Indonesian Journal of Global Health Research
Volume 8 Number 3, June 2026
e-ISSN 2715-1972; p-ISSN 2714-9749
http://jurnal.globalhealthsciencegroup.com/index.php/IJGHR

APPLICATION OF OXYTOCIN MASSAGE ON POST-PARTUM MOTHERS TO INCREASE BREAST MILK PRODUCTION

Wanda Youvada, Winarsih Nur Ambarwati*
Nursing Professional Study Program, Faculty of Health Sciences, Universitas Muhammadiyah Surakarta,Jl. A. Yani Sukoharjo, Central Java 57162, Indonesia
*wna246@ums.ac.id2

ABSTRACT
During the postpartum period, mothers experience various physiological changes, including a decrease in progesterone levels and an increase in prolactin hormone after childbirth, which initiate the lactation process. Physical changes related to lactation include breast enlargement as a sign of breast milk production. Breast milk (ASI) is the best nutrition for newborns up to six months of age because infants' digestive systems are not yet able to process foods other than breast milk. Inadequate breast milk production may lead to failure of exclusive breastfeeding, which can result in digestive disorders and decreased immunity in infants. One non-pharmacological intervention that can help stimulate breast milk production is oxytocin massage. This study aimed to determine the effect of oxytocin massage on breast milk production in postpartum mothers. This study employed a case study method involving two postpartum mothers as respondents. The intervention was conducted for three consecutive days with a frequency of two sessions per day and a duration of 10–15 minutes per session. Data were collected through interviews, observation, and documentation to obtain subjective and objective data on breast milk production before and after the oxytocin massage intervention. The collected data were analyzed descriptively by comparing breast milk production before and after the intervention and presented in narrative form. On the first day of oxytocin massage, both respondents showed no significant changes in breast milk production. However, after the intervention on the second and third days, an increase in breast milk production was observed, as indicated by fuller breasts, smoother milk flow, and infants appearing satisfied after breastfeeding. Breast milk production increased after the oxytocin massage intervention. Therefore, oxytocin massage can be considered an effective nursing intervention to support breastfeeding, particularly during the postpartum period.

Keywords: breast milk production; oxytocin massage; postpartum

How to cite (in APA style)
Youvada, W., & Ambarwati , W. N. (2026). Application of Oxytocin Massage on Post-Partum Mothers to Increase Breast Milk Production. *Indonesian Journal of Global Health Research*, *8*(3), 1021–1028. https://doi.org/10.37287/ijghr.v8i3.899.

INTRODUCTION

The postpartum period is the period after childbirth that requires time for recovery. The postpartum period begins with the birth of the baby and lasts up to 6 weeks or 42 days (Sukmawati and Prasetyorini, 2022). During the postpartum period, one of the physiological changes experienced is physical adaptation, which includes a decrease in progesterone levels and an increase in the hormone prolactin after delivery. Physical adaptations related to breastfeeding include breast enlargement, a sign of the onset of lactation (Nova and Sembiring, 2017). Lactation is the period when a mother is able to produce breast milk, and a very complex interaction occurs between mechanical stimulation, nerves, and various hormones to ensure milk is released. Adequate breastfeeding can be assessed by the baby's calm, restless behavior and sound sleep. However, it is also important to note that breastfeeding success is influenced by the mother's comfort level during breastfeeding (Julizar1, 2022).

Breast milk (ASI) is the best and most appropriate food for babies up to 6 months of age, because a baby's intestines cannot yet digest food other than breast milk. Breast milk contains complete nutrition necessary for optimal infant growth and development, as well as various bioactive components such as antibodies, enzymes, hormones, and immune cells that protect babies from infection and contribute to the maturation of the immune system and digestive tract. Furthermore, a baby's digestive system is not yet fully developed, so it cannot digest solid foods other than breast milk (Indrio et al., 2022). Breast milk is the primary food for babies for optimal growth and development. Because it provides a complete nutritional profile, breast milk plays a vital role in supporting brain development and the immune system, and protecting babies from various infectious and allergic diseases. The World Health Organization (WHO) also recommends exclusive breastfeeding for the first six months of life, as it has been shown to improve nutritional status, reduce morbidity, and support optimal growth and development in babies. Breast milk provides many benefits, particularly in terms of nutrition, hormones, immunity, growth and development factors, anti-allergy substances, and antibodies for babies, and can prevent infection (Shella Afriany et al., 2024).

According to WHO in (Sinaga & Siregar, 2020) about two-thirds of infant deaths aged 0-12 months occur when the baby is still neonatal (0-28 days), not carrying out early breastfeeding incision (IMD) in the first hour and not continuing exclusive breastfeeding until the baby is 6 months old can be the main cause and globally there are only 42% of babies who can do IMD. World Health Organization (WHO) and UNICEF, the coverage of exclusive breastfeeding for babies under 6 months is 41% and is targeted to reach 70% by 2030. Based on the profile data of the Ministry of Health in Indonesia in 2021, it was reported that the coverage of breastfeeding in babies aged 0-6 months increased by 69.7% with a target of 45%, so the achievement in 2021 experienced a significant increase with the realization of the target reaching 154.9% (Ministry of Health of the Republic of Indonesia, 2021).

The irregularity of breast milk production on the first day after giving birth can occur due to the hormone prolactin as a hormone that can affect breast milk production while the hormone oxytocin is a hormone that can affect breast milk production (Magdalena et al., 2020). The irregularity of breast milk production can cause a lack of exclusive breast milk consumption in babies which can result in digestive disorders, reduced immunity. Breast milk contains various immune substances and immunoglobulins that are identical to immunization, the lack of breast milk production is one of the reasons mothers give formula milk to babies (Stefani Anastasia Sitepu, Vitrilina Hutabarat, 2025).

This oxytocin hormone can reduce the risk of depression in postpartum mothers because the oxytocin hormone released during breastfeeding can create a strong bond of affection and closeness with the baby as well as peace of mind. Fear and thoughts can affect the volume of breast milk production (Supardi, 2022). Insufficient breast milk production is the main reason for mothers to stop breastfeeding, because mothers feel they do not have enough breast milk production to meet the needs and support the baby's weight gain. One way to overcome the insufficiency of breast milk production is by massaging the cervical spine, back or along the spine (vertebrae) to the fifth to sixth coastae bones (Rahayu & Yunarsih, 2018). The purpose of this study is to determine the “Application of Oxytocin Massage in Postpartum Mothers to Increase Breast Milk Production” through the provision of nursing care to postpartum mothers experiencing insufficient breast milk production.

METHOD

The research method in compiling this Final Scientific Paper report uses a case study, namely by examining a problem through a case. This study uses a descriptive method, namely to describe the application of oxytocin massage implementation in postpartum mothers. The subjects in this study

used 2 patients who experienced problems with ineffective breast milk production. The criteria in this subject were postpartum mothers on day 0 who were accompanied by their families, postpartum mothers on day 0 who were accompanied by their families who had not received counseling about oxytocin massage, and postpartum mothers who were willing to be respondents. The application of oxytocin massage was carried out on September 10-14, 2025. The intervention was carried out for 3 days and the frequency of massage was 1-2 times a day with a duration of 10-15 minutes. This study used measuring instruments in the form of actions and evaluations, namely with a postpartum assessment format consisting of interviews, observations and assessments of what actions would be taken and observation sheets consisting of observation sheets of mother's responses after the action was taken.. Based on research conducted by (Fauziandari, 2025) that this oxytocin massage can be done 1-2 times a day, especially 2 hours before or after breastfeeding. It can be done for 15-20 minutes. The application of Oxytocin Massage is by measuring breast milk production before and after oxytocin massage. This oxytocin massage can be done at any time within 24 hours after.The oxytocin massage procedure was performed by washing hands, placing a towel, and opening the mother's upper clothing. The mother was positioned sitting while leaning on a table with her head resting on her arms. Both palms were then applied with oil or baby oil, followed by massage along both sides of the spine from the neck to the shoulder blades using pressing and small circular movements for approximately three minutes. After the procedure was completed, the mother's back was cleaned, the nurse washed hands again, and evaluation and observation were conducted.

Data collection in this study was carried out through interviews, observation, and documentation. Interviews were conducted to obtain subjective data regarding postpartum mothers' complaints related to breast milk production before and after the oxytocin massage, while observation was used to collect objective data including maternal responses, breast condition, and signs of breast milk secretion. Documentation was performed using a postpartum assessment format that included initial assessment, planning, implementation of care, and nursing evaluation, with the measurement instrument in the form of an observation sheet documenting maternal responses after the oxytocin massage. The collected data were then analyzed descriptively by comparing breast milk production before and after the application of oxytocin massage based on changes in maternal responses, increased milk secretion, and observation results recorded in the evaluation sheet. The analysis results were presented in narrative form to describe the effectiveness of oxytocin massage as a nursing intervention for postpartum mothers

RESULT

Description of Respondent Characteristics

The characteristics of the first respondent and the assessment obtained were postpartum patients, namely Mrs. D, 27 years old with a cesarean section delivery, gestational age 38 weeks. The patient was admitted on September 10, 2025. The complaints felt by the patient were not smooth breast milk production in the first 24 hours after giving birth, only a small amount of colostrum came out and felt soreness in the nipple area when the baby sucked. The condition at that time made the patient worried about not being able to breastfeed her baby. Because her first child was given formula milk because her breast milk only came out after approximately 1 week after giving birth. The results of the assessment obtained blood pressure of 120/85mmHg, N: 95x / minute, RR 20x / minute, temperature 36.6C, Spo2 98%.The second respondent obtained the results of the assessment, namely Mrs. M, 30 years old, normal delivery, gestational age 37-38 weeks. The patient was admitted on September 12, 2025. The complaint felt by the patient was that breast milk only dripped out. The results of vital signs showed blood pressure of 125/88mmHg, N: 96x/minute, RR: 20x/minute, temperature 36.5C and Spo2 98%.

Table 1
Breast milk production observation sheet before the implementation of oxytocin massage intervention

Name	Intervention Day	Date	Indicator Score on mother	Description
Ny.D	Day-0	10/9/2025	3	Not smooth
Ny,M	Day-0	11/9/2025	2	Not smooth

Table 2
Breast Milk Production Observation Sheet after the implementation of oxytocin massage intervention

Date	Intervention Day	Date	Indicator Score on mother	Description
Ny.D	Day-1	11/9/2025	5	Smooth
	Day-2	12/9/2025	6	Smooth
	Day-3	13/9/2025	8	Smooth
Ny.M	Day-1	12/9/2025	4	Not smooth
	Day-2	13/9/2025	6	Smooth
	Day-3	14/9/2025	7	Smooth

Description:
1. The indicator for smooth breastfeeding in mothers is if the score is ≥ 5 and not smooth if the score is ≤ 5.

DISCUSSION

Before Applying Oxytocin Massage

During the postpartum period, mothers experience significant physiological changes, particularly in the reproductive system and breasts. After delivery, progesterone levels drop dramatically, while prolactin levels increase, initiating lactation. However, even with adequate prolactin levels, breast milk production may not be smooth, as this process is highly dependent on the oxytocin reflex, triggered by nipple stimulation and the mother's psychological state. Before oxytocin massage intervention, postpartum mothers generally experience several challenges in breast milk production and release. This is related to the physiological process after delivery, where progesterone levels decrease and prolactin levels increase, but the oxytocin reflex is not yet optimal. This condition causes some mothers to produce only small amounts of colostrum or only drips of breast milk, thus preventing the baby from receiving adequate nutrition in the early stages of life (Kebidanan et al., 2017).

Disruptions in breast milk production can cause anxiety and discomfort, and even lead mothers to resort to formula feeding, which ultimately risks reducing exclusive breastfeeding. Furthermore, delayed onset of lactation can make mothers feel less confident in breastfeeding, cause breast discomfort, and increase back muscle tension. These problems with breast milk flow have a direct impact on the baby. Lack of exclusive breastfeeding can lead to growth and developmental disorders, decreased immunity, and an increased risk of respiratory and digestive tract infections in infants (Sukmawati & Prasetyorini, 2022).Psychologically, postpartum mothers whose breast milk supply is not yet flowing smoothly often experience feelings of worry, lack of confidence, and even stress. This condition can exacerbate the inhibition of the oxytocin reflex and create a negative cycle: the more stressed they are, the more inhibited their milk flow. Furthermore, physical discomfort such as breast tenderness, nipple pain, and back muscle tension are also frequently reported before oxytocin massage (Sukmawati & Prasetyorini, 2022).

The application of oxytocin massage is a case study conducted in the maternity ward. In respondents who underwent oxytocin massage, the massage was carried out along the spine (vertebrae) to the fifth-sixth costae bone and was an effort to increase the production of prolactin and oxytocin hormones after the delivery process which aimed to increase breast milk production

(Rahayu et al., 2015).

After the Oxytocin Massage is Applied

After the intervention of oxytocin massage on postpartum mothers, there were visible changes both physiologically and psychologically. The results of the case study showed that this intervention was able to significantly increase the smoothness of breast milk production. In the first patient (Mrs. D), who previously only produced a small amount of colostrum and was worried about not being able to breastfeed her baby, there was an increase in breast milk volume after the second day of oxytocin massage. This was indicated by breasts that felt fuller and the baby who appeared satisfied after breastfeeding on the third day after the application of oxytocin massage. Similarly, in the second patient (Mrs. M), who previously only produced breast milk drips, after being given oxytocin massage for two days, breast milk flowed smoothly and the baby was able to breastfeed longer. Both patients also reported a feeling of relaxation, reduced back muscle tension, and increased comfort during breastfeeding. No disturbing side effects were found during the intervention (Muzayyana et al., 2025).

This oxytocin action can increase comfort in breastfeeding mothers. In addition, the production of the oxytocin hormone can also increase the contraction of the myoepithelial mammary glands so that breast milk production is more abundant and smooth. The breastfeeding process will be more effective because the massage along the spinal area (vertebrate) to the fifth-sixth costae bone will make the mother feel relaxed and comfortable and can stimulate the production of prolactin and oxytocin hormones after giving birth, so that breast milk production will be smoother and more abundant (Wijayanti & Setyoningsih, 2017). In respondents who have undergone oxytocin massage, the level of comfort has increased and the production of breast milk has increased. Oxytocin massage has been shown to increase the release of the oxytocin hormone which can facilitate breast milk production (Rahayu & Yunarsih, 2018).

These results are in line with the theory that oxytocin massage can stimulate the posterior pituitary to release the hormone oxytocin, which then stimulates the contraction of myoepithelial cells in the breast alveoli, thereby facilitating the release of breast milk (Andi Arniyanti & Dian Angraeni, 2020). The results obtained from the application of oxytocin massage to help smooth breast milk in both patients were achieved, breast milk production in both patients was smooth. In accordance with research conducted by (Alfiatun et al., 2021).

From a nursing perspective, oxytocin massage is not only beneficial for increasing breast milk production but also helps create a closer emotional bond between mother and baby. Optimal release of the hormone oxytocin during breastfeeding provides a sense of comfort, increases the bond of affection, and reduces the risk of postpartum depression. This is especially important considering that many mothers experience anxiety in the early stages of breastfeeding due to the perception of insufficient milk production (Supardi, 2022). Case studies show that the application of oxytocin massage has positive effects both physiologically and psychologically. Oxytocin massage also has a positive impact on the mother's psychological condition, reducing anxiety, increasing self-confidence, and strengthening the emotional bond with the baby.

The results of this case study are also in line with previous studies (Alfiatun et al., 2021) which found that postpartum mothers who were given oxytocin massage had smoother breast milk production than those who were not given intervention. In addition, it also confirmed that oxytocin massage was proven to be able to increase oxytocin secretion, which ultimately facilitates breast milk production and release. The consistency of these results strengthens the evidence that oxytocin massage is worthy of being an alternative and complementary intervention in lactation management (Rahayu & Yunarsih, 2018). 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 the hormones

prolactin and oxytocin (Muzayyana et al., 2025).

Furthermore, it's important to note that oxytocin massage is a simple technique that doesn't require a healthcare professional to perform. After education, this massage can be taught to families, especially husbands, to help mothers breastfeed at home. This way, the family becomes more active in supporting exclusive breastfeeding. Emotional support from the family, adequate nutritional intake, and a positive maternal psychological state will further strengthen the effectiveness of this intervention (Muzayyana et al., 2025).

Oxytocin massage has been shown to increase breast milk production in mothers. This increase in breast milk production is due to increased maternal comfort, which automatically stimulates the release of the hormone oxytocin. Oxytocin also stimulates breast milk production in nursing mothers, which is essential for the implementation of nursing care for breastfeeding mothers. Health education is also provided to postpartum mothers and their husbands to assist breastfeeding mothers in the oxytocin massage intervention performed by their husbands, thereby increasing their comfort. Therefore, oxytocin massage needs to be implemented as an alternative intervention in postpartum care, especially regarding lactation issues. Nurses need to teach this oxytocin massage technique to patients and families so that families can play a greater role in supporting the exclusive breastfeeding program.

This proves that oxytocin massage can overcome the problem of delayed lactation and support the success of exclusive breastfeeding. Physiologically, oxytocin massage works by providing stimulation along the spine to the fifth and sixth ribs, which then triggers the release of the hormone oxytocin from the posterior pituitary. This hormone stimulates the contraction of the myoepithelial cells of the breast alveoli, allowing milk to flow more easily. This mechanism is also influenced by the mother's emotional state, as a calm psychological state strengthens the oxytocin reflex. Therefore, the benefits of oxytocin massage are not limited to increased milk production but also include relaxation, reduced back pain or tension, and increased comfort during breastfeeding. Thus, this intervention provides dual benefits that support the mother's physical and psychological health.

From a nursing perspective, oxytocin massage has high practical value because the technique is simple, safe, and can be taught to families, especially husbands. Family involvement in performing oxytocin massage at home not only helps smooth milk flow but also strengthens emotional support for the mother, which is crucial for the breastfeeding process. This support will increase the mother's confidence in breastfeeding her baby, while also reducing the risk of formula use due to the perception of insufficient milk production.

CONCLUSION

Based on these findings, there was an increase in breast milk production before and after oxytocin massage intervention. Therefore, it can be concluded that oxytocin massage is an intervention worth considering in maternity nursing practice, especially during the postpartum period. The application of oxytocin massage not only supports the exclusive breastfeeding program initiated by the government and WHO, but also helps improve the overall quality of life of mothers and babies.

REFERENCES

Alfiatun, A., Aulya, Y., & Widowati, R. (2021). Pijat Oksitosin Untuk Meningkatkan Produksi Asi Pada Ibu Post Partum. Jurnal Penelitian Dan Kajian Ilmiah Kesehatan Politeknik Medica Farma Husada Mataram, 7(2), 98–103. https://doi.org/10.33651/jpkik.v7i2.258

Andi Arniyanti, & Dian Angraeni. (2020). Pengaruh Pijat Oksitosin Terhadap Produksi ASI Pada Ibu Post Partum Di Rumah Sakit Khusus Daerah Ibu dan Anak Siti Fatimah Makassar. Jurnal Mitrasehat, 10(1), 1–11. https://doi.org/10.51171/jms.v10i1.129

Fauziandari, E. N. (2025). ProFi. 977–984. https://doi.org/10.1145/2494091.2496007

Indrio, F., Neu, J., Pettoello-Mantovani, M., Marchese, F., Martini, S., Salatto, A., & Aceti, A. (2022). Development of the Gastrointestinal Tract in Newborns as a Challenge for an Appropriate Nutrition: A Narrative Review. Nutrients, 14(7). https://doi.org/10.3390/nu14071405

Julizar1, M. (2022). Pengaruh Pijat Oksitosin Terhadap Produksi Asi Pada Ibu Nifas Di Praktik Mandiri Bidan (Pmb) Ida Iriani, S.Si.T Kecamatan Tanah Jambo Aye Kabupaten Aceh Utara. Getsempena Health Science Journal, 1(1), 36–43. https://doi.org/10.46244/ghsj.v1i1.1706

Kebidanan, P., Poltekkes, P., Medan, K., Pane, J., Kel, N. 36, Kec, T., Timur, S., & Pematangsiantar, K. (2017). JIK (Jurnal Ilmu Kesehatan) Keterlambatan Onset Laktasi pada Ibu Postpartum Normal Ribka Nova Sartika Sembiring. JIK (Jurnal Ilmu Kesehatan), 4(1), 14–21. https://jik.stikesalifah.ac.id

Kemenkes RI. (2021). Laporan Kinerja Kementerian Kesehatan 2021. Kementrian Kesehatan RI, 23. https://e-renggar.kemkes.go.id/file_performance/1-131313-1tahunan-314.pdf

Magdalena, M., Auliya, D., Usraleli, U., Melly, M., & Idayanti, I. (2020). Pengaruh Pijat Oksitosin Terhadap Produksi ASI Ibu Menyusui di Wilayah Kerja Puskesmas Sidomulyo Rawat Jalan Pekanbaru. Jurnal Ilmiah Universitas Batanghari Jambi, 20(2), 344. https://doi.org/10.33087/jiubj.v20i2.939

Muzayyana, Saleh, S. N. H., & Alhidayah. (2025). Edukasi Pijat Oksitosin Untuk Meningkatkan Produksi ASI Pada Ibu Menyusui. Jurnal Pengabdian Masyarakat Nusantara, 6(2), 2091–2096.

Nova, R., & Sembiring, S. (2017). Keterlambatan Onset Laktasi pada Ibu Postpartum N. Jurnal Kebidanan, 4(1), 14–21.

Rahayu, D., Santoso, B., & Yunitasari, E. (2015). Produksi Asi Ibu dengan Intervensi Acupresure Point for Lactation dan Pijat Oksitosin. Ners, 10(1), 9–19. http://repository.unair.ac.id/62680/

Rahayu, D., & Yunarsih, Y. (2018). Penerapan Pijat Oksitosin Dalam Meningkatkan Produksi ASI Pada Ibu Postpartum. Journals of Ners Community, 09, 8–14. http://journal.unigres.ac.id/index.php/JNC/article/view/628%0Ahttps://journal.unigres.ac.id/index.php/JNC/article/download/628/503

Shella Afriany, F., Nurrohmah, A., & Utami, N. (2024). Penerapan Pijat Oksitosin Terhadap Produksi ASI di Ruang Cempaka RSUD Dr.Soehadi Pridjonegoro Sragen. The Journal General Health and Pharmaceutical Sciences Research, 2(3), 56–65. https://doi.org/10.57213/tjghpsr.v2i1.395

Sinaga, H. T., & Siregar, M. (2020). Literatur review: Faktor penyebab rendahnya cakupan inisiasi menyusu dini dan pemberian ASI eksklusif. AcTion: Aceh Nutrition Journal, 5(2), 164. https://doi.org/10.30867/action.v5i2.316

Stefani Anastasia Sitepu, Vitrilina Hutabarat, O. G. A. (2025). Pengaruh Pijat Oksitosin Terhadap Kelancaran Pengeluaran Asi Pada Ibu Postpartum Diklinik Pratama Kasih Ibu Di Deli Tua Tahun 2024. Jurnal Penelitian Kebidanan & Kespro, 7(2).

Sukmawati, P., & Prasetyorini, H. (2022). Penerapan Pijat Oksitosin Untuk Mengatasi Menyusui Tidak Efektif Pada Ibu Postpartum. Jurnal Manajemen Asuhan Keperawatan, 6(2), 83–88. https://doi.org/10.33655/mak.v6i2.142

Supardi, N. (2022). (The Effect Of Oxytocin Massage On Breast Milk Volume In Postpartum Mothers). Jurnal Fisioterapi Dan Ilmu Kesehatan Sisthana, 4(2), 83–88.

Wijayanti, T., & Setyoningsih, A. (2017). Perbedaan Metode Pijat Oksitosin Dan Breast Care Dalam Meningkatkan Produksi Asi Pada Ibu Post Partum. Jurnal Komunikasi Kesehatan, 8(2), 1–12.