



Effectiveness of Woolwich Massage On Breast Milk Production in Postpartum Mothers in Rokan IV Koto I Community Health Center

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ABSTRACT

Decreased breast milk supply can be caused by an irregular flow of breast milk. To help mothers produce breast milk smoothly, one method that can be applied is the Woolwich method. This study was conducted to determine the effectiveness of Woolwich massage as a method to increase breast milk production in postpartum mothers. This study employed a pre-experimental design to assess the effect of the intervention through measurements before and after the intervention in a single group, with a sample of 30 postpartum mothers in the service area of the Rokan IV Koto I Community Health Center, selected using saturation sampling technique. Data analysis used the dependent t-test. The analysis results showed that the average breast milk production increased from 80 ml before Woolwich massage to 127 ml after Woolwich massage with a p-value of 0.000, indicating a significant effect. The results of this study are consistent with the study by Wahyuni (2019), which showed that Woolwich massage can produce a meaningful difference in breast milk production in postpartum mothers. It can be concluded that Woolwich massage has a positive effect in increasing breast milk production in postpartum mothers.

Keywords: Postpartum Mother, Breastfeeding, Woolwich Massage

ABSTRACT

Cakupan ASI menurun dapat diakibatkan oleh volume ASI yang keluar tidak lancar. Untuk membantu produksi ASI ibu menjadi lancar, salah satu metode yang dapat diaplikasikan adalah metode Woolwich. Penelitian ini dilakukan untuk mengetahui efektivitas pijat woolwich sebagai metode untuk meningkatkan pengeluaran ASI pada ibu pasca persalinan. Penelitian ini menggunakan desain pre-eksperimen untuk mengetahui pengaruh intervensi dengan pengukuran sebelum dan sesudah intervensi pada satu kelompok, dengan sampel sebanyak 30 responden ibu postpartum di area kerja Puskesmas Rokan IV Koto I yang dipilih dengan teknik sampling jenuh. Analisis data menggunakan uji t-dependent. Hasil analisis didapatkan bahwa rata-rata produksi ASI meningkat dari sebelum pijat woolwich 80 ml menjadi 127 ml setelah pijat woolwich dengan p-value 0.000 yang artinya ada pengaruh signifikan. Hasil penelitian ini selaras dengan penelitian Wahyuni (2019) yang menunjukkan bahwa pijat woolwich dapat memberikan perbedaan yang bermakna pada produksi ASI ibu postpartum. Dapat disimpulkan bahwa pijat woolwich memiliki efek positif dalam meningkatkan produksi ASI pada ibu postpartum.

Kata kunci : Ibu postpartum , ASI, Pijat woolwich

INTRODUCTION

Lack of maternal nutritional intake is a major factor causing more than 50% of infant and toddler mortality due to diarrhea and lung infections (pneumonia) (Maryati et al., 2023) . Breast milk is a complete and balanced source of nutrition for babies, and breastfeeding is a natural and effective way to provide babies with the nutrients they need for healthy growth and development (Delvina & Syafriani, 2022) .

UNICEF and WHO emphasize that exclusive breastfeeding for 6 months is very important for the health of babies, followed by continued breastfeeding until the age of 2 years. WHO emphasizes the importance of breastfeeding within the first hour after birth, by providing breast milk as the only source of nutrition, and breastfeeding on demand without using bottles or pacifiers (WHO, 2018)

The coverage of exclusive breastfeeding in Indonesia in 2021 reached 71.58%, while Riau Province had a coverage of 70.29%, indicating that the Ministry of Health's target has been achieved . According to a report from the Pekanbaru City Health Office, the Rokan IV Koto I Community Health Center had an exclusive breastfeeding coverage of 83% in 2021, among 22 Community Health Centers in the Rokan Hulu region (Rokan Hulu District Health Office, 2021) .

Lack of exclusive breastfeeding can have serious consequences for a baby's health. Research in the European Respiratory Journal revealed that children who are not breastfed are at greater risk of respiratory and digestive problems in the first four years of life compared to babies who are exclusively breastfed. Non-exclusive breastfeeding accounts for 11.6% of all infant deaths, and low milk production syndrome is one of the challenges that must be addressed during postpartum breastfeeding. Low milk production can cause babies to feel dissatisfied and cry frequently, and mothers' breasts to not enlarge, leading to breastfeeding failure (Satria, 2019) .

The postpartum period is a challenging time for mothers, both physically and psychologically, especially in adjusting to the baby's ongoing needs. A mother's readiness at the beginning of the postpartum period is crucial for successful breastfeeding (Sulistyawati, 2019) .

Breastfeeding causes a rise in the mother's prolactin levels, while estrogen and progesterone levels decrease. The baby's sucking on the nipple triggers this hormonal response. Maternal prolactin levels return to normal within three months after delivery, and even if breastfeeding continues, milk production remains stable without a significant increase in prolactin.

Some breastfeeding mothers may experience problems such as engorgement, breast abscesses, and insufficient milk production. However, many mothers feel uncertain about their breast milk supply, even though they actually have enough. Breast milk production changes over time and tends to decrease, so keep this in mind when calculating the nutritional value of breast milk. In the first year, milk production is usually around 400-700 ml per 24 hours, and by the third year, milk production decreases to around 200 ml per 24 hours (Retno, 2022) .

One way to increase and support smooth breast milk production in new mothers is by performing a Woolwich massage. Woolwich massage can provide a relaxing sensation for the mother, thereby stimulating the hormones prolactin and oxytocin in the mother giving birth. To perform a Woolwich massage, make circular movements with both thumbs in the lactiferous sinus area, about 1-1.5 cm outside the areola for 15 minutes; this technique is useful for increasing breast milk production, facilitating breast milk release,

and preventing mastitis (Usman, 2019) . The Woolwich massage technique involves massaging along the spine line up to the fifth and sixth ribs, which can help accelerate the release of prolactin and oxytocin hormones and encourage breast milk release after delivery (Handayani et al., 2023) .

Woolwich massage stimulates the autonomic nerves and subcutaneous tissue, helping to increase blood flow and clear the lactiferous ducts, making the milk flow process smoother and more comfortable. In addition to increasing milk production, this technique can also help maintain breast health by preventing inflammation or blockages (Dewi, 2019) .

Research conducted in 2021 in North Labuhan Batu proved that massage can help increase breast milk production in postpartum mothers after seven days (Wahyuni et al., 2021) .

Although exclusive breastfeeding coverage at the Rokan IV Koto Community Health Center is relatively high, research is still needed to determine the effectiveness of Woolwich massage in increasing breast milk production in the region. Therefore, researchers were motivated to conduct a study on the " **Effectiveness of Woolwich Massage" On Breast Milk Production in Postpartum Mothers at the Rokan IV Koto I Health Center** " .

RESEARCH METHODS

This study used a pre-experimental design using one group with measurements before and after treatment , with a sample of 30 postpartum mothers at the Rokan IV Koto I Community Health Center selected using a saturated sampling technique. Data collection in this study was carried out using observation techniques. Before performing the woolwich massage, respondents were given informed consent first, after which they were ensured that the respondents felt comfortable and safe during the intervention. The research instrument was woolwich massage. Woolwich massage is performed with circular and pressing movements on the breast area using the fingers and focusing on the area around the nipple and areola for 15-30 minutes using olive oil or baby oil, massage can be done 2-3 times a week. The massage was performed by the researcher, in addition, the mother was also taught to do the massage herself so that the mother could try it herself. For the woolwich massage protocol, namely: Massage Session (30 minutes) namely 5 minutes: Preparation and relaxation (making the research sample feel comfortable and relaxed), 15 minutes: Breast massage using circular and pressing techniques, 5 minutes: Massage the area around the nipple and areola, 5 minutes: Relaxation and recovery.

This study used univariate analysis to determine the average amount of breast milk released in postpartum mothers after being given woolwich massage, and bivariate analysis was conducted to assess the significant influence between the woolwich massage technique and the volume of breast milk release in postpartum mothers with a significance level of $\alpha < 0.05$. The statistical testing method applied was the *t-dependent* test using a nominal measurement scale, while the dependent variable (postpartum mother's breast milk release) used an ordinal measurement scale.

RESULTS

Table 1. Comparison of average breast milk volume before and after intervention in postpartum mothers at the Rokan IV Koto Health Center.

Breast milk production	N	Mean	SD	Min	Max
Breast Milk Release Before	30	80	14.68	50	110
Breast Milk Release After	30	127	17.15	110	150

Table 1 shows the distribution of the average amount of breast milk before and after giving Woolwich massage.

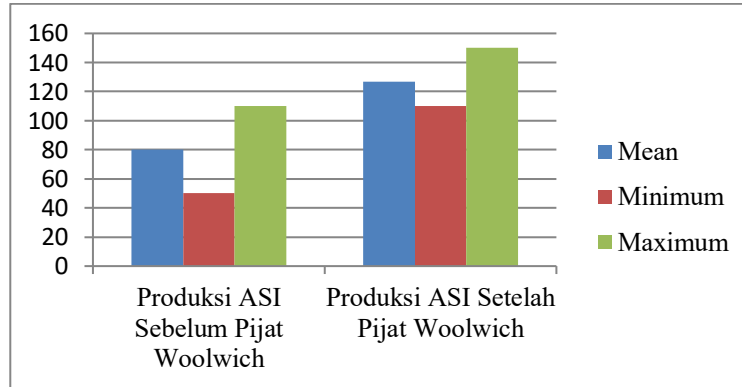


Figure 1. Bar chart of average breast milk volume before and after Woolwich massage

Based on data obtained from 30 respondents, the average breast milk production before the intervention was 80 ml (SD: 14.68), whereas after the intervention, the average breast milk production increased to 127 ml with a standard deviation of 17.15.

Table 2. Results of the Analysis of the Effect of Woolwich Massage on Breast Milk Production in Postpartum Mothers at the Rokan IV Koto I Health Center

Variables	N	Mean	SD	SE	P Value
Breast Milk Production Before-After	30	47.33	8.06	1.47	0.000

Table 2 Data analysis shows that Woolwich massage has a significant effect on the volume of breast milk in postpartum mothers, with a P value of 0.000.

Based on the results of data analysis, Woolwich massage was proven to be able to increase the volume of breast milk production in postpartum mothers by 47 ml, with a standard deviation value of 8.06 and a standard error of 1.47. The Dependent T test proved that Woolwich massage had a significant effect (p value = 0.000).

DISCUSSION

The results of a study on 30 postpartum mothers who received woolwich massage at the Rokan IV Koto I Health Center showed that woolwich massage was effective in increasing breast milk production, with an average breast milk production increasing from 80 ml to 127 ml and p-value = 0.000.

The findings of this study are in line with the results of research (Wahyuni et al., 2021) which showed that Woolwich massage has an optimal impact on increasing the amount of breast milk output in postpartum mothers with a value of $0.000 < 0.05$.

According to the theory explained by Sulistyawati (2019), hormones such as estrogen, progesterone, and prolactin play a crucial role in regulating breast milk volume. During pregnancy, estrogen and progesterone stimulate breast development and colostrum production. Prolactin levels and breast milk volume increase with the help of estrogen. However, psychological factors such as fatigue and pain can inhibit milk production. Therefore, Woolwich massage can help stimulate the hormones needed for milk production.

This study is consistent with findings (Kholilah & et.al, 2023) that Woolwich massage can increase prolactin and oxytocin hormones in postpartum mothers by providing a feeling of relaxation. The results also showed an increase in breast milk volume after the Woolwich massage intervention.

The results of Riyanti & Purwanti's (2021) research support this finding, showing that Woolwich massage with olive oil effectively increased breast milk production in patients after 3 interventions (Riyanti & Purwanti, 2021) .

Research (Lailiyah et al., 2024) also shows that Woolwich Massage and olive oil can significantly overcome breast milk stasis in postpartum mothers.

The results of the research that has been conducted show that oxytocin massage intervention in postpartum mothers for 30 minutes, once a day for 3 days can provide positive results. On the first day before the intervention, many postpartum mothers have less than optimal breast milk volume, which may be caused by hormonal and physical factors postpartum. After the Woolwich massage, breast milk volume in postpartum mothers began to increase gradually, with the best results seen on the second and third days. After the intervention, mothers felt a significant difference in their breasts, namely fuller and smoother milk flow, making the baby calmer. The psychological condition of the mother became calmer and more comfortable after the intervention, making her more confident in breastfeeding. Thus, Woolwich massage has been proven to be an effective non-pharmacological method for increasing breast milk volume in postpartum mothers, especially in the early phase of lactation (6–8 days postpartum), which is a critical period in establishing successful breastfeeding.

RESEARCH LIMITATIONS

1. The limitation of this research is that it is not possible to control all factors that can influence breast milk production comprehensively.
2. This study was only conducted on postpartum mothers at the Rokan IV Koto I Community Health Center, so the results cannot be applied to different populations.
3. The limited sample size in this study means that the results cannot be widely applied to different populations.

CONCLUSION AND SUGGESTIONS

1. Conclusion

The implementation of Woolwich massage on postpartum mothers showed an increase in breast milk production volume, namely from 80 ml to 127 ml. These results indicate that Woolwich massage has a significant effect on breast milk production in postpartum mothers at the Rokan IV Koto I Community Health Center, with a P-value of 0.000.

2. Suggestion

It is hoped that Woolwich massage can be an effective postpartum care method and can be implemented by village midwives during postpartum visits.

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ETHICAL CONSIDERATIONS

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Conflict of Interest Statement

The interest in fulfilling the output of internal grant research results in the form of publications in Sinta indexed journals, in addition, it can also be used for BKD (Lecturer Performance Load) reporting for the upcoming semester and used for promotion .

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