

## THE EFFECT OF OXYTOCIN MASSAGE ON BREAST MILK EXPENDITURE IN POST PARTUM MOTHERS

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### ABSTRAK PENGARUH PIJAT OXYTOCIN TERHADAP PENGELUARAN ASI PADA IBU PASCA PARTUM

Latar belakang: Besarnya manfaat ASI tidak diimbangi oleh peningkatan perilaku pemberian ASI sehingga bayi tidak mendapatkan ASI dengan baik. Data di Indonesia tahun 2021 menyebutkan bahwa hanya sebesar 52,5% atau hanya setengah dari 2,3 juta bayi berusia kurang dari 6 bulan yang mendapat ASI eksklusif. Tidak semua ibu post partum langsung mengeluarkan ASI karena pengeluaran ASI, di RSUD Dr. H. Abdul Moeloek Provinsi Lampung sebanyak 50% ibu mengeluh bahwa produksi ASI nya kurang lancar dan produksi ASI sedikit. Teknik untuk memperbanyak ASI antara lain pijat oksitosin. Melalui pijatan atau rangsangan tulang belakang, neurotransmitter akan merangsang medulla oblongata langsung mengirim ke hipotalamus di hypovise posterior untuk mengeluarkan oksitoksin sehingga menyebabkan keluarnya ASI.

Tujuan: Tujuan dari penelitian ini adalah diketahui pengaruh pijat oksitosin terhadap pengeluaran ASI pada ibu post partum.

Metode: Jenis penelitian ini adalah kuantitatif, menggunakan rancangan quasi eksperimental dengan menggunakan *posttest only with control group design*. Populasi penelitian ini adalah seluruh ibu postpartum di RSUD Dr. H. Abdul Moeloek Provinsi Lampung, dengan jumlah sampel sebanyak 32 orang, menggunakan *accidental sampling*. Variabel independent pada penelitian ini adalah pijat oksitosin, dan variabel dependennya adalah Pengeluaran ASI. Uji statistik menggunakan uji T independen.

Hasil: Hasil penelitian diperoleh rata-rata pengeluaran ASI pada kelompok yang diberi perlakuan pijat oksitosin 7,338cc, sedangkan pada kelompok yang tidak diberi perlakuan pijat oksitosin adalah 4,956 cc. Dari hasil uji statistik diperoleh  $p\text{-value} = 0,000$ .

Kesimpulan: Ada pengaruh pijat oksitosin terhadap pengeluaran ASI pada ibu post partum.

Saran: Diharapkan tenaga medis khususnya bidan dapat memberikan manajemen laktasi kepada ibu nifas dengan cara melakukan pijat oksitosin

Kata Kunci : Pijat oksitosin, pengeluaran ASI

### ABSTRACT

Background: The magnitude of the benefits of breastfeeding is not matched by an increase in breastfeeding behavior so that the baby does not get breast milk properly. Data in Indonesia for 2021 states that only 52.5% or only half of the 2.3 million babies aged less than 6 months are exclusively breastfed. Not all post partum mothers immediately express breast milk because of milk expenditure, at Dr. H. Abdul Moeloek Lampung Province as many as 50% of mothers complained that their milk production was not smooth and less milk production. Techniques for increasing breast milk include oxytocin massage. Through massage or spinal stimulation, neurotransmitters will stimulate the medulla oblongata directly sending to the hypothalamus in the posterior hypovise to release oxytocin, causing milk to be released.

Purpose: The purpose of this study was to determine the effect of oxytocin massage on breast milk expenditure in post partum mothers.

Methods: This type of research is quantitative, using a quasi-experimental design using a posttest only with control group design. The population of this study were all postpartum mothers at RSUD Dr. H. Abdul Moeloek Lampung Province, with a total sample of 32 people, using accidental sampling. The independent variable in this study was oxytocin massage, and the dependent variable was breast milk expenditure. The statistical test uses an independent T test.

Result: The results showed that the average milk production in the group that was treated with oxytocin massage was 7.338 cc, while in the group that was not treated with oxytocin massage it was 4.956 cc. From the results of statistical tests obtained  $p\text{-value} = 0.000$ .

Conclusion: is an effect of oxytocin massage on breastfeeding in post partum mothers.

Suggestion: It is hoped that medical personnel, especially midwives, can provide lactation management to postpartum mothers by doing oxytocin massage.

Keywords: Oxytocin massage, Breast milk expenditure.

## INTRODUCTION

In order to reduce infant morbidity and mortality, UNICEF and WHO recommend that babies should only be breastfed for at least 6 months, and continued breastfeeding until the baby is two years old. So that mothers can maintain exclusive breastfeeding for 6 months. Based on Government Regulation Number 33 of 2012 concerning Exclusive Breastfeeding, breast milk is given to babies from birth for six months, without adding or replacing it with other foods or drinks.

In Indonesia, the area with the highest percentage of babies who receive exclusive breastfeeding is in the NTB area in 2022 as much as 79.69% then the lowest percentage in Indonesia in 2022 is in the Gorontalo area of 53.60% and the percentage of babies less than 6 months old who are breastfed Lampung Province exclusive breastfeeding in 2020 was 72.36%, in 2021 it was 74.93% and it will increase in 2022 as much as 76.76%.

The magnitude of the benefits of breastfeeding is not matched by an increase in breastfeeding behavior so that the baby does not get breast milk properly. Several factors are suspected to be the cause of babies not getting breast milk properly, one of which is the mother's knowledge factor. Mother's reluctance to breastfeed because of pain during breastfeeding, fatigue during breastfeeding, and mother's concern about breast changes after breastfeeding. Socio-cultural factors, lack of family and environmental support in the breastfeeding process also greatly affect the breastfeeding process. The lack of health education regarding factors that can increase milk production also recognizes the knowledge of primiparous mothers which can cause a lack of milk volume.

While the beginning of the introduction of babies to ASI is by doing IMD (Early Breastfeeding Initiation). IMD is an important step to make it easier for babies to start the breastfeeding process. Early initiation of breastfeeding will also be very helpful in the continuation of breastfeeding and the duration of breastfeeding. However, the IMD rate in Indonesia is still relatively low. According to the 2018 Riskesdas data and the 2017 Indonesian Nursing Diagnosis Standards (IDHS), among children younger than two years old, only 57% of babies get breast milk one

hour after birth. Meanwhile, 61% were immediately placed on the mother's chest and there was skin contact with the mother, as much as 60%.

According to basic health research data (RISKESDAS) 2021, 52.5% or only half of the 2.3 million babies aged less than 6 months are receiving exclusive breastfeeding in Indonesia, or a decrease of 12% from the 2019 rate. The early breastfeeding initiation rate (IMD) ) also decreased from 58.2% in 2019 to 48.6% in 2021.

Breast milk expenditure can be influenced by two factors, namely production and expenditure. Milk production is influenced by the hormone prolactin while expenditure is influenced by the hormone oxytocin. Techniques for increasing breast milk include breast care or breast care, breast exercise, breast massage and oxytocin massage. The effectiveness of oxytocin massage can be seen from Astria dian Setyorini's research in 2014, it is known that there is a significant difference between the marmet technique and the combination of marmet technique - oxytocin massage so researchers want to know about oxytocin massage.

Through oxytocin massage, the oxytocin hormone will come out through stimulation to the nipples through sucking the baby's mouth or through massage of the baby's mother's spine. By doing massage on the spine the mother will feel calm, relaxed, increase her pain threshold and love her baby. So that the oxytocin hormone comes out and the milk comes out quickly (Wulandari, 2018).

Through massage or stimulation of the spine, neurotransmitters will stimulate the medulla oblongata to be sent directly to the hypothalamus in the posterior hypovise to release oxytocin, causing the breasts to secrete milk. With massage in the spinal area, this will also relax tension and relieve stress and so the hormone oxytocin will come out. and will help expel breast milk. assisted by the baby's sucking on the nipple immediately after the baby is born with a normal baby.

Not all post partum mothers immediately express breast milk because breastfeeding is a very complex interaction between mechanical, nervous and various kinds of hormones that affect the release of oxytocin. If it widens or becomes soft, oxytocin is reflexively released by the hypovise which plays a

role in squeezing milk from the alveoli (Soetjningsih 2014).

The results of a preliminary study conducted at RSUD Dr. H. Abdul Moeloek Lampung Province on March 15 2023. Babies who were born normally were carried out for IMD (Early Breastfeeding Initiation) but there were several babies who were not given IMD because of risk factors for babies such as babies who were asphyxiated. Several babies were given to their mothers after the mother recovered and entered the obstetric care room or the postpartum room at RSUD Dr. H. Abdul Moeloek, Lampung Province, Bandar Lampung, after a few hours the baby and his mother were crying and 7-10 mothers were confused when their baby was crying, while the milk that came out was not smooth. They had asked about how to get a lot of breast milk out. Meanwhile, the post partum mothers had the desire to exclusively breastfeed their babies. Information obtained from service workers said that about 50% of mothers complained that their milk production was not smooth and milk production was only small. Mothers did not know about oxytocin massage, so there were no postpartum mothers who stimulated their milk release with oxytocin massage but mothers overcame the lack of milk production by increasing consumption of green vegetables.

Based on the description above, the study wanted to prove whether there was an effect of oxytocin massage on breastfeeding in post partum mothers at RSUD Dr. H. Abdul Moeloek Lampung Province in 2023.

## RESEARCH METHODS

This type of research is quantitative, using a quasi-experimental design using a posttest only with control group design. The population of this study were all postpartum mothers at RSUD Dr. H. Abdul Moeloek Lampung Province, with a total sample of 32 people, using accidental sampling. The independent variable in this study was oxytocin massage, and the dependent variable was breast milk expenditure.

This study uses primary data obtained through observation of subjects according to predetermined inclusion criteria. Doing informed consent to the research subjects to become research respondents, then a pre-test assessment was carried out, namely an assessment before the massage was carried out to assess whether colostrum had come out or had not come out. After that, respondents who met the inclusion criteria were given an oxytocin massage at 6 hours post partum and 12 hours post partum and then reassessed after 24 hour post partum. Data processing includes editing, tabulating, processing, and cleaning. Data analysis using univariate and bivariate methods using the independent T test.

## RESEARCH RESULT

### Univariate analysis

Milk output Based on table 1 above, it can be seen that the average milk expenditure in the group treated with oxytocin massage was 7.338cc, with a minimum amount of 5.5cc and a maximum value of 9.5cc.

**Table 1**  
**The Average Expenditure of Breast Milk in Post Partum Mothers Who Are Given Oxytocin Massage Treatment**

Variable	n	Mean	Median	SD	Min-Max
Breast milk expenditure	32	7,338	7,5	1,179	5,5-9,5

**Table 2**  
**Average Expenditure of Breast Milk in Post Partum Mothers Who Were Not Given Oxytocin Massage Treatment**

Variable	n	Mean	Median	SD	Min-Max
Breast milk expenditure	32	4,956	5,0	0,811	3,5-6,8

Based on table 2 above, it can be seen that the average milk production in the group that was not treated with oxytocin massage was 4.956cc, with a minimum amount of 3.5cc and a maximum value of 6.8cc.

### Bivariate analysis

Based on table 3 above, it can be seen that the expenditure of milk in the treatment group (which was given oxytocin massage) was more than the expenditure of milk in the control group (which was not given oxytocin massage) with an average

difference of 2.381cc. The results of the t-test (independent sample t-test) obtained a significance value of p-value = 0.000 (p-value <  $\alpha$  (0.05)), so it

can be concluded that there is an effect of oxytocin massage on breastfeeding in post partum mothers.

**Table 3**  
**Effect of Oxytocin Massage on Milk Expenditure in Post Partum Mothers**

Variable	N	Mean	Mean Different	SD	SE	P-Value
Milk Expenditure Treatment Group	16	7,338	2,381	1,179	0,295	0,000
Expenditure of Milk Control Group	16	4,956		0,811	0,203	

## DISCUSSION

Based on the results of the study, it was found that the average milk production in the group that was treated with oxytocin massage was 7.338cc, with a minimum amount of 5.5cc and a maximum value of 9.5cc.

The results of this study are in accordance with the theory put forward by Roesli, (2015), that Mother's Milk (ASI) is the main source of nutrition from a mother to a baby which is secreted by both sides of the mother's breast glands in the form of natural food or the best nutritious and high-energy milk which is easy to digest and contains a balanced and perfect nutritional composition for the growth and development of babies at all times, ready to be served at room temperature and free from contamination. Apart from that, according to Mintaningtyas (2022), one of the efforts to increase milk production is by oxytocin massage. Oxytocin massage is one of the non-pharmacological therapies performed to facilitate milk production. Oxytocin massage is massage along both sides of the spine. This massage is done to stimulate the oxytocin reflex or the milk ejection reflex.

The results of this study are also in line with research conducted by Rofika (2020), concerning the effect of oxytocin massage on the smooth production of breast milk in breastfeeding mothers in Tambakromo Village, Kec. Tambakromo District. Starch, the results obtained in the post-test of the treatment group obtained 8.47 cc of milk output.

According to the researchers, the results of the study showed that the average milk expenditure in the group that was given oxytocin massage was 7.338cc where milk production was more when compared to the group that was not given oxytocin massage. where oxytocin massage will provide comfort to the postpartum mother then stimulate the oxytocin reflex, this will affect the increase in the amount of breast milk/colostrum produced by the postpartum mother. In addition, based on the results of the study, it was obtained that the minimum value

of milk production in the group given oxytocin massage was 5.5 cc. This could be caused by several factors, including maternal nutritional factors since pregnancy. Good nutrition during pregnancy can affect the functions of the reproductive organs and the lactation process. Then the pain after giving birth can also affect colostrum expenditure because pain can cause discomfort so even though an oxytocin massage has been given, the results are not optimal.

Based on the results of the study, it was also found that the average milk production in the group that was not treated with oxytocin massage was 4.956cc, with a minimum amount of 3.5cc and a maximum value of 6.8cc.

The results of this study are in accordance with the theory put forward by Saleha (2014), that breast milk is an ideal source of nutrition with a balanced composition and adapted to the needs of the baby's growth. According to Roesli, (2015), the first liquid that a baby gets from his mother is called colostrum, where the milk contains a mixture richer in protein, minerals, and antibodies than mature breast milk. Breast milk starts around day 3 or day 4. Colostrum is a viscous liquid with a thick, sticky and yellowish color. Colostrum volume between 5-7 ml/first 24 hours.

The results of this study are also in line with research conducted by Rofika (2020), regarding the effect of oxytocin massage on the smooth production of breast milk in breastfeeding mothers in Tambakromo Village, Kec. Tambakromo District. Starch, the results obtained in the post-test control group (no oxytocin massage) produced less milk than the control group, namely 6.75 cc.

According to the researchers, in the control group milk expenditure was still quite low when compared to the treatment group. This was because no treatment was given to this group, so the amount of colostrum produced was the result without any intervention being given to the respondents. Based on the results of the study, it was found that the least

amount of colostrum excreted in the control group was 3.5 cc. This can be caused by many factors, one of which is not doing oxytocin massage so that the mother does not feel relaxed after giving birth which causes the oxytocin reflex to not be aroused which will help expel breast milk/colostrum. Whereas in the control group there was sufficient milk production at the maximum value of 6.8cc. This can be influenced by several factors such as nutritional intake during pregnancy. Good nutritional intake will help all organs work properly including in producing and removing breast milk/colostrum. In addition, multiparous mothers tend to produce more milk on the first postpartum day than primiparous mothers.

Based on the results of the study, it was found that there was an effect of oxytocin massage on milk expenditure in post partum mothers at Dr. H. Abdul Moeloek Lampung Province in 2023 (p-value = 0.000).

The results of this study are in accordance with the theory put forward by Mintaningtyas (2022), that oxytocin massage is carried out along the spine where at this location the mother often feels tense. Along the spine there are acupressure points to facilitate the lactation process and expedite the flow of milk and the nerves around the breasts that are connected along the spine. Oxytocin massage is performed on postpartum mothers as a stimulus that will cause an increase in prolactin and oxytocin levels, especially in the early days of breastfeeding, which will ultimately affect the production and release of breast milk. Oxytocin makes the myoepithelial cells around the alveoli contract, so that the milk that has accumulated in the alveoli can flow and fill all the milk ducts smoothly. Oxytocin massage is one of the stimulations to help the secretion of the hormones prolactin and oxytocin, the massage that is carried out has the effect of reducing the hormone cortisone and increasing the secretion of oxytocin and prolactin so that the process of flowing milk will not be hampered.

The results of this study are also in line with research conducted by Yiyin (2018), regarding the effect of oxytocin massage on breastfeeding in post partum mothers at RSIA Aisyiyah Samarinda in 2018, where there was a significant effect of oxytocin massage between breastfeeding in post partum mothers. the Wilcoxon test, namely the Z obtained is -5.070 with a sig value of  $0.000 > (0.05)$ . In addition, the results of Intan's research (2021) concerning the effect of oxytocin massage on lactogenesis II milk output in multiparous post partum mothers at the Anny Rahardjo Main Clinic in 2021, found that there was a significant effect on giving oxytocin massage

on post partum mother's milk output.(p) -value 0.000).

According to the researchers, there was an effect of oxytocin massage on breastfeeding in post partum mothers, where the milk output in post partum mothers who were given oxytocin massage treatment would be more numerous than those who were not given oxytocin massage treatment because mothers who were given oxytocin massage treatment would be more Facilitate milk production, by doing oxytocin massage on the mother's back will provide comfort to the mother so that physiologically it will stimulate the oxytocin reflex or let down reflex to produce/secrete the hormone oxytocin into the blood. This oxytocin causes the myoepithelium cells around the alveoli to contract and makes milk flow from the alveoli to the ductuli to the sinuses and nipples and then sucked by the baby. The smoother the discharge of breast milk, the more milk / colostrum will be produced.

Based on the results of the study, it was found that the maximum value of breastfeeding was 9.5 cc which could be due to the age of the mother who was not at risk and also multiparous parity. In addition, based on the results of the interview, it turned out that the respondent performed breast care during the third trimester of pregnancy until the time of delivery. In addition, the results of the study also obtained a minimum value of 5.5 cc, this could be due to the young age of the respondents and primiparas, where primiparas tend to spend less milk on the first day than multiparas.

## CONCLUSION

In this study, research was carried out so that it could be concluded that the average milk expenditure in the group that was given oxytocin massage was 7.338cc. In addition, the average milk production in the group that was not treated with oxytocin massage was 4.956 cc. Statistical test results obtained that there was an effect of oxytocin massage on breastfeeding in post partum mothers at Dr. H. Abdul Moeloek Lampung Province in 2023 (p-value = 0.000).

## SUGGESTION

It is hoped that midwives can provide health education about oxytocin massage with demonstration methods for postpartum mothers to increase the knowledge of post partum mothers so that mothers can do oxytocin massage and expedite the release of breast milk/colostrum. Then it is hoped that medical personnel, especially midwives, can apply oxytocin massage in the implementation of midwifery care for postpartum mothers in accordance

with the applicable SOP (Standard Operating Procedure). In addition, it is hoped that the hospital management can provide training to midwives on how to perform oxytocin massage and also socialize the SOP for oxytocin massage to all midwives at RSUD Dr. H. Abdul Moeloek Lampung Province.

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