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Enhancing lactation through oxytocin massage and breast care

Kristina Sanadi, Dewi Mayangsari, Sa'adah Mujahidah

Faculty of Nursing and Health Sciences, Universitas Karya Husada Semarang, Indonesia
* Corresponding Author: saadah.mujahidah16@gmail.com

ABSTRACT

Introduction: Breast milk is the best diet for infants because it includes nutrients that help them grow and thrive. Indonesia's exclusive breastfeeding coverage in 2022 was only 67.96%, down from 69.7% in 2021. Many factors contribute to low breastfeeding coverage in Indonesia, which has fallen short of the government target. In 2023, 29.1% of the newborns at Fakfak Health Centre were exclusively breastfed. **Objectives**: The study's goal was to see how much oxytocin massage and breast care helped postpartum women produce more breast milk. **Methods**: Quantitative research was conducted using an experimental design with a posttest alone procedure and a control group. The study included 28 maternity mothers. This study utilized SOP oxytocin massage and breast care, along with observation sheets. The Wilcoxon test used analysis data. **Results**: Breastfeeding women's average oxytocin massage intervention value increased by 5.71. The average value of the breast care intervention for nursing mothers increased by 6.21%. Breast care and oxytocin massage differed in their ability to increase breast milk fluency. The group following breast care had a median value of 8.00 with a p-value of 0.000 < 0.05, whereas the group following oxytocin massage treatment had a median value of 8.00. **Conclusion:** The breast care technique outperforms the oxytocin massage technique in terms of breast milk production.

KEYWORD: breast care; lactation; milk production; oxytocin massage; postpartum woman

INTRODUCTION

Breast milk aids in a healthy start in life contains mechanisms for the formation of antibodies, contains nutrients with the proper composition, gives the baby a sense of security and comfort, strengthens the bond between mother and child, prevents allergies, boosts intelligence, aids in the development of the jaw, and promotes the growth of teeth (Sutanto, 2018). Although there has been an increase, the percentage of infants aged 0–6 months who are exclusively breastfed worldwide has not increased significantly, according to data presented by the World Health Organisation (WHO) in 2020. This represents approximately 44% of infants aged 0–6 months worldwide who were exclusively breastfed during the 2015–2020 period, which is less than the WHO's 50% exclusive breastfeeding target (World Health Organization (WHO)., 2020)

The percentage of Indonesians who exclusively breastfed in 2022 was only 67.96%, lower than the 69.7% coverage in 2021 (World Health Organization (WHO)., 2022). According to the Directorate General of Public Health's 2022 routine report, this accomplishment has reached the 50% national goal for 2022. Aceh (18.29%) was the province with the lowest achievement. On the other hand, DI Yogyakarta (147.91%) is the province with the highest achievement. According to Komdat Kesmas data from 2022, 63.97% of newborns in West Papua Province were exclusively breastfed. Only South Sorong City provided exclusive breastfeeding data coverage of 82.0%, according to the 2019 West Papua Provincial Health Profile; the other cities did not disclose exclusive breastfeeding data (Dinas Kesehatan Papua Barat., 2020).

Low breastfeeding coverage and failure to meet the national target in Indonesia are caused by several causes. Government regulation No. 33/2012 on exclusive breastfeeding and Minister of Health regulation No. 15/2013 on the Procedure for Providing Special Facilities for Breastfeeding and/or Expressing Milk are two regulations the government has enacted to support the exclusive breastfeeding program. For nursing women to express their milk, it also mandates that government and commercial establishments support the exclusive breastfeeding program and provide lactation room facilities (Kemenkes, 2022).

Oxytocin massage is one method for helping postpartum mothers overcome a lack of breast milk production. Oxytocin massage is given along the spine (vertebrae) to the Vth and VIth costae bones to boost prolactin and oxytocin hormones in postpartum mothers. When a newborn sucks the areola, the posterior pituitary gland (neurohypophysis) produces and releases oxytocin on an intermittent basis. Oxytocin enters the mother's bloodstream and causes the muscle cells surrounding the alveoli to contract, allowing the milk that has accumulated in them to flow into the ducts(Nurliza, 2020). In addition to oxytocin massage, Breast Care is another method for promoting breast milk production. Breast care entails taking steps to preserve breast hygiene, firmness, smoothness of the breast skin, and breast support muscles. Breast Care postpartum seeks to promote breast milk supply while also keeping the breasts healthy and supple throughout and after breastfeeding. Healthy and well-maintained breasts can boost milk production. This simplifies the breastfeeding process for both mother and baby (Sutanto, 2018)

According to the results of an early survey conducted at the Fakfak Health Centre, 29.1% of newborns were classified as exclusively breastfed in 2023. According to the findings of interviews with midwives, exclusive breastfeeding coverage remains rather low when compared to current data. This occurs due to a lack of public awareness regarding exclusive breastfeeding, as well as a lack of family support for the mother. MCH midwives and health center nutrition officers noted that improving the exclusive breastfeeding program requires providing counseling on the value of exclusive breastfeeding for mothers and newborns, as well as nutritional counseling that promotes breast milk supply in mothers. As a result, experts at the Fakfak Health Centre are eager to give various strategies to help breastfeeding moms produce more breast milk. The goal of this study was to assess the effectiveness of Oxytocin Massage and Breast Care in improving breast milk production in postpartum moms at the Fakfak Health Centre in Fakfak City, West Papua Province.

METHODS

Design

The research design is a quasi-experiment with a pre and post-test technique and a control group.

Research Questions

Does Oxytocin Massage and Breast Care Increase Breast Milk Production in Postpartum Women?

Sample and Settings

Up to 28 postpartum mothers who were breastfeeding at the Fakfak Health Centre made up the study's sample.

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Variables

The independent variables in this study are oxytocin massage and breast care, and the dependent variable is increased breast milk production.

Instruments

The study's equipment was the SOP for oxytocin massage and breast care, as well as an observation sheet.

Data Collections

In the vicinity of the Fakfak Health Centre, this study was carried out in July and August of 2024.

Data Analysis

Data was analyzed using Wilcoxon and Mann-Whitney tests, with a significance threshold of <0.05.

Ethical Consideration

The ethics committee of the University of Karya Husada Semarang approved this study on June 23, 2024, under the number 083/KEP/UNKAHA/SLE/VI/2024.

RESULTS

Table 1 Frequency Distribution of Respondent Characteristics

Age	**Frequency**	**Percentage (%)**
<25	5	17,85
25-30	21	75
>30	2	7,14
Education	**Frequency**	**Percentage (%)**
Elementary School	3	10,71
Junior High School	5	17,85
Senior High School	14	50
College	6	21,42
Work	**Frequency**	**Percentage (%)**
Housewife	8	28,57
Self-employed	3	10,71
private employees	11	39,28
Farmer	2	7,14
Civil servants	4	14,28
Total	**28**	**100**

According to Table 1, there were five respondents (17.85%) under the age of 25, twenty-one respondents (75%), and seven and a quarter (7.14%) over the age of thirty. Three moms (10.71%) had only completed primary school, five (17.85%) had completed junior high school, fourteen (50%) had completed high school, and six (21.42%) had completed physical therapy. Eight mothers (28.57%) were unemployed, three mothers (10.71%) were self-employed, eleven mothers (39.28%) were private workers, two mothers (7.14%) were farmers, and four mothers (14.28%) were part of the civil service.

Table 2: Production of breast milk before and after therapeutic intervention with oxytocin massage

Oksitosin massage	**N**	**Median**	**Mean**	**Std.devation**	**Min**	**Max**	**Mean Rank**	**Sum Of Rank**	**P-Value**
Before	14	1.00	0,79	6.99	0	2	1.00	1.00	0.001

After	14	8.00	6.50	2.50	1	8	8.00	104.00

According to the results analysis of table 2, the average value was 0.79 before the oxytocin massage intervention in breastfeeding women, and it was 6.50 (an increase of 5.71) following the intervention. The Wilcoxon Test results showed that after the oxytocin massage, 12 respondents experienced smooth breastfeeding and 2 did not, with a mean rank value of 8.00 and sum ranks of 104.00, indicating that the oxytocin massage was effective in improving the smoothness of breast milk in nursing mothers. P-value is 0.001 which means oxytocin massage is effective in increasing breast milk production.

Table 3: Breast milk output before and during the Breast Care intervention.

Breast Care	N	Median	Mean	Std.devation	Min	Max	Mean Rank	Sum Of Rank	P-Value
Before	14	1.00	0,79	5.79	0	2	.00	0.00	0.001
After	14	8.00	7.00	7.00	2	8	7.50	105.00	

The findings of the study in table 3 demonstrate that before the Breast Care intervention on breastfeeding mothers, the average value was 0.79, while after the Breast Care intervention on breastfeeding mothers, the average value was 7.00 (a 6.21% increase). The Wilcoxon test findings show that after breast care, the mean rank value is 7.50 and the total rank is 105.00, with a p-value of 0.001, indicating that breast care is successful in increasing breast milk production in nursing women.

Table 4. Effectiveness of Oxytocin Massage and Breast Care on Increasing Breast Milk Production in Postpartum Women

Group	N	Median	Std. Deviasi	Mean Rank	ρ value
Oxytocin Massage	14	8,00	2.50	13,82	0,000
Breast Care	14	8,00	1.96	15.18	

Bivariate analysis using the Mann-Whitney Test correlation test revealed a difference in effectiveness between oxytocin massage and breast care in increasing breast milk fluency. The group after oxytocin massage treatment had a median value of 8.00, while the group after breast care had a median value of 8.00 with a p-value of 0.000 < 0.05. Therefore, Ha is accepted and Ho is rejected.

DISCUSSION

The findings were consistent with research conducted by Maimunah R and Pratiwi Syah Putri in their title "The Effect of Combination of Oxytocin Massage and Breast Care on Breast Milk Production in Post Partum Mothers at RSU Sundari Medan City (2023)", which stated that breast milk fluency can also be influenced by age, education, and work. Unproductive age might interfere with the smoothness of breast milk due to physical, mental, and emotional unpreparedness, resulting in unsmooth breast milk. (Maimunah & Putri, 2023). Meanwhile, education can influence breast milk production; the better the education, the more knowledge is gained. Nowadays, everyone must work. Working allows families to meet their basic requirements such as food, clothing, and shelter. As a result, individuals with a working status can utilize their income to purchase breast milk-related literature. However, moms who are constantly working may fail to sustain breast milk production by pumping breast milk. As a result, mothers frequently feed syrup to their newborns. (Nurliza, 2020)

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Oxytocin massage is one method for addressing the smooth production of breast milk. Oxytocin massage is a therapy for increasing prolactin and oxytocin levels after childbirth. Oxytocin massage stimulates the oxytocin reflex, which allows breast milk to flow easily and prevents engorgement (breast swelling) (Ismanti & Musfirowati, 2021). The benefits of oxytocin massage therapy include providing comfort to the mother, reducing swelling and obstruction, stimulating the release of oxytocin hormone, promoting milk production when the mother and baby are sick, assisting the mother psychologically, assisting the mother in having positive thoughts and feelings about her baby, increasing breast milk, facilitating breast milk, and relieving fatigue (Maimunah & Putri, 2023; Nurliza, 2020).

Suhertusi (2019) conducted research on boosting breast milk volume with oxytocin massage, which is consistent with this findings. Suhertusi's research found that oxytocin massage increased breast milk volume. Breast milk production is affected by output and volume. Prolactin hormone influences the volume of breast milk, whereas oxytocin hormone influences its production. Massage the spine. Massage on the spine promotes peace, and relaxation, and increases the threshold of pain and love, allowing the hormone oxytocin to be released and breast milk to be produced more quickly(Suhertusi, 2019). Based on the theory of the oxytocin massage technique, it aims to deliver signals from the posterior and anterior pituitaries to the hypothalamus, causing prolactin and oxytocin hormones to be produced, which then stimulate alveoli cells and myoepithelial cells (Wulandari, Mayangsari, & Sawitry, 2019)

Breast care is an important element of postpartum care because it helps the breasts produce milk. This is because the breast is the only area where breast milk is produced by activating the mammary glands with massage. When the breasts produce milk, they grow full between the third and sixth days following delivery. This is natural, and with the baby's effective sucking and evacuation of milk, the breasts will quickly recover and no longer feel full (Wulandari, Mayangsari, & ., 2019). Breast care procedures attempt to enhance circulation and prevent obstruction of the milk ducts, hence facilitating the discharge of breast milk. Breast care throughout the nursing phase is extremely beneficial in preventing and managing the risks of breast issues. Breastfeeding becomes much more enjoyable for both mother and baby when breast care is provided properly (Fatrin et al., 2022).

The Mann-Whitney Test correlation test revealed a difference in effectiveness between oxytocin massage and breast care in increasing breast milk fluency at the Fakfak Health Centre. The median value of the group after the oxytocin massage treatment is 8.00, while the median value of the group after the Breast Care technique is 8.00, with a p-value of 0.000 <0.05. Therefore, Ha is accepted and Ho is rejected. According to the findings of the study, postpartum women who received breast care actions produced breast milk more smoothly than postpartum women who received oxytocin massage, implying that breast care actions are superior to oxytocin massage in terms of increasing breast milk production. According to research, proper breast care provided by postpartum mothers is critical in improving breast milk production. When it comes to promoting breast milk production, breast care outperforms oxytocin massage in terms of smoothness(Fatrin et al., 2022; Ismanti & Musfirowati, 2021; Mardiyaningsih et al., 2011).

Strengths and Limitations

This study did not use the oxytocin hormone biomarker assay to measure the level of oxytocin hormone rise.

Implications for Practice

It is hoped that this study will use oxytocin massage techniques and breast care to boost breast milk production in postpartum women, particularly at the Fakfak Health Centre.

CONCLUSIONS

Breast care and oxytocin massage differed in their ability to increase breast milk fluency. The group following breast care had a median value of 8.00 with a p-value of 0.000 < 0.05, whereas the group following oxytocin massage treatment had a median value of 8.00. The oxytocin massage and breast care have distinct impacts on raising the supply of breast milk in nursing women. Although both approaches are equally beneficial, oxytocin massage is less successful than breast care.

Conflict of Interest Statement

None

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