in the control group 2.79 hours. There is the effectiveness of the combination of acupressure therapy with oxytocin massage on the length of time for expressing milk in postpartum women with a p value of 0.000. There is an effective combination of acupressure therapy with oxytocin massage on the length of time to express breast milk in postpartum mothers. The combination of acupressure therapy and oxytocin massage can be considered as an alternative effort to accelerate breastfeeding in postpartum mothers.

Keywords: Acupressure Therapy, Oxytocin Massage and Postpartum Mother.

I. INTRODUCTION

According to a report by the United Nations Children's Fund (UNICEF), there were 54 neonatal infant deaths (aged 0-28 days) per 1,000 live births worldwide in 2020. The highest neonatal infant mortality rate in 2020 was found in the Sub-Saharan African region, at 27 deaths per 1,000 live births. Next in line are South Asia with 23 deaths, Oceania (outside Australia New Zealand) with 19 deaths, North Africa with 15 deaths, and Southeast Asia with 12 deaths per 1,000 live births. In the neonatal period or less than one month of age, babies experience maturation of body organs and adjustment of biological systems to life outside the womb. Therefore, the neonatal period is the period with the highest health risks for infants (UNICEF, 2021). UNICEF and the World Health Organization (WHO) are calling on governments and all stakeholders to maintain and promote access to services that enable mothers to continue breastfeeding during the COVID-19 pandemic. Early initiation of feeding and breastfeeding exclusively help children survive and build up the antibodies they need to be protected from various diseases that often occur in childhood, such as diarrhea and pneumonia. The evidence also suggests that children who get breast milk show better results on intelligence tests, are less likely to be obese and overweight, and have a lower susceptibility to developing diabetes as adults. The increase in the number of breastfeeding mothers globally has the potential to save the lives of more than 820,000 children under five and can prevent an additional 20,000 cases of breast cancer in women every year (WHO, 2020).

However, in Indonesia, only 1 in 2 babies under 6 months old get exclusive breastfeeding, and only a little more than 5 percent of children still get breast milk at 23 months of age. This means that almost half of all Indonesian children do not receive the nutrition they need during the first two years of life. More than 40 percent of babies are introduced too early to complementary foods, that is, before they reach the age of 6 months, and the food given often does not meet the nutritional needs of babies (WHO, 2020). Nationally, the coverage of babies receiving exclusive breastfeeding in 2019 was 67.74%. This figure has exceeded the 2019 Strategic Plan target of 50%. The highest percentage of exclusive breastfeeding coverage is found in West Nusa Tenggara Province (86.26%), while the lowest percentage is in West Papua Province (41.12%). There

are four provinces that have not reached the 2019 Strategic Plan target, namely Gorontalo, Maluku, Papua, and West Papua. Meanwhile, the coverage of exclusive breastfeeding in Bekasi City is 70.22% (Ministry of Health of the Republic of Indonesia, 2020). According to Riskesdas (2018) the coverage of Early Breastfeeding Initiation (IMD) in newborns was 58.2%. This is an increase compared to the previous 34.5% (Riskesdas, 2013). Meanwhile, the coverage of exclusive breastfeeding for 0-5 months is 74.5% (Riskesdas, 2018). Exclusive breastfeeding according to the World Health Organization (WHO) is to give only breast milk without giving other foods and drinks to babies from birth to 6 months of age. Breast milk (breast milk) is the best food for babies, especially babies aged 0-6 months, whose function cannot be replaced by any food and drink. Breastfeeding is the fulfillment of rights for every mother and child. It is no secret, that children who get exclusive breastfeeding and proper parenting will grow and develop optimally and will not get sick easily.

In addition, breastfeeding is able to strengthen the emotional bond between mother and child so that it is hoped that they will become children with personal resilience who are able to be independent (Ministry of Health RI, 2019). The inhibiting factor in breastfeeding is the production of breast milk itself. Insufficient milk production and slow discharge can cause the mother not to give her baby enough. In addition to the hormone prolactin, the lactation process also relies on the hormone oxytocin, which is released from the posterior hypophyse in reaction to nipple sucking. Oxytocin affects the cells surrounding the alveoli mammae so that the alveoli contract and secrete milk that has been secreted by the mammary glands, this oxytocin reflex is influenced by the mother's psyche. If there is anxiety, stress and doubt that occurs, then breast milk expenditure can be hampered (Widhiana, 2019). Efforts that can be made to increase breast milk production, including acupressure therapy and oxytocin massage. Acupressure therapy or can be known as totok / finger prick therapy is a massage and stimulation at certain points in the body area (Mukhoirotin, 2018). The acupressure used is the Accupressure point for lactation technique. On acupressure stimulation will be transmitted to the spinal sums and brain through the axon nerve. So that signal stimulation occurs reaching the brain. Activation of the central nervous system (CNS) causes changes in neurotransmitters, hormones (including prolactin and oxytocin), the immune system, biomechanical effects and other biocoimia substances (endorphins, immune cells such as cytokines). This gives rise to a normalization of modulation and a balance effect on Qi.

Thus acupressure can maximize prolactin and oxytocin receptors and minimize the side effects of delayed breastfeeding process (Wahyuni, 2018). In addition, oxytocin massage is carried out which is used to accelerate the parasympathetic nerves to convey signals to the back brain to stimulate the work of the hormone oxytocin after childbirth in flowing breast milk out, this action can affect the hormone prolactin which functions as a stimulus for breast milk production in the mother during breastfeeding, besides that it can also increase maternal comfort (Wulandari, 2019). As shown by Endriani, by doing a focus massage point for the mediation of lactation knead in nursing mothers on day 3 to day 6 will really want to expand the receptors of prolactin and oxytocin. Rubbing *punggung* on the focus of the emphasis point massage can limit delayed breastfeeding results and increase the sensation of relaxation in the mother so that there is an increase in breast milk production (Rahmawati, 2019). Based on preliminary studies that have been conducted by researchers at BPM. Indah Susilowati in May 2022 for 10 postpartum mothers obtained 7 postpartum mothers including experiencing breast milk production disorders, this problem bothers mothers because they hope that postpartum mothers give breast milk and the baby can feel colostrum in the first 24 hours. From the background above, researchers are interested in conducting a study entitled "The effectiveness of the combination of acupressure therapy with oxytocin massage on the length of time of breast milk production in puerperal mothers in BPM. Indah Susilowati in 2022".

II. METHODS

Quasi-experimental with posttest only control group design. The sample in this study was all puerperal mothers in BPM. Indah Susilowati in August - October 2022 as many as 30 people, the sampling technique is total sampling. The analysis method used is univariate and bivariate analysis with the Independent Samples Test.

III. RESEARCH RESULTS

Table 1. Distribution of The Frequency of Length of Time for Breast Milk Expenditure in Postpartum Mothers in Control Groups and Intervention Groups in BPM. Beautiful Susilowati in 2022

No	Milk Expenditure Time	Frequency	Percentage
1.	Group Intervention		
	Fast	12	80,0
	Slow	3	20,0
	Total	15	100,0
2.	Control Group		
	Fast	3	20,0
	Slow	12	80,0
	Total	15	100,0

Based on the table above, it can be seen that out of 15 respondents in the intervention group, namely the group given a combination of acupressure therapy and oxytocin massage, most of the time the milk expenditure was fast as many as 12 people (80%). And of the 10 respondents in the control group who were not given treatment most of the time their milk expenditure was slow as many as 12 people (80%).

Table 2. Average Length of Time for Breast Milk Expenditure in Puerperal Mothers in the Intervention Group and Control Group in BPM. Indah Susilowati Year 2022

Milk Expenditure Time					
Group	N	Mean	Mean Difference	Min	Max
Group Intervention	15	2,16	6,32	1,59	2,78
Control Group	15	2,79		2,68	2,98

Based on the table above, it can be seen that the average length of time for breast milk expenditure in puerperal mothers who were treated with acupressure therapy and oxytocin massage obtained a value of 2.16 hours, the average length of time for breast milk expenditure in puerperal mothers in the control group obtained a value of 2.79 hours.

Table 3. Effectiveness of Combination of Acupressure Therapy With Oxytocin Massage Against Prolonged Time Breast milk expenditure in postpartum mothers in BPM. Beautiful Susilowati in 2022

Kelompok	Waktu Pengeluaran ASI		Mean	SD	P-value
	Kategori	F			
Kombinasi terapi akupresure dan pijat oksitosin	Cepat	12	2,16	0,42	0,000
	Lambat	3			
Kontrol	Cepat	3	2,79	0,11	
	Lambat	12			

Based on the table above, the average time of breast milk expenditure in the intervention group was 2.16 hours and the standard deviation was 0.42, the average time of breast milk expenditure in the control group was 2.79 hours and the standard deviation was 0.11. The results of the statistical test obtained a p-value of 0.000 ($p < 0.05$), which means that there is a significant difference between the average time of breast milk expenditure between the intervention group and the control group. Based on the data above, it can be concluded that the combination of acupressure therapy and oxytocin massage is effective in faster milk production time, because there is a significant difference in the average value between the intervention group and the control group.

IV. DISCUSSION

Distribution of Long Time Frequency of Breast Milk Expenditure in Postpartum Mothers in Intervention Groups and Control Groups

From the results of the study, it can be seen that out of 15 respondents in the intervention group, namely the group given a combination of acupressure therapy and oxytocin massage, most of the time the milk expenditure was fast as many as 12 people (80%). And of the 10 respondents in the control group who were not given treatment most of the time their milk expenditure was slow as many as 12 people (80%). The

time of milk discharge in post sectio caesarea mothers is slower than in normal childbirth mothers, this can be caused by improper breastfeeding position, postoperative pain and insufficient mobilization. The average milk production time in sectio caesarea mothers is 7.68 hours, while in normal childbirth the average milk expenditure is 2.68 hours (Kartika, 2018). The results of this study are in line with the results of the Novidiyawati study (2022) which said that the average time of breast milk expenditure in the control group was 2,791 hours and in the intervention group of combination acupressure therapy and oxytocin massage was 1,898 hours. The results of this study are also strengthened by the results of this study in line with the results of Eka Riyanti (2019) who said that most respondents had a fast milk expenditure time of 100%.

According to the researchers' assumptions from the results of this study, we can know that the time of breast milk expenditure in the intervention group is faster than in the control group, where in the intervention group most of the time the milk expenditure is fast as much as 80%, while in the control group the time of milk expenditure is mostly slow as much as 80%. This means that it can be concluded that the timing of breast milk expenditure was faster in puerperal mothers who were given a combination of acupressure therapy and oxytocin massage compared to the control group. Oxytocin massage is one of the right solutions to speed up and facilitate the production and production of breast milk, namely by massaging along the spine (vertebrae) to the fifth or sixth costae bone. This massage will provide a sense of comfort and relaxation to the mother after experiencing the labor process so that it does not inhibit the secretion of prolactin and oxytocin hormones. This oxytocin massage is done to stimulate the oxytocin reflex or let down reflex, by doing this massage the mother will feel relaxed, fatigue after giving birth will disappear, so that the hormone oxytocin comes out and the milk comes out quickly. The combination of acupressure therapy and oxytocin massage really helps the smooth running of breast milk, because both provide a sense of comfort and relaxation so that there are no obstacles to breast milk production.

Average Time of Breast Milk Expenditure in Postpartum Mothers in Intervention Groups and Control Groups

From the results of the study, it can be seen that the average length of time for breast milk expenditure in puerperal mothers who were treated with acupressure therapy and oxytocin massage obtained a value of 2.16 hours, the average length of time for breast milk expenditure in puerperal mothers in the control group obtained a value of 2.79 hours. In normal childbirth the average milk expenditure is 2.68 hours, while in sectio caesaria the average milk expenditure is 7.68 hours. In mothers who give birth sectio caesaria, breast milk production is slower because it is influenced by anesthesia that inhibits the hormone oxytocin (Kartika, 2018). The results of this study are in line with the results of Eka Riyanti's research (2019) which said that most respondents with a fast milk expenditure time < 2.68 hours.

The results of this study are also supported by the research of Novidiyawati (2022) which said that the average length of time for breast milk production in puerperal mothers with acupressure therapy obtained a value of 2.5 hours. According to the researchers' assumptions from the results of this study, it was found that most of the respondents who were given acupressure therapy treatment and oxytocin massage the time of milk production was 2.16 hours, which means < 2.68. Meanwhile, in the control group that was not given any treatment, the milk expenditure time was longer, namely an average of > 2.79 hours. Thus acupressure therapy and oxytocin massage are very effective and help puerperal mothers in accelerating the production of breast milk so that the baby immediately gets breast milk.

Effectiveness of Combination of Acupressure Therapy with Oxytocin Massage Against Long Time of Breast milk Expenditure in Puerperal Mothers

From the results of the study, the average time of breast milk expenditure in the intervention group was 2.16 hours and the standard deviation was 0.42, the average time of breast milk expenditure in the control group was 2.79 hours and the standard deviation was 0.11. The results of the statistical test obtained a p-value of 0.000 ($p < 0.05$), which means that there is a significant difference between the average time of breast milk expenditure between the intervention group and the control group. Based on the data above, it can be concluded that the combination of acupressure therapy and oxytocin massage is effective in faster milk production time, because there is a significant difference in the average value between the intervention group and the control group. Acupressure therapy is one of the solutions to overcome the inadequacy of breast milk

production. This technique can maximize prolactin and oxytocin receptors and minimize the side effects of delayed breastfeeding by the baby. Acupressure can increase the sense of relaxation in puerperal mothers. Acupressure can increase endorphin levels in the blood as well as systematically. Acupressure stimulation can bring substance relationships to the release of substances capable of inhibiting pain signals to the brain. The stimulatory effects of acupressure points can be through nerves and can be through humoral transmitters that have not been clearly explained (Rahayu, 2015). This oxytocin massage is done to stimulate the oxytocin reflex or let down reflex. This massage will make the mother feel relaxed, fatigue after giving birth will disappear, so that the hormone oxytocin comes out and breast milk comes out quickly (Mardiyarningsih, 2017). Oxytocin massage is done with a duration of 3-5 minutes 2 times / day in the morning and evening for 3 days after delivery (Italy, 2019).

When a massage or massage is performed on the spine, the neurotransmitter will stimulate the medulla oblongata directly sending a message to the hypothalamus in the posterior hypophyse to secrete oxytocin which causes the breast fruit to secrete its milk (Khabibah, 2019). The results of this study are in line with the results of a study conducted by Selly Surya Pratiwi (2020) who said that the results of statistical tests found differences in breast milk production in postpartum mothers which were carried out in combination of acupressure therapy and oxytocin massage with oxytocin massage alone ($p = 0.000$), namely the combination of oxytocin massage and acupressure therapy is more effective in increasing breast milk production. The results of this study are also supported by the research of Novidiyawati (2022) who said that there is a significant difference between the average time of breast milk expenditure between the control group and the intervention group (a combination of acupressure therapy and oxytocin massage), in other words, the combination of acupressure therapy and oxytocin massage is effective against accelerating the time of breast milk production. According to the researcher's assumption based on the results of the study that the combination of acupressure therapy and oxytocin massage is effective in accelerating breast milk production in puerperal mothers, which from the results of statistical tests obtained a p value of $0.000 (< 0.05)$. The combination of oxytocin massage and acupressure therapy has also been shown to be more effective in increasing the production of more breast milk, where when a massage or massage is performed on the spine, the neurotransmitter will stimulate the medulla oblongata directly sending a message to the hypothalamus in the posterior hypophyse to secrete oxytocin which causes the breast fruit to secrete its milk.

The stimulation of oxytocin makes the myoepithelial cells around the alveoli inside the breast glands contract. This combination of effective muscle-like cell contractions causes milk to exit through the ducts and into the lactive sinuses. Nipple stimulation is not only passed on to the back pituitary gland that secretes the hormone oxytocin. The oxytocin reflex works before or after feeding to produce a stream of milk and cause uterine contractions. The more frequent breastfeeding, the better the emptying of the alveolus and ducts so that the less likely it is to have a milk dam so that the breastfeeding process is smoother. From the results of this study, it is proven that the combination of oxytocin massage and acupressure therapy is much more effective for accelerating breast milk production and increasing breast milk production in puerperal mothers, besides that puerperal mothers also feel several other benefits such as reduced stress, increasing comfort or feeling fitter, and improving maternal health. Oxytocin massage and acupressure therapy will maximize the excitability of oxytocin and prolactin hormone production so that breast milk production will increase. By giving oxytocin massage, it stimulates the production of the hormone oxytocin which results in contractions in the smooth muscles on the walls of the alveolus and the walls of the breast gland ducts so that the milk is pumped out continuously and the amount becomes abundant.

V. CONCLUSION

The timing of breast milk expenditure in the intervention group was mostly fast (80%), and the time of milk expenditure in the control group was mostly slow (80.0%). The average length of time of breast milk expenditure in the intervention group was 2.16 hours and in the control group 2.79 hours. There is an effectiveness of the combination of acupressure therapy with oxytocin massage against the length of time of breast milk production in puerperal mothers with a p value of 0.000 .

REFERENCES

- [1] Eka Riyanti, (2019). Effectiveness of Oxytocin Massage on Breast milk Production in Post Partum SC Primipara Mothers at PKU Muhammadiyah Gombong Hospital. The 10th University Research Colloquium 2019 Muhammadiyah Gombong College of Health Sciences
- [2] Kartika C, Widyawati, Attamimi A. (2018). Difference in Spending Time Breast milk between Post Partum Mother Normal Childbirth and Sectio Childbirth caesarea with Initiated Regional Anesthesia Early Feeding. Univ Gadjah Mada.
- [3] Ministry of Health RI. (2020). Coverage of babies getting exclusive breastfeeding in 2019. Ministry of Health of the Republic of Indonesia : Jakarta
- [4] , (2019) INFODATIN. Data and Information Center of the Ministry of Health of the Republic of Indonesia. Jakarta: Ministry of Health of the Republic of Indonesia.
- [5] Khabibah, et al. (2019). Effect of Acupressure Therapy and Oxytocin Massage on Increasing Breast Milk Production in Postpartum Mothers at Jombang Regional Hospital. *Journal of Edunursing*.
- [6] Mardiyansih, E. a. al (2017) 'Effectiveness of the Combination of Marmet Technique and Oxytocin Massage on Breast milk Production', FIK Universitas Indonesia, Jakarta.
- [7] Mukhoirotin, Khusniyah, Z. and Susanti, L. (2018) 'The Relationship of Maternal Knowledge about Exclusive Breastfeeding with Exclusive Breastfeeding Behavior in BPM Hj. Umi Salamah Peterongan Jombang', *Journal of Edu Health*, 5(2), pp. 94–101
- [8] Novidiyawati, (2022). Fectivity of combination of acupressure therapy with oxytocin massage against the length of time of milk production in puerperal mothers. *Scientific Journal of Nursing Special Edition*, Vol 8, No. 3, 2022
- [9] Rahayu, et al. (2015). Breast milk production with Acupressure Point Lactation and Oxytocin Massage. *Journal of Ners*
- [10] Rahmawati, A. et al. (2019). Analysis Of Factor Affecting Breasmilk Production on Breastfeeding Working Mother. Retrieved 07 November 2021 via. <http://jnk.phb.ac.id/index.php/jnk/article/view/213>.
- [11] Riskesdas. (2018). Health Research and Development Agency. Jakarta: Ministry of Health of the Republic of Indonesia.
- [12] Selly Surya P, (2020). Effect of Combination of Oxytocin Massage and Acupressure Therapy on Breast Milk Production in Postpartum Mothers in the Independent Practice of Midwife Rosita Pekanbaru
- [13] United Nations Childrens Fund (UNICEF),(2021). These are the 5 Regions with the Highest Neonatal Infant Mortality Rates in the World (2020). <https://databoks.katadata.co.id/datapublish/2022/06/02/ini-5-wilayah-dengan-angka-kematian-bayi-neonatal-tertinggi-di-dunia>
- [14] WHO, (2020). World Breastfeeding Week: UNICEF and WHO are calling on the Government and Stakeholders to support all breastfeeding mothers in Indonesia during COVID-19. <https://www.who.int/indonesia/news/detail/03-08-2020-pekan-menyusui-dunia-unicef-dan-who-menyatakan-pemerintah-dan-pemangku-kepentingan-agar-mendukung-semua-ibu-menyusui-di-indonesia-selama-covid-19>. Retrieved 26/11/2020
- [15] Wulandari, U.S., et al. (2019). Effect of Acupressure on Breast Milk Production (ASI). *Ners Indonesia Journal*
- [16] Widhiana L.Y, (2019). Differences In Postpartum Production In The SPEOS Method (Stimulation Of Oxytocin And Suggestive Endorphin Massage) And Marmet Method The Different Milk Production Of Postpartum Mother With SEOSM Methods (Stimulation Of Endorphin Oxytocin And Suggestive Massage) And Marmet Method. *Journal of Midwifery* Vol.8 No. 1 April 2019
- [17] Wahyuni, E, Rahmaika A, D., Wayan A, I. (2018) 'The Combination of Acupressure and Affirmation Relaxation as an Alternative Method to Increase Breast Milk Production and Breastfeeding Self-efficacy', *Research Journal of Life Science*, 5(1), pp. 66–76. doi:10.21776/ub.rjls.2018.005.01.7.