International Journal of Sciences: Basic and Applied Research (IJSBAR)

ISSN 2307-4531
(Print & Online)

http://gssrr.org/index.php?journal=JournalOfBasicAndApplied

The Effect of Oxytocin Massage by Husband on Mother's Response to Breastfeeding in Gowa Regency, South Sulawesi

Fairus Prihatin Idris[a], Bau Kanang[b], Fitri Andriani[c] Andi Asrina[d*]

[a,d]*Public Health, Universitas Muslim Indonesia, Makassar Indonesia*

[b,c]*Post Graduate Student of Universitas Muslim Indonesia, Makassar Indonesia*

[d]*Email: andi.asrina@umi.ac.id*

Abstract

Background: There are many mothers who cannot give breast milk exclusively to their babies. This is partly due to the feeling of insufficient milk production. The purpose of this study was to determine the effect of oxytocin massage by husbands on mother's responses to breastfeeding in Gowa Regency, South Sulawesi Province. **Methods:** This study used One Group Pretest-Postest Design. The population was 31-trimester pregnant women in the working area of Public Health Center Bajeng and Pabbentengan, Gowa Regency. As many as 31 mothers and a sample of 29 mothers were obtained according to the criteria. 29 husband of pregnant women were given training in oxytocin massage for 2 days. Then the husband applied oxytocin massage on the mother in the first 6 hours of the first day of childbirth and continued on the second and third day of delivery. Data from observations and interviews were then tested using the Wilcoxon test. **Results:** The study showed that the average response of mothers in breastfeeding before oxytocin massage was 6,48, where the lowest score was 5 and the highest was 8. After oxytocin massage, the average response of mothers in breastfeeding before oxytocin massage was 7,76 where the lowest score is 7 and the highest is 8. The Wilcoxon test results obtained p-value = 0.000, which means there is an effect of oxytocin massage by husband on the response of mother in breastfeeding on days two and three, in Gowa Regency, South Sulawesi Province. **Conclusion:** This study recommends public health center health workers and cadres to educate and encourage husbands of pregnant women to do oxytocin massage.

Keywords: Oxytocin Massage; Mother's Response; Breastfeeding.

---

* Corresponding author.

1. Introduction

According to data from the World Health Organization (WHO), more than 820,000 lives of children under five can be saved each year, if all children 0–23 months are breastfed optimally. However, about 40% of infants aged 0-6 months are exclusively breastfed [1]. Nationally, the coverage of exclusive breastfeeding in 2018 is 68.74%. This figure is still below the target of 80% [2]. In South Sulawesi Province, coverage of exclusive breastfeeding increased in 2016 by 63.24% [3]. The coverage of exclusive breastfeeding in Gowa Regency in 2016 was 78.4% and decreased to 68% in 2018 [4]. This coverage is still very low when compared to the number of existing babies. Even today, with the increasing number of formula milk circulating in the community, many mothers choose to give their children breast milk mixed with formula milk, even only giving formula milk to their children. Mothers were not feeling sure that they can breastfeed their babies will cause a decrease in the hormone oxytocin so that milk cannot come out immediately after giving birth and finally the mother decides to give formula milk. This is because the mother does not produce adequate amounts of breast milk for the baby [5]. Even though there are many substances that cannot be found in formula milk, but can be found in breast milk. One example is Immunoglobulin which functions for infant immunity which can only be found in breast milk (ASI) [6]. Lactation management is needed to support successful breastfeeding so that the baby can be fed properly. The management goal is to increase the use of exclusive breastfeeding until the baby is 6 months old, with affectionate facilities. Lactation management begins during pregnancy (antenatal), immediately after birth (prenatal), and the postpartum period (postnatal) [7]. The rate of breastfeeding in the world is only between 20-40%. Many postpartum mothers whose breast milk is not smooth at one week postpartum and incidents of blockage of milk that require the mother to breastfeed every month. One of the efforts to increase milk production is by early intervention in postpartum mothers by stimulating the hormone oxytocin. Efforts to facilitate breastfeeding can be done by massaging oxytocin. Health care workers should support and encourage exclusive breastfeeding in almost all patients and motivate mothers to continue breastfeeding for at least 6 months [8]. Oxytocin massage is a stimulation involving the vertebrae that cause neurotransmitters to stimulate the medulla oblongata and this medulla oblongata will directly send messages to the hypothalamus in the posterior pituitary gland which should produce oxytocin. As a result, the breasts will start producing milk. This message will also relax the tension and relieve stress [9]. This oxytocin massage will also relax the tension and relieve stress and increase the feeling of comfort. When the mother feels comfortable or relaxed, the body will easily release the hormone oxytocin and then stimulate the myoepithelial cells to push the milk out into the lactiferous sinuses. When the baby sucks the nipple, the milk stored in the lactiferous sinuses will be pressed out of the baby's mouth [10]. The results of research by Sulaeman and his colleagues and Morhenn and his colleagues regarding the effect of oxytocin massage on maternal response to breastfeeding show that oxytocin massage has been able to effectively increase milk production among postpartum mothers and reduce levels of adrenocorticotropic hormones (ACTH). Likewise, research related to relaxation to reduce anxiety among postpartum mothers has also been carried out on a large scale [11, 12]. Bajeng and Pabbentengan Health Center were the lowest exclusive breastfeeding coverage in Gowa Regency, South Sulawesi. Based on preliminary research, information was obtained that the effort to consume vegetables to increase milk production in this area has not succeeded in making breastfeeding successful by mothers to their babies. For this reason, efforts are needed to be more precise to increase milk production in this area [13]. Based on this description, it is necessary

to study to conduct further research on: "The Effect of Oxytocin Massage by Husbands on Mother's Response in Breastfeeding in Gowa Regency, South Sulawesi Province".

2. Method

This study used an experimental research method with a One Group Pretest-Postest Design. The population was 31-trimester pregnant women living in the working area of Bajeng and Pabbentengan Health Center, Gowa Regency, as many as 31 mothers Sample of 29 mothers was obtained according to the sample criteria, including those who did not have a medical indication for section Caesarea. A total of 29 husbands of pregnant women were given training in oxytocin massage for 2 days. Then the husband will do oxytocin massage to the mother in the first 6 hours of the first day of childbirth, and continue on the second and third day of delivery. Data obtained through observation and interviews. The pre-test was done on the first day before the massage was done. Post-tests were carried out on the first, second, and third day after delivery. Further data were tested using the Wilcoxon test.

3. Result

Table 1: Frequency Distribution Based on Mother's Response to Breastfeeding Before and After Oxytocin Massage in Gowa Regency, South Sulawesi Province

Mother's response to breastfeeding	Pre-test		Post-test I		Post-test II		Post-test III	
	n	%	n	%	n	%	n	%
Enough	4	13,8	5	17,2	17	58,6	22	75,9
Less	25	86,2	24	82,8	12	41,4	7	24,1
Total	29	100,0	29	100,0	29	100,0	29	100,0

Source: Primary Data, 2020

Table 2: The Effect of Oxytocin Massage by Husband on Mother's Response to Breastfeeding in Gowa Regency, South Sulawesi Province

Mother's response to breastfeeding	Mean ± SD	Min-Max	Sig.
Pre-test	6,48 ± 0,911	5-8	
Post-test I	6,59 ± 0,907	5-8	0,083
Post-test II	7,55 ± 0,572	6-8	0,000
Post-test III	7,76 ± 0,435	7-8	0,000

Source: Primary Data, 2020

Table 1 shows that out of 29 mothers before oxytocin massage, there were 4 mothers (13.8%) who had a good enough response to breastfeeding and 25 mothers (86.2%) who had less response to breastfeeding. On the first day after the oxytocin massage, there were 5 mothers (75.9%) who had a good enough response in breastfeeding and 24 mothers (82.8%) who had a less response in breastfeeding. On the second day after oxytocin massage, there were 17 mothers (58.6%) who had a good enough response in breastfeeding and 12 mothers (41.4%) who had a less response in breastfeeding. On the third day after the oxytocin massage, there were 22 mothers

(75.9%) who had a good enough response in breastfeeding and 7 mothers (24.1%) who had a less response in breastfeeding.

Table 2 shows that the average response of mothers in breastfeeding before oxytocin massage is 6,48, a standard deviation of 0.911, where the lowest score is 5 and the highest is 8. Day one after oxytocin massage, the average response of mothers in breastfeeding before the massage is obtained. oxytocin is 6,59, the standard deviation is 0.907, where the lowest score is 5 and the highest is 8. The second day after the oxytocin massage, the average response of mothers in breastfeeding before oxytocin massage is 7,55, the standard deviation is 0,572, where the score lowest 6 and highest 8. The third day after oxytocin massage, the average response of mothers in breastfeeding before oxytocin massage was 7,76, the standard deviation of 0,435, where the lowest score was 7 and the highest was 8. The results of the Wilcoxon test after the oxytocin massage on the first day obtained p-value 0,083, which means that there is no effect of oxytocin massage on the first day by the husband on the response of the mother to breastfeeding. Meanwhile, for day II and III, the respective p-value = 0,000, which means that there was an effect of oxytocin massage on days II and III by the husband on the mother's response to breastfeeding in Gowa Regency, South Sulawesi Province.

4. Discussion

4.1 The response of the mother in breastfeeding before the oxytocin massage by the husband

Based on the results of the research that has been done, it shows that most of the mothers' responses are lacking in breastfeeding before the oxytocin massage by their husbands. This is because the mother's milk does not leak out of the nipple and before the baby was fed the breast does not feel tense. Less response of mothers in breastfeeding before oxytocin massage is due to the lack of knowledge of husbands and mothers about oxytocin massage because they have never received previous education about the importance of oxytocin massage in improving breast milk productivity. The results of this study are supported by research conducted by Husna (2017), suggesting that most postpartum mothers before treatment had low milk production [13]. Another study by Doko and his colleagues (2019), also explained that postpartum mother's milk production was more likely to be less before being given oxytocin massage by the husband because of the lack of knowledge of the husband regarding oxytocin massage. Lack of support given to mothers and difficulty in early breastfeeding can cause milk production to be inhibited and the amount of milk that is released is not sufficient [14]. The husband's support is a form of interaction in which there is a relationship that gives and receives tangible assistance from the husband to his wife. The husband's support for postpartum mothers is expected to provide benefits or to encourage mothers in facilitating exclusive breastfeeding. The husband's support is one of the factors that influence the mother's attitude in the mother's response to exclusive breastfeeding [15]. Based on the researcher's analysis, the mother's response was classified as lacking in breastfeeding because at that time oxytocin massage had not been done. Before that, the husband also did not know the correct method of oxytocin massage and had never received any information from the media or health workers so that this caused the process of breast milk formation to be slow because he hoped it was natural. However, there are still mothers who respond well to breastfeeding. This can be influenced by the factor of the hormone oxytocin in the posterior hypophysis which is good postpartum.

4.2 The response of the mother in breastfeeding after the oxytocin massage by the husband

Based on the results of research that has been done, it shows that most of the responses of mothers are good in breastfeeding after oxytocin massage by their husbands. This can be seen from the mother's milk seeping out through the nipple before the baby was fed, the breast feels tense, the mother can hear a soft swallowing sound when the baby swallows the milk, the mother can feel tingling because the flow of milk every time the baby starts breastfeeding, the baby is breastfed 6-8 times a day, baby sleeps calmly after each feeding, the mother can use both breasts alternately, the mother feels comfortable and more relaxed after the oxytocin massage. The good response of mothers in breastfeeding after oxytocin massage is because husbands and the mother have received information during counseling regarding the right way to improve the response of mothers in breastfeeding with oxytocin massage which is carried out directly by the husband. The results of this study are in line with research conducted by Sulaeman and his colleagues (2016), suggesting that oxytocin massage has a good effect on increasing postpartum milk production [11]. Another study conducted by Morhenn and his colleagues (2012), also explained that massage increases oxytocin can reduce Adrenocorticotropin Hormone (ACTH) so that it can improve the response of mothers to breastfeeding and can reduce morbidity and mortality [12]. According to Roesli in Ummah (2014), oxytocin massage is one of the right solutions to accelerate and expedite the production and production of breast milk, namely by massaging along the spine (vertebrae) to the fifth or sixth rib. This message will provide a feeling of comfort and relaxation to the mother after childbirth so it does not inhibit the secretion of the hormones prolactin and oxytocin [16]. Oxytocin massage can increase the mother's response to breastfeeding. Oxytocin massage is also easy to do with not too many movements so the family can remember to do it and doesn't take a long time. Support from the husband also plays an important role in breastfeeding. One form of support can be seen from the husband agreeing to do oxytocin massage so that the mother can be motivated to breastfeed her baby and the presence of family members who are willing to help with housework that is usually done by the mother.

4.3 Differences in the response of mothers about breastfeeding after and after the oxytocin massage by the husband

Before the oxytocin massage, there were 13.8% responded quite well to breastfeeding and most mothers (86.2%) had less response in breastfeeding. Breast milk that does not come out after giving birth is a common thing. Prolactin is a hormone that signals the mother's body to produce breast milk, increasing throughout pregnancy. However, milk production is also influenced by the hormone progesterone, which is produced by the placenta and can prevent the body from responding to prolactin effectively. That is why milk production in the mother's body only starts when the baby is born, and the hormones produced by the placenta have left the mother's body. So that it is necessary to do oxytocin massage by the husband to accelerate the productivity of breast milk and the response of the mother. On the first day of education, all husbands did not even know about oxytocin massage, so they were given education and training on oxytocin massage through video media. The husband was also given a direct explanation of how to massage oxytocin using olive oil or other oils so that the massage is easy to do. Then the husband explained how to position the mother by sitting leaning forward while hugging a pillow to make it more comfortable. Put the table in front of the wife as a place to lean on. Massage both sides of the spine using your fists with your thumbs pointing forward. Massage vigorously in circular

motions. Massage the sides of the spine down to the extent of the chest, from the neck to the shoulder blades. Do this massage for 15-20 minutes. On the second day, the husband was directed to carry out simulations with other husbands who had become participants in turn. On the second day, there was still a husband who did not understand, so an example was still needed. The results of observations on the first day showed that 17,2% had a good enough response in breastfeeding and 82,8% had a less response in breastfeeding. The results of the Wilcoxon test after the oxytocin massage on the first day obtained p-value = 0,083, which means there is no difference between the first-day pre-test and the first-day post-test, which means that there is no effect of oxytocin massage on the first day by the husband on the mother's response to breastfeeding. The results of this study are in accordance with the research of Pilaria & Sopiatun (2018). It is stated that low milk production in the first days after childbirth becomes an obstacle to breastfeeding early. Efforts to stimulate the hormones prolactin and oxytocin in mothers after childbirth apart from expressing breast milk can also be done by performing breast care, early initiation of breastfeeding (IMD), duration, and frequency of breastfeeding on demand, and regular oxytocin massage [17]. On the second day, the value of p = 0,000 was obtained, which means there is a difference in oxytocin massage between the pre-test and the post-test so there is an effect of oxytocin massage on day two by the husband on the mother's response to breastfeeding. These results prove that the workings of the oxytocin massage on the second day increased compared to the first day. The mother's breasts began to feel tense before breastfeeding, the milk began to leak out through the nipples and the mother began to feel more comfortable and more relaxed after the oxytocin massage. The results of this study are in line with the research conducted by Asih (2017), which states that there was a significant effect between oxytocin massage on breast milk production in postpartum mothers at Bandar Lampung. Oxytocin massage is one solution to overcome improper production. Breast milk. This massage is done to stimulate the oxytocin reflex or the breast milk reflex. Mothers who receive oxytocin massage will feel more relaxed [18]. The test on the results of observations on the third day obtained a value of p = 0.000 so that it was found that there was a difference between pre-test oxytocin massage on the first day and the post-test on the third day, which means that there was an effect of oxytocin massage on the third day by the husband on the mother's response to breastfeeding. Even though there were still 7 mothers who responded lessly to breastfeeding after oxytocin massage on day three, this could be influenced by the mother's psychological state during three days of the oxytocin massage process. Because the reflex for the release of milk is controlled by commands sent by the hypothalamus. When the mother is in a state of stress, anxiety, worry, tension, and so on, the milk will not go down from the alveoli to the nipple. Generally, this happens in the first weeks of breastfeeding. The reflex to drain milk works best when the mother feels calm and relaxed and is not tired. Therefore, the role of the husband is very important to maintain the psychological condition of the mother in order to remain calm and comfortable. In Martini's research (2015), it was suggested that oxytocin massage was effectively used to increase breast milk production. Oxytocin massage is a new technique used to overcome the problem of non-smooth excretion of breast milk in addition to using pharmacological drugs. This massage provides a feeling of relaxation to the mother so that the mother feels comfortable [19]. Oxytocin massage is the massage of the spine on the ribs 5-6 to the shoulder blades which will accelerate the work of the parasympathetic nerves, nerves that originate in the medulla oblongata and in the area of the sacrum of the spinal cord, stimulate the posterior pituitary to release oxytocin, oxytocin stimulates contraction of smooth muscle cells that surround the lactiferous ducts of the mammary glands causing myoepithelial contractility of the breast so it can increase the emission of breast milk from the

mammae glands [20]. Oxytocin massage has several helpful benefits for mothers after childbirth. As explained by Mulyani (2009) in Wulandari (2014), oxytocin massage can reduce physical discomfort and improve mood. This massage, which is performed along the spine, can also relax tension in the back and relieve stress so that it can expedite breastfeeding. Meanwhile, according to the Indonesian Ministry of Health (2007), oxytocin massage can reduce swelling, reduce milk obstruction, and maintain milk production when the mother and baby are sick [9]. This massage does not have to be done directly by a health worker but can be done by a husband or other family member. Health workers can teach families to be able to help mothers do oxytocin massage because this massage technique is quite easy to do. Balanced nutritional intake and increased consumption of green vegetables and support from husbands and families are also needed to increase breast milk production and expenditure. There are differences in the response of mothers in breastfeeding before and after the oxytocin massage by the husband. So it can be concluded that there is an effect of oxytocin massage by the husband on the mother's response to breastfeeding. Oxytocin massage is good in increasing the response of mothers to breastfeeding to babies because oxytocin massage can make mothers more comfortable and oxytocin hormone inhibitors can be suppressed and the oxytocin hormone can work better. However, the support of husbands and families is also needed to increase the production and production of breast milk because the unstable psychological condition of the mother can reduce the stimulation of the hormone oxytocin.

5. Conclusions and recommendations

There was an increase in the response of the mother to breastfeeding after being given oxytocin massage by her husband. Wilcoxon test show, it was found that there was an effect of oxytocin massage on the mother's response to breastfeeding on the second and third day after delivery. Therefore, this study recommends that the health center provide education related to oxytocin massage in pregnant women classes, as well as socialization to community health center cadres to educate and invite husbands of pregnant women to do oxytocin massage.

Acknowledgment

Thank you to the Ministry of Research and Technology Republic of Indonesia who has funded this research, to Universitas Muslim Indonesia for always providing motivation, and to the respondents and health workers at the Bajeng Community Health Center and the Pabbentengan Health Center in Gowa Regency for their cooperation.

References

[1]. WHO. (2018). Infant and Young Child Feeding. Fact Sheets of WHO.

[2]. Kemenkes RI. (2019). Profil Kesehatan Indonesia Tahun 2018. Jakarta: Kementerian Kesehatan RI.

[3]. Dinkes Prov. Sulsel. (2017). Profil Kesehatan Kesehatan Provinsi Sulawesi Selatan Tahun 2016. Makassar: Dinas Kesehatan Sulawesi Selatan.

[4]. Dinkes Kab. Gowa. (2017). Profill Kesehatan Kabupaten Gowa Tahun 2016. Sungguminasa: Dinas Kesehatan Kab. Gowa.

[5]. Damayanti, D. F. (2015). Tumbuh Kembang Bayi 0-6 Bulan Menurut Status ASI di Puskesmas Telaga Biru Pontianak. Jurnal Vokasi Kesehatan, Volume I Nomor 3, 75-79.

[6]. Johan, I., & Azizah, N. (2016). The Effect of Oxytocin Massage on Breastmilk Production Postpartum Mothers in Peterongan PHC Area, Jombang, East Java, Indonesia. Global Nursing Challenges in The Free Trade Era 5. Issue 1, 1-9.

[7]. Sari, L. P., Salimo, H., & Budihastuti, U. R. (2017). Optimizing the Combination of Oxytocin Massage and Hypnobreastfeeding for Breast Milk Production among Post-Partum Mothers. Journal of Maternal and Child Health, 1 (1), 20-29.

[8]. Wulandari, F. T., Aminin, F., & Dewi, U. (2014). Pengaruh Pijat Oksitosin Terhadap Pengeluaran Kolostrum pada Ibu Post Partum di Rumah Sakit Umum Daerah Provinsi Kepulauan Riau. Jurnal Kesehatan, Volume V, Nomor 2, 173-178.

[9]. Widyasih, H., Suherni, & Rahmawati, A. (2013). Perawatan Masa Nifas. Yogyakarta: Fitramaya.

[10]. Sulaeman, E. S., Yunita, F. A., Hardiningsih, Yuneta, A. E., Khotijah, Ada, Y. R., et al. (2016). The Effect of Oxytocin Massageon Thepostpartum Mother on Breastmilk Production in Surakarta Indonesia. International Conference on Health and Well-Being, 279-288.

[11]. Morhenn, V., Beavin, L. E., & Zak, P. J. (2012). Massage Increases Oxytocin and Reduces Adrenocorticotropin Hormone in Humans. Alternative Therapies, Vol. 18, No.6, 11-18.

[12]. Husna, P. H. (2017). The Effect of Back Massage to Increase Breast Milk Production in Wonogiri. Jurnal Keperawatan GSH Vol 6 No 2, 40-44

[13]. Fairus Prihatin Idris, dkk,2020, Mother BEhaviour in Breastfeeding in Gowa Regency South Sulawesi (Study on mothers with insufficient breastmilk production), dipresentasikan pada the 1st Internasional Conference on Safety and Public Health, 3-4 September 2020, Makassar

[14]. Doko, T. M., Aristiati, K., & Hadisaputro, S. (2019). Pengaruh Pijat Oksitosin Oleh Suami Terhadap Peningkatan Produksi ASI Pada Ibu Nifas. Jurnal Keperawatan Silampari, Volume 2, Nomor 2, 66-86.

[15]. Indriyani, D., & Asmuji. (2014). Buku Ajar Keperawatan Maternitas (Upaya Promotif dan Preventif dalam Menurunkan Angka Kematian Ibu dan Bayi). Yogyakarta: Ar-ruzz Media.

[16]. Ummah, F. (2014). Pijat Oksitosin untuk Mempercepat Pengeluaran ASI pada Ibu Pasca Salin Normal di Dusun Sono Desa Ketanen Kecamatan Panceng Gresik. Jurnal Surya, Vol. 02, No. XVIII, 121-125.

[17]. Pilaria, E., & Sopiatun, R. (2018). Pengaruh Pijat Oksitosin Terhadap Produksi ASI Pada Ibu Postpartum di Wilayah Kerja Puskesmas Pejeruk. Jurnal Kedokteran Yarsi, Volume 26, No. 1, 27-33.

[18]. Asih, Y. (2017). Pengaruh Pijat Oksitosin Terhadap Produksi ASI pada Ibu Nifas. Jurnal Keperawatan, Volume XIII, No. 2, 209-214.

[19]. Martini, D. E. (2015). Efektifitas Pijat Oksitosin Terhadap Peningkatan Produksi ASI pada Ibu Nifas di RSUD Dr.Soegiri Kabupaten Lamongan. Jurnal Surya, Vol. 07, No. 02, 20-25.

[20]. Isnaini, N., & Diyanti, R. (2015). Hubungan Pijat Oksitosin pada Ibu Nifas Terhadap Pengluaran ASI di Wilayah Kerja Puskesmas Raja Basa Indah. Jurnal Kebidanan, Vol 1, No 2, 91-97.