OXYTOCIN MASSAGE AND THE MARMET TECHNIQUE FOR MANAGING INEFFECTIVE BREASTFEEDING IN POSTPARTUM MOTHERS: A CASE STUDY IN PRIMARY CARE

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Abstract

Ineffective breastfeeding is a common problem experienced by postpartum mothers due to suboptimal breast milk production and milk ejection, which may hinder the success of exclusive breastfeeding. Non-pharmacological interventions that can be implemented include Oxytocin Massage and the Marmet Technique. This study aimed to describe nursing care for postpartum mothers experiencing ineffective breastfeeding through the application of Oxytocin Massage and the Marmet Technique in Cipayung District.

This study employed a descriptive case study design using the nursing process approach, which included assessment, nursing diagnosis, intervention, implementation, and evaluation. The subjects consisted of two postpartum mothers diagnosed with ineffective breastfeeding. The interventions were implemented over five days, and the outcomes were evaluated using the LATCH Assessment Tool. The results showed an improvement in breastfeeding ability in both subjects following the combined application of Oxytocin Massage and the Marmet Technique. This improvement was indicated by an increase in LATCH scores, from 3 to 9 in Subject 1 and from 1 to 8 in Subject 2. In addition, improvements were observed in the smoothness of breast milk ejection, infant latch, and mothers' breastfeeding ability.

In conclusion, the application of Oxytocin Massage and the Marmet Technique as part of nursing care was effective in improving breastfeeding effectiveness among postpartum mothers.

Keywords: Exclusive Breastfeeding, Postpartum Mothers, Ineffective Breastfeeding, Oxytocin Massage, Marmet Technique

1. INTRODUCTION

Exclusive breastfeeding is defined as feeding infants breast milk from birth until six months of age without adding or replacing it with other foods or liquids, except for medicines, vitamins, and minerals. Reduced breast milk production during the postpartum period may be caused by inadequate stimulation of the hormones prolactin and oxytocin, which play important roles in supporting breast milk production and milk ejection. Although the benefits of breastfeeding for newborns are widely recognized, many mothers are unable to breastfeed their infants immediately after delivery [1].

Ineffective breastfeeding refers to a situation in which the mother and infant experience dissatisfaction or difficulties during the breastfeeding process. This condition may affect breastfeeding success and maternal satisfaction, as well as the health and development of the infant. Several factors contribute to effective breastfeeding, including adequate breast milk production, proper latch technique, sufficient emotional and social support, maternal and infant health, maternal stress and anxiety levels, knowledge and education regarding breastfeeding, and the availability of adequate time and a comfortable environment for breastfeeding. The interaction of these factors directly influences the

mother's ability to provide adequate and appropriate breast milk and contributes to a positive breastfeeding experience for both mother and infant [2].

Other factors that may contribute to breastfeeding failure include breast-related problems, low milk production, and challenges associated with breastfeeding newborns, such as prematurity or cleft lip and palate. Breast conditions such as flat or inverted nipples, weak sucking reflexes, ineffective oxytocin reflexes, and breast milk stasis may also interfere with breastfeeding. Additional challenges include breastfeeding more than one infant simultaneously, inadequate maternal attention when breastfeeding twins, limited knowledge regarding the benefits and proper techniques of breastfeeding, insufficient family attention and support, and cultural influences [3].

Ineffective breastfeeding may lead to health problems for both mothers and infants. When breast milk is not adequately expressed, milk accumulation may occur, causing the alveoli to become excessively distended and the breasts to become engorged. Breast engorgement may result in pain and difficulties in breastfeeding and, if not appropriately managed, may increase the risk of complications such as mastitis and breast abscesses [4].

The World Health Organization (WHO) has established a target of at least 50% coverage of exclusive breastfeeding. Meanwhile, the Government of Indonesia, through the Ministry of Health, has set a higher national target of 80%. However, substantial challenges remain in achieving these targets. According to the 2023 (Survei Kesehatan Indonesia, SKI), the proportion of infants aged 0–6 months who received exclusive breastfeeding in Indonesia was 55.5% (SKI, 2023). The relatively low national achievement is also reflected at the regional level. In 2025, DKI Jakarta had an exclusive breastfeeding rate among infants aged 0–5 months of 74.10%, representing a decrease of 2.8 percentage points compared with the previous year [5].

This condition is consistent with a report published by Databoks (2021), which indicated that the proportion of infants aged 0–5 months receiving exclusive breastfeeding in East Jakarta was 74.32% (Widyantika, 2024). Regional exclusive breastfeeding program data demonstrate changes that require continuous attention and monitoring. Based on data from 2018, the proportion of infants receiving exclusive breastfeeding in the service area of Cipayung District Community Health Center reached 71.6%. This figure represented 619 exclusively breastfed infants out of a total target population of 846 infants in the area [6].

Several factors contribute to the failure to achieve exclusive breastfeeding targets in Indonesia. One of these is inadequate breast milk production during the first few days after delivery. This condition may be associated with insufficient stimulation of oxytocin and prolactin, hormones that play important roles in supporting lactation. Therefore, alternative approaches, including oxytocin massage, are needed to support breastfeeding [7].

Oxytocin massage is a technique performed along the spine, from the cervical region to the twelfth thoracic vertebra, with the aim of stimulating the release of prolactin and oxytocin after childbirth. This massage may stimulate the milk ejection reflex and increase oxytocin release, thereby promoting maternal relaxation, supporting milk production, and facilitating milk flow [8].

The effectiveness of oxytocin massage in stimulating the lactation reflex has been demonstrated in several clinical studies. One study by Marantika (2023) reported differences in the ease of breast milk flow before and after the intervention. These findings suggest that stimulation through oxytocin massage may support successful lactation among postpartum mothers [7]. In addition to oxytocin massage, stimulation of prolactin and oxytocin release after childbirth can also be facilitated through the Marmet technique [9].

The Marmet technique is a method of expressing breast milk manually using the fingers. The technique involves compressing and massaging the breast, particularly around the areola, to facilitate milk expression. Prolactin stimulates the alveoli to produce breast milk, while the milk ejection reflex, or let-down reflex, facilitates the movement of milk through the mammary ducts. Consequently, breast milk may be expressed more effectively. The Marmet technique combines massage and manual expression movements [14]. Consistent with this mechanism, a study by Wasis (2021) demonstrated an effect of the Marmet technique on the smoothness of breast milk flow among postpartum mothers. The technique was also associated with increased prolactin and oxytocin levels, which may promote relaxation during the postpartum period [10].

The combination of oxytocin massage and the Marmet technique may provide a complementary approach to supporting breastfeeding. Oxytocin massage may facilitate milk flow by stimulating oxytocin release, whereas the Marmet technique facilitates manual breast milk expression and breast emptying [9]. Further evidence was reported by Lubis and Rofiasari (2024), who found that mean breast milk production increased from 24.22 mL before the intervention to 95.47 mL after the intervention. Thus, an increase of 71.25 mL was observed following three sessions of combined oxytocin massage and the Marmet technique, indicating a significant difference in breast milk production before and after the intervention [11].

Several instruments have been developed to assess breastfeeding and identify breastfeeding difficulties. The LATCH score is one breastfeeding assessment instrument that evaluates five indicators: Latch (infant attachment to the breast), Audible swallowing (audible swallowing during breastfeeding), Type of nipple (maternal nipple type or shape), Comfort (maternal comfort during breastfeeding), and Hold/positioning (infant positioning during breastfeeding). Each indicator is scored on a scale of 0, 1, or 2 [12].

Based on the foregoing discussion, a gap remains between the importance of breastfeeding practices and mothers' ability to implement appropriate breastfeeding techniques in practice. Some postpartum mothers continue to experience breastfeeding difficulties due to inadequate understanding of appropriate lactation techniques and the suboptimal implementation of non-pharmacological interventions, such as Oxytocin Massage and the Marmet Technique, in nursing care. The importance of early management of ineffective breastfeeding provides the rationale for conducting a case study on the implementation of nursing care incorporating these interventions among postpartum mothers in Cipayung District.

2. METHODS

This study employed a descriptive case study design to describe the implementation of nursing care for two postpartum mothers experiencing ineffective breastfeeding. The study participants were postpartum mothers with ineffective breastfeeding problems residing in Cipayung District. Two participants with similar inclusion criteria were included in the study. The intervention was implemented over a five-day period. The use of two participants aimed to compare their responses and the effectiveness of the combined application of Oxytocin Massage and the Marmet Technique on breastfeeding status in each participant [13].

Participants were selected using a purposive sampling technique, in which participants were recruited based on predetermined inclusion criteria. The measurement instrument used in this study was the LATCH score, which assesses five breastfeeding indicators: Latch (infant attachment to the breast), Audible swallowing (audible swallowing during breastfeeding), Type of nipple (maternal nipple type or shape), Comfort (maternal comfort during breastfeeding), and Hold/positioning (infant positioning during breastfeeding). Each indicator is scored from 0 to 2.

In this case study, the researchers directly observed postpartum mothers experiencing ineffective breastfeeding during the provision of nursing care involving Oxytocin Massage and the Marmet Technique in Cipayung District. The primary outcomes assessed included the progression of lactation, the accuracy of infant attachment to the breast, and indicators of adequate infant nutrition, such as urinary elimination frequency and sleep quality, as measures of the effectiveness of the intervention. Ethical considerations were addressed by obtaining informed consent from all participants prior to participation in the study.

3. RESULTS AND DISCUSSION

3.1 Characteristics of the Participants

Both participants were postpartum mothers experiencing ineffective breastfeeding. During the initial assessment, breast milk had not been expressed adequately on postpartum days 2–5. The participants experienced breast engorgement and breast tenderness upon palpation, and one participant developed fever on postpartum day 4. Both participants also had flat nipples. These

conditions provided the basis for monitoring LATCH scores and implementing the combined *Oxytocin Massage* and *Marmet Technique* interventions.

3.2 Nursing Diagnosis and Intervention

The nursing diagnosis identified in both participants was **Ineffective Breastfeeding (D.0029)** related to inadequate breast milk supply, as evidenced by breast milk not flowing adequately[15]. The diagnosis was established on May 14, 2026, and May 17, 2026, respectively. The nursing intervention provided was **Breastfeeding Education (I.12393)**, with the target of resolving the ineffective breastfeeding problem[16]. The intervention included educating mothers about the benefits of breastfeeding for both mother and infant, teaching four breastfeeding positions and proper infant attachment (*latch-on*), and implementing the *Oxytocin Massage* and *Marmet Technique*.

3.3 Application of the *Oxytocin Massage* and *Marmet Technique*

The *Oxytocin Massage* was performed in the paravertebral area, from the neck down toward the scapular region, approximately at the level of the fifth or sixth ribs. The *Marmet Technique* is a manual breast milk expression method that combines massage, stroking, and shaking movements of the breast. Both interventions were performed according to the established procedure and Standard Operating Procedures (SOPs) [17]

3.4 Progress

The interventions were implemented based on the priority nursing diagnosis identified in both participants, namely ineffective breastfeeding related to inadequate breast milk supply. The intervention was provided over five sessions using an observational approach. The assessment included identifying the mothers' readiness and ability to receive lactation-related information, as well as their willingness to breastfeed. The results are presented in Table 1.

Table 1. LATCH Scores Before and After the Combined *Oxytocin Massage* and *Marmet Technique* Intervention

LATCH Indicator	Participant 1 Before	Participant 1 After	Participant 2 Before	Participant 2 After
Latch	0	2	0	1
Audible swallowing	0	2	0	2
Type of nipple	1	1	1	1
Comfort	2	2	0	2
Hold positioning	0	2	0	2
Total skor LATCH	3	9	1	8

Source: Primary Data (2026)

For Participants 1 and 2, observations conducted before the combined Oxytocin Massage and Marmet Technique intervention using the LATCH Assessment Tool on the first day showed that both mothers experienced limitations in breastfeeding ability, with scores indicating a low level of breastfeeding performance. These limitations were reflected in low scores across the five lactation indicators, including weak infant sucking, the absence of regular audible swallowing, flat maternal nipples, complaints of breast pain and tension, and the mothers' inability to independently position and hold the infant appropriately without substantial assistance.

Based on the results presented in Table 1, following the combined Oxytocin Massage and Marmet Technique intervention, an improvement in breastfeeding ability was observed. The final LATCH scores

increased to 9 for Participant 1 and 8 for Participant 2, indicating substantial improvement across the assessed breastfeeding indicators.

The improvement was characterized by effective infant attachment to the breast, with the infant's mouth firmly attached to the areola and the lower lip everted during breastfeeding. The mothers were able to stimulate the milk ejection reflex, as indicated by regular audible swallowing during breastfeeding. The maternal nipple became slightly more prominent following periodic manual stimulation. The mothers also reported that their breasts felt more relaxed and softer, with no nipple or breast skin abrasions. In addition, both mothers were able to independently position the infant with the infant's body close to the mother's chest, although slight assistance with a supporting pillow was still required to stabilize the mother's arm and maintain the infant's position.

3.5 Discussion

Based on the evaluation results, both participants demonstrated an increase in their *LATCH Assessment Tool* scores following the intervention provided during the nursing care period. The increase in LATCH scores indicated improvements in infant attachment, effective infant sucking ability, maternal nipple condition, maternal comfort, and the level of assistance required by the mothers during breastfeeding. In addition, observations showed that the infants were able to attach more effectively to the breast, sucking became more coordinated and effective, and the mothers appeared more confident during breastfeeding compared with the initial assessment. These changes indicate that the expected nursing outcome of improving breastfeeding effectiveness was achieved in both participants.

In addition to the improvement in LATCH scores, the evaluation also demonstrated changes in breast milk production and flow. During the initial assessment, both participants reported that breast milk was not being expressed optimally and that their breasts felt full. Following the combined application of *Oxytocin Massage* and the *Marmet Technique*, breast milk began to flow more readily, the breasts felt softer and less full after breastfeeding or milk expression, and breastfeeding frequency increased. These findings suggest that the combined intervention may have supported the physiological processes involved in lactation, including oxytocin-mediated milk ejection and prolactin-related milk production.

4. CONCLUSIONS

The findings of this case study involving two participants indicate that the combined application of *Oxytocin Massage* and the *Marmet Technique* was associated with improvements in breastfeeding performance, breast milk flow, and breastfeeding-related outcomes among postpartum mothers experiencing breastfeeding difficulties. The combination of these interventions may support the milk ejection reflex, facilitate breast milk expression, and reduce breast fullness or tension. Therefore, *Oxytocin Massage* and the *Marmet Technique* may be considered as complementary interventions within nursing care for postpartum mothers experiencing breastfeeding difficulties.

However, because this study used a descriptive case study design involving only two participants, the findings should be interpreted as case-based observations and should not be generalized to the broader postpartum population without further research.

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