

OXYTOCIN MASSAGE OVERCOMES BREAST MILK PRODUCTION PROBLEMS

Jojo Silaban¹, Clara Sianturi²

¹Prodi D-III Keperawatan Dairi Poltekkes Kemenkes Medan

Email :¹silaban.jojor473@gmail.com

ABSTRACT

Breastfeeding newborns is critical for the prevention of stunting. However, many mothers encounter significant barriers in milk production due to various physiological and psychological factors. According to the 2018 Basic Health Research, 65.7% of Indonesian mothers experienced breastfeeding difficulties. While recent data from the 2023 Indonesia Health Survey indicates an increase in exclusive breastfeeding rates to 68.6%, this figure remains below the Sustainable Development Goals (SDGs) target of 80%. Various interventions are employed to enhance milk production, including non pharmacological oxytocin massage, which stimulates the release of the oxytocin hormone to facilitate milk let-down. This study aimed to evaluate the effectiveness of oxytocin massage for postpartum mothers experiencing lactation difficulties. Conducted as a descriptive case study involving two postpartum mothers at Sidikalang Regional General Hospital, the research utilized interviews, direct observations, and oxytocin massage interventions performed twice daily for three days, with each session lasting 15 minutes. Results demonstrated that while there was no initial milk production, a significant increase in volume was observed following the treatment. This method proved to be an effective strategy for increasing milk production. It is recommended that nursing staff educate families on oxytocin massage to improve breastfeeding success and achieve national health targets.

Keywords : oxytocin massage; breast milk production; postpartum mothers

INTRODUCTION

Breast milk is the most ideal natural source of nutrition for newborns because it contains complete nutrients, antibodies, and enzymes that play an important role in supporting optimal growth and development and preventing stunting (Ninomiya, Ikeda and Kato, 2023). Exclusive breastfeeding for the first six months of life is the most effective intervention for reducing infant morbidity and mortality rates. However, the coverage of exclusive breastfeeding in Indonesia has not yet met the target. According to data from the 2018 Basic Health Research, 65.7% of mothers in Indonesia experience difficulties in producing breast milk, while exclusive breastfeeding coverage has only reached 61.33% (Ministry of Health of the Republic of Indonesia, 2018). While recent data from the 2023 Indonesia Health Survey indicates an increase in exclusive breastfeeding rates to 68.6%, this figure remains below the Sustainable Development Goals (SDGs) target of 80% (Ministry of Health of the Republic of Indonesia, 2018; World Health Organization, 2021). This situation indicates that there are still significant barriers to breast milk production, which impact infant nutrition and increase the risk of growth disorders.

Breast milk production is influenced by the balance of two main hormones, namely prolactin and oxytocin. The hormone prolactin stimulates the mammary glands to produce breast milk, while the hormone oxytocin plays a role in the process of releasing breast milk from the alveoli to the nipple (Indrasari, 2019). Psychological factors such as stress, anxiety, and pain can inhibit the oxytocin reflex, causing breast milk to flow less smoothly (Utami, 2021). Therefore, non-pharmacological interventions are needed to stimulate oxytocin secretion and help facilitate breast milk production. One method that has been proven effective is oxytocin massage, which is a light massage technique along the spine to the fifth to sixth ribs that serves to stimulate the natural release of oxytocin (Rayhana and Sufriani, 2017).

Several previous studies support the effectiveness of oxytocin massage in increasing breast milk production. Wulandari and Basuki (2022) reported a significant increase in breast milk volume after oxytocin massage, with a p -value < 0.01 . Similar results were also found by Purnamasari and Hindiarti (2020), who stated that there was a significant difference between the intervention and control groups in terms of the volume of breast milk in *postpartum* mothers. These findings indicate that oxytocin massage not only helps with breast milk production, but also provides a relaxing effect that reduces emotional tension in mothers.

However, most research on oxytocin massage has been conducted using a quantitative approach in large hospitals with comprehensive facilities. Qualitative studies or case studies in

rural areas are still very limited, especially those describing the direct application of oxytocin massage by nursing staff in primary care facilities (Wahyuni, 2021). This situation indicates a research gap between scientific theory and practical application in the field. Therefore, this study has original value in the context of applying oxytocin massage as a nursing intervention in areas with more limited resources (Batubara and Dewi, 2019).

The purpose of this study was to describe the application of oxytocin massage as a non pharmacological intervention in overcoming breast milk production problems in *postpartum* mothers at Sidikalang Regional General Hospital. The results of this study are expected to provide an empirical basis for health workers, especially nurses, to improve support for successful exclusive breastfeeding and support the achievement of maternal and child health targets at the national level.

METHOD

This study employed a descriptive research design with an observational approach to describe the application of oxytocin massage in addressing breast milk production issues among *postpartum* mothers. The study population included all *postpartum* mothers admitted to the Mawar Ward at Sidikalang Regional General Hospital. The subjects consisted of two *postpartum* mothers experiencing breast milk production difficulties who met the inclusion criteria: being between the first and third day after delivery, maintaining good general health, and providing consent to participate. The primary variable was the effectiveness of oxytocin massage in increasing breast milk production, with indicators focusing on changes in the frequency and volume of milk production before and after the intervention.

The research was conducted at Sidikalang Regional General Hospital from January to May 2025. Research instruments included breast milk production observation sheets and Standard Operating Procedure (SOP) guidelines for oxytocin massage. Data collection was performed through direct interviews, observations, and clinical interventions. Oxytocin massage was administered twice daily (morning and evening) for three consecutive days, with each session lasting 15 minutes. The massage was applied along the spine to the level of the fifth and sixth ribs using a gentle pressure technique in accordance with the SOP. Breast milk production was assessed pre- and post-intervention by observing physical changes in the breasts, the presence of milk, and the mother's comfort response. Data were analyzed descriptively by comparing

milk production conditions before and after the intervention, with results presented in narrative and tabular formats.

This study received ethical approval from the Research Ethics Committee of the Health Polytechnic of the Ministry of Health in Medan. All respondents provided written informed consent prior to their participation in the study.

RESULTS AND DISCUSSION

This study involved two *postpartum* mothers in the Mawar Ward of Sidikalang Regional General Hospital who experienced lactation difficulties on the first day after delivery. Both subjects were in good general health with no obstetric complications. Subject 1 (Mrs. T) was 30 years old, G2 P2 A0, residing in Balna and working as a temporary teacher. Subject 2 (Mrs. D) was 36 years old, residing in Pangaribuan and working as a housewife. Before the intervention, neither subject had produced breast milk.

The oxytocin massage was performed twice daily for three consecutive days, with each session lasting 15 minutes. Observations focused on changes in breast condition and milk production before and after the intervention. Table 1 illustrates significant changes in both respondents after the three-day period. Prior to the intervention, there was no milk production; however, following the oxytocin massage, breast milk began to flow spontaneously and the breasts felt full.

Table 1. Breast Milk Production Conditions Before and After Oxytocin Massage

Subject	Postpartum Mother's Condition	
	Before Intervention	After Intervention
Mother A	The breasts feel soft, are not swollen, are not painful, and there is no milk production yet.	The breasts appear swollen, feel hard and painful, and milk leaks when massaged.
Mother B	The breasts feel soft, are not swollen, are not painful, and there is no milk production yet.	The breasts appear swollen, feel hard and painful, and milk leaks when massaged or spontaneously.

These results indicate that oxytocin massage is effective in increasing breast milk production in *postpartum* mothers. The effectiveness of this technique is associated with the release of the hormone oxytocin from the posterior pituitary gland due to mechanical stimulation along the spine to the level of the fifth and sixth ribs. This hormone stimulates the contraction of

myoepithelial cells in the mammary alveoli, facilitating the movement of milk into the ducts, a process known as the let-down reflex.

These findings are consistent with research by Wulandari and Basuki (2022), which demonstrated a significant increase in milk production following oxytocin massage (p -value < 0.01). Purnamasari and Hindiarti (2020) also reported similar results, noting that *postpartum* mothers who received oxytocin massage had a higher milk volume compared to the control group. This provides consistent evidence that oxytocin massage is an effective, safe, and accessible non-pharmacological intervention for nursing staff.

Beyond physiological aspects, psychological effects contribute significantly to successful lactation. Mothers who feel calm, comfortable, and receive emotional support from family and healthcare workers experience the oxytocin reflex more readily (Ariyanti *et al.*, 2023). According to Utami (2021), the emotional state of *postpartum* mothers influences milk production by 80–90%. Oxytocin massage provides a relaxing effect that reduces stress and improves mood, allowing the oxytocin reflex to function optimally.

Furthermore, oxytocin massage strengthens the therapeutic interaction between nurses and patients. Through a therapeutic touch approach, mothers feel cared for and supported, which indirectly accelerates milk production. These results also reinforce the theory of Apreliasari and Risnawati (2020) that spinal stimulation can accelerate oxytocin release by increasing parasympathetic nerve activity.

Observations indicate that routine and consistent intervention over three days yields optimal results. The duration and frequency of the massage are critical, as hormonal stimulation requires physiological adaptation. This supports the findings of Marantika, Choirunissa and Kundaryanti (2023), who stated that oxytocin massage is most effective when performed twice daily during the first two days *postpartum* to optimize the oxytocin reflex.

In conclusion, the significant changes observed in both subjects resulted not only from physical stimulation but also from the positive psychological effects produced. Thus, oxytocin massage offers dual physiological and psychological benefits in supporting successful breastfeeding.

CONCLUSION

The results of this study indicate that the application of oxytocin massage is effective in increasing breast milk production in *postpartum* mothers. Both subjects, who initially experienced lactation difficulties, showed significant improvements after receiving regular oxytocin massage over a three-day period.

Overall, oxytocin massage provides dual benefits: physiological effects through increased milk production and positive psychological effects, such as reduced stress and enhanced maternal comfort. This intervention serves as a simple, safe, and effective non-pharmacological strategy to support the success of exclusive breastfeeding.

The practical implication of this study highlights the essential role of nurses in providing education and training to families regarding oxytocin massage techniques as a form of support for breastfeeding mothers. Recommendations for further research include conducting studies with larger sample sizes and employing experimental designs to strengthen the scientific evidence regarding the effectiveness of oxytocin massage in enhancing breast milk production.

ACKNOWLEDGEMENT

The researchers would like to express their gratitude to all individuals who contributed to this study, with special appreciation to the Head of the Mawar Ward, Mrs. Dinar Manalu, S.SiT., for her support and cooperation during the research process.

REFERENCES

- Apreliasari, D. and Risnawati, E. (2020) "Oxytocin massage as an effort to facilitate breast milk production," *Jurnal Kebidanan*, 8(2), pp. 123–130.
- Ariyanti, R. *et al.* (2023) "The effectiveness of oxytocin massage on increasing breast milk production in postpartum mothers," *Jurnal Kebidanan Roemani Muhammadiyah Semarang*, 5(1), pp. 45–52.
- Batubara, S. and Dewi, N. (2019) "Effectiveness of oxytocin massage on breast milk production," *Jurnal Keperawatan Indonesia*, 22(1), pp. 45–52.
- Indonesia, M. of H. of the R. of (2018) *Indonesia health profile 2017*. Jakarta.
- Indrasari, D. (2019) "Comparison of oxytocin massage and breast care on increasing breast milk production in postpartum mothers," *Jurnal Kesehatan Masyarakat*, 7(3), pp. 156–162.
- Marantika, N., Choirunissa, R. and Kundaryanti, R. (2023) "The effectiveness of oxytocin massage on increasing breast milk production in postpartum mothers," *Jurnal Ilmu Kesehatan Indonesia*, 13(2), pp. 101–110.
- Ninomiya, M., Ikeda, Y. and Kato, T. (2023) "Hormonal regulation of lactation and breastfeeding," *Journal of Nursing Science*, 5(3), pp. 210–219.
- Organization, W.H. (2021) *Global breastfeeding monitoring and targets 2025–2030*. Geneva.

Purnamasari, E. and Hindiarti, Y. (2020) “Oxytocin massage method as an effort to increase breast milk production in postpartum mothers,” *Jurnal Kesehatan Reproduksi*, 11(1), pp. 25–32.

Rayhana, S. and Sufriani, A. (2017) “Factors affecting breast milk production,” *Jurnal Keperawatan*, 6(1), pp. 33–40.

Utami, W. (2021) *Breast milk production and its influencing factors*. Jakarta: EGC.

Wahyuni, N. (2021) “Disorders of breast milk production and their impact on infant health,” *Jurnal Kesehatan Ibu dan Anak*, 10(2), pp. 85–92.

Wulandari, D. and Basuki, A. (2022) “The effect of oxytocin massage on breast milk production in postpartum mothers,” *Jurnal Kesehatan Reproduksi*, 14(1), pp. 55–62.