WOOLWICH MASSAGE AND LAVENDER AROMATHERAPY AS COMPLEMENTARY CARE FOR POSTPARTUM LACTATION

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Abstract

Breast milk production in postpartum mothers often faces obstacles, both physiological and psychological. The non-pharmacological approaches of Woolwich Massage and lavender aromatherapy have the potential to support postpartum lactation and improve mothers' physiological and psychological responses. This study aims to describe the application of Woolwich Massage and lavender aromatherapy in supporting successful postpartum lactation. This study employed a qualitative descriptive approach with a case study design involving two postpartum mothers. The intervention consisted of Woolwich Massage and lavender aromatherapy administered for five consecutive days, twice daily, with each session lasting 15 minutes. Data collection was conducted through in-depth interviews, observations, and physical examinations. The study results were marked by smoother breast milk production, increased breastfeeding frequency, and greater confidence in breastfeeding among both clients. Differences in response were influenced by initial psychological condition, breastfeeding experience, and readiness to accept the intervention. These findings indicate that Woolwich Massage and lavender aromatherapy are effective as complementary care to support postpartum lactation and can be integrated into maternity nursing practice as a holistic, relaxation-based approach. Further research is recommended using a larger sample size, an experimental design, and objective measurements to strengthen the evidence of the intervention's effectiveness.

Keywords: Complementary care, lavender aromathera, postpartumlLactation, woolwich massage.

INTRODUCTION

Childbirth is an essential and memorable moment for mothers and families. Postpartum mothers experience various changes, both physical and psychological (Asmalinda et al., 2022). These changes in physical and emotional conditions can affect the lactation process, especially breast milk production. Postpartum stress, anxiety, or discomfort can affect the actions of the hormones oxytocin and prolactin, which play a role in milk production and regulation, potentially inhibiting smooth lactation (Ekstro et al., 2020). Breastfeeding newborns is an essential step because breast milk provides nutrients needed to support optimal growth and development (Muro-valdez et al., 2023).

The coverage of exclusive breastfeeding in Indonesia in 2022 was 67.96%, a decrease from 2021, when it was 69.7% (World Health Organization, 2023)**.** In 2023, the proportion of infants aged < 6 months receiving exclusive breastfeeding increased to 73.97%, the highest level in the last decade. Despite the national increase, differences in achievement remain visible at the regional level. Exclusive breastfeeding coverage in West Java Province in 2023 was recorded at 67.2% (Kementerian Kesehatan RI, 2023). Meanwhile, in Cirebon Regency, the coverage of exclusive breastfeeding for infants reached 70.7% in 2022, but decreased to 65.6% in 2023 (Dinas Kesehatan Kabupaten Cirebon, 2023).

Babies who do not get exclusive breast milk are at higher risk of developing various health problems, especially infections of the gastrointestinal, respiratory, and ear (I. S. Siregar, 2020). Several studies have shown that there is a significant difference between babies who receive exclusive breastfeeding and those who do not. Infants without exclusive breastfeeding had a 2.6 times higher risk of developing diarrhea, a 2.3 times higher risk of developing acute respiratory tract infections (ARI), and a 2.62 times higher risk of stunting (Amalia et al., 2021; M. H. Siregar et al., 2020; Sulistyoningsih, 2020). Both internal and external factors influence the success of exclusive breastfeeding. Factors that contribute to the low coverage of exclusive breastfeeding include suboptimal breast milk production, maternal anxiety and fear related to breast milk adequacy, and low maternal confidence in breastfeeding ability (Dwi Riska et al., 2024).

Suboptimal milk production can be overcome through pharmacological and non-pharmacological interventions. The pharmacological approach involves administering lactation agents to breastfeeding mothers, including domperidone, metoclopramide, and lactamor (Hamdayani et al., 2023). Meanwhile, non-pharmacological approaches include breast care, Early Breastfeeding Initiation (IMD), oxytocin massage, and breast massage (Putri et al., 2023). One of the breast massage techniques used to support smooth lactation is

Woolwich Massage, performed on an area 1–1.5 cm above the areola of the mammae to facilitate the excretion of breast milk from the lactiferous sinuses. Stimulation in this area stimulates the breast nerve so that the anterior pituitary gland releases the hormone prolactin, which is then channeled through the bloodstream to myoepithelial cells to support breast milk production (Dinengsih, 2020). In addition to mechanical stimulation, the use of plant-based essential oils is known to help reduce various health problems and improve quality of life. One of the essential oils widely used in clinical practice, especially in psychosomatics and gynecology, is lavender. Lavender essential oil contains the active compound linalool which works by stimulating specific areas of the brain, such as the nucleus raphe, thereby providing a relaxing effect and increasing comfort in individuals (L. N. Pratiwi et al., 2023). The integration of non-pharmacological interventions, such as Woolwich Massage and lavender aromatherapy, is believed to improve the success of lactation by addressing both physiological and psychological factors simultaneously.

Relaxation-based complementary care, such as the combination of Woolwich Massage and lavender aromatherapy, is a non-pharmacological approach that has the potential to support postpartum lactation success through physiological and psychological mechanisms. Mechanical stimulation of the breast increases the release of lactation hormones, while the relaxing effects of aromatherapy help reduce anxiety and increase the comfort of breastfeeding mothers. However, the application of this complementary care combination in maternity nursing practice, particularly in primary health services, still requires a more in-depth clinical description. Based on this background, this study aims to describe the application of Woolwich Massage and lavender aromatherapy as complementary care to support lactation in postpartum mothers, and to explore the physiological and psychological responses of mothers to these interventions.

METHODS

This study used a qualitative descriptive case study based on lactation physiology theory, in which breast stimulation increased prolactin and oxytocin levels, while relaxation reduced cortisol levels, facilitating the let-down reflex and enhancing milk production. Inclusion criteria included mothers within 24 hours postpartum with suboptimal milk production, stable physical condition, willingness to participate, and ability to communicate.

The intervention, consisting of Woolwich Massage combined with lavender aromatherapy, was administered for five consecutive days, twice daily (morning and evening), with a duration of 15 minutes per session as complementary care to standard postpartum care.

Procedur	Description
1. First movement 	Massage your breasts using the index, middle, and ring fingers of both hands. Then move your fingers forward and curve them so they touch the nipples. Repeat this motion 15 times.
2. Second movement 	Perform this by placing your right and left thumbs above the nipples, followed by 15 repetitions of an up-and-down motion.
3. Third movement  	Repeat 15 times using two fingers in an up-and-down motion.
4. Fourth movement  	Perform this 15 times by placing the thumbs of both hands above and below the nipple, alternating back and forth.
5. Fifth movement  	Express breast milk using your fingers, with your thumbs positioned above and below the nipple, starting from the areola. Then, gently massage the nipple until milk flows out. You can either breastfeed your baby immediately or store the expressed milk.

Data were collected through interviews exploring mothers' experiences, feelings, and perceptions regarding breastfeeding, observations of breastfeeding frequency, infant behavior, and maternal comfort, and physical examinations focusing on breast condition, milk flow, breast fullness, and signs of effective breastfeeding, all recorded using validated instruments.

Data were analyzed thematically to identify clients' physiological and psychological responses to the complementary care provided and to explore influencing factors, as indicated by increased breastfeeding frequency, smoother milk flow, breasts feeling full before and softer after breastfeeding, as well as infant indicators such as urination frequency ≥6 times per day and calmer behavior after feeding.

This study was conducted in accordance with ethical research principles, including obtaining informed consent, ensuring data confidentiality, and respecting participants' right to withdraw at any time without consequences. Ethical approval was obtained from the Health Research Ethics Commission (KEPK) of the Ministry of Health of Tasikmalaya Number; 00352132782111120250425001 43.

RESULTS

This section presents the results of applying Woolwich Massage and lavender aromatherapy as complementary care for two postpartum mothers, namely Mrs. S and Mrs. R, who experienced difficulties with breast milk production in the first 24 hours after childbirth. The intervention lasted five consecutive days, with two daily sessions. The results are presented based on the primary response of lactation as well as the supporting response, which includes physiological and psychological aspects.

1. Breast Milk Production Response

Non-optimal breast milk production was defined as low milk output, infrequent breastfeeding (<6 times/day), and maternal concerns about milk adequacy. Optimal production was indicated by smooth milk flow, breastfeeding frequency ≥8 times/day, and adequate infant indicators.

At the beginning of the intervention, Mrs. S showed low and unstable milk production. Breast milk has not been optimal in the first 2 days, and the mother seems to have doubts about its adequacy. Starting on the third day of the intervention, breast milk expenditure increased, characterized by a smoother flow during breastfeeding, and persisted until the fifth day. The Mothers report, *"My milk started to flow more smoothly, and breastfeeding feels easier now."*

In contrast to Mrs. S, Mrs. R responded more quickly to the complementary care provided. Increased milk expenditure has been seen since the first day of the intervention and

tends to stabilize until the fifth day. The Mother reported, *"My breast milk comes out more easily, and I do not experience any difficulties during breastfeeding."*

2. Changes in Breastfeeding Frequency and Breastfeeding Adequacy Indicators

During the intervention period, the frequency of breastfeeding increased for both clients. In Mrs. S, the frequency of breastfeeding increased from an average of 5 times per day at the beginning of care to 8 times per day at the end of the intervention. In Mrs. R, the frequency of breastfeeding increased from 6 times to 9 times per day. One participant stated, *"My baby sleeps better and seems more satisfied after feeding."*

Indicators of breast milk adequacy in babies also showed improvement. Babies from both clients experienced an increase in the frequency of urination up to ≥ 6 times per day. In addition, babies appear calmer after breastfeeding and have a better sleep duration than before the intervention.

3. Postpartum Mother's Psychological Response

Changes in the mother's psychological condition were observed during the parenting process. At the beginning of the intervention, Mrs. S showed anxiety, worry, and a lack of confidence in her breastfeeding ability. As the intervention progressed, especially from the third day onward, the mother appeared calmer and more relaxed, and showed increased confidence in breastfeeding her baby. She expressed, *"I feel more relaxed and confident in breastfeeding my baby."* Meanwhile, Mrs. R reported feeling comfortable and relaxed from the beginning of the intervention, stating, *"I feel comfortable and more prepared to breastfeed."* The mother stated that she felt more relaxed during and after the intervention and was more prepared to undergo the breastfeeding process.

4. Breast Physiological Response

Physiologically, both clients showed changes that favored lactation. During the intervention period, increased breast fullness, faster milk flow during breastfeeding, and a stronger milk excretion reflex were observed. The breasts feel softer after breastfeeding, indicating more optimal breast emptying. These findings show that postpartum mothers respond positively to Woolwich Massage and lavender aromatherapy as complementary care to support the lactation process. Observational results showed an increase in breastfeeding frequency, improved infant calmness, and longer sleep duration after feeding. Physical

assessment indicated increased breast fullness before feeding, smoother milk flow, a stronger let-down reflex, and softer breasts after feeding, reflecting more optimal breast emptying.

DISCUSSION

The results of this case study show that the application of Woolwich Massage, combined with lavender aromatherapy as complementary care, results in a positive response to the lactation process in postpartum mothers. The increased milk expenditure observed in both clients reflects the role of mechanical and psychological stimulation in supporting lactation mechanisms.

The increase in volume and smooth milk excretion in both clients can be explained by the working mechanism of Woolwich Massage, which focuses on stimulating the area around the areola and lactiferous duct. Woolwich massage is known to optimize sensory nerve stimulation, increase local blood flow, and support the release of the hormone oxytocin (Antika & Rismayanti, 2024). This stimulation strengthens the contraction of myoepithelial cells, so that the milk let-down reflex becomes more effective. These findings are in line with the concept that the oxytocin reflex is a key component in the process of transferring milk from the alveoli to the lactary sinuses (Astutik, R, 2024).

The relaxing effect of lavender aromatherapy contributes to the success of the complementary care provided, along with mechanical stimulation. The scent of lavender works through the limbic system in the brain, lowering sympathetic nervous system activity and increasing feelings of calm and comfort (Bavarsad et al., 2023). This stable psychological state allows oxytocin release to occur more optimally, as emotional calm is an important factor in the smooth functioning of the oxytocin reflex (Ekstro et al., 2020).

The findings of this study also align with the view that breast massage, as a non-pharmacological intervention, can increase breast milk flow, especially when combined with relaxation techniques (Dwi Riska et al., 2024). The combination of Woolwich Massage and lavender aromatherapy in this study produced a double effect: physiological stimulation through massage and emotional calmness through aromatherapy. Lactation massage interventions are known to significantly influence the let-down reflex, especially in primiparous mothers (Setiyawati et al., 2024). Mrs. S's slower response, while showing gradual improvement, supports the findings. The mother's comfort during the intervention was a determining factor in success, so the use of lavender aromatherapy in this study strengthened the effect of massage by adding a dimension of mental relaxation (Yasiroh et al., 2024).

Correspondingly, several studies on lavender aromatherapy have shown significant psychological benefits in postpartum mothers. Lavender administration is reported to be able to lower anxiety levels and improve the quality of sleep of mothers after childbirth (L. Pratiwi et al., 2024). Similar phenomena were also seen in both clients in the study, who reported feeling more relaxed and calm during the intervention period.

Oxytocin, known as the "love hormone," plays an essential role in myoepithelial cell contraction and milk excretion. Increased oxytocin levels strengthen the let-down reflex and promote smooth milk flow (Dayyana et al., 2020). In this study, the increase in the smooth flow of breast milk on the third to fifth day correlated with increased maternal comfort and relaxation during complementary care. Woolwich Massage applies rhythmic pressure to the breast, stimulating its sensory receptors and sending signals to the hypothalamus to trigger the release of oxytocin from the posterior pituitary. This physiological process is reflected in the gradual increase in milk expenditure observed in both clients.

On the other hand, stress and anxiety are known to inhibit the release of oxytocin through increased cortisol levels. Stress is antagonistic to oxytocin, so stress reduction has a direct role in supporting smooth lactation (Levene et al., 2024). Inhaled lavender aromatherapy during the intervention helps lower cortisol levels, allowing oxytocin to work more optimally.

The difference in response between Mrs. S and Mrs. R can be explained through psychological factors and breastfeeding experiences. Mrs. S, as a postpartum mother who had no breastfeeding experience, showed higher levels of anxiety at the beginning of the intervention, which had an impact on delayed lactation response. Negative emotions are known to inhibit the let-down reflex even though breast milk is already available in the alveoli (Deif et al., 2021). On the other hand, Mrs. R, as a multipara mother, has prior breastfeeding experience, so she is more confident and responds more quickly to complementary care. A more stable emotional state was an essential factor in the intervention's success for Mrs. R.

Overall, this discussion indicates that Woolwich massage and lavender aromatherapy serve as complementary therapies that support postpartum lactation through interrelated physiological and psychological mechanisms. This study has several limitations, including an environment that disrupted patient focus, a lack of knowledge regarding breast milk production techniques, and a small sample size, which may limit the generalizability of the study's findings. The findings of this case study have implications for nursing practice, suggesting that non-pharmacological approaches based on relaxation and breast stimulation can serve as supportive alternatives in maternal care.

CONCLUSION

The application of Woolwich Massage combined with lavender aromatherapy has been shown to be effective in supporting postpartum lactation through physiological stimulation and enhanced maternal relaxation. Variations in response are influenced by the initial psychological condition, breastfeeding experience, and emotional readiness. This intervention has the potential to be integrated into maternity nursing practice as a non-pharmacological complementary care approach. However, further research using more rigorous designs and larger sample sizes is needed to strengthen the scientific evidence.

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