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THE APPLICATION OF OXYTOCIN MASSAGE TO INCREASE BREAST MILK PRODUCTION IN POSTPARTUM MOTHERS WITH SECTIO CAESAREA: CASE REPORT

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Abstract

Optimal breast milk production is essential for the health of the baby. However, postpartum sectio caesarea (SC) mothers often experience obstacles in breastfeeding due to the disruption of oxytocin hormone stimulation. Oxytocin massage is one of the nonpharmacological methods that can stimulate milk production. This study aims to determine the application of oxytocin massage to increase breast milk production in postpartum SC mothers at RSUD Umar Wirahadikusumah. The research method used a descriptive case report study design through a nursing care process approach by integrating EBN on one post-SC mother subject who experienced breastfeeding disorders. Implementation of oxytocin massage was carried out for four days with a frequency of twice a day for 15-20 minutes. The evaluation used an observation sheet containing 13 indicators of breast milk production. The results showed an increase in breast milk production characterized by breast milk that began to gush when the areola was squeezed, the baby suckled well, the baby's micturition frequency increased to 8 times per day, and the baby looked satisfied after feeding. This study concludes that oxytocin massage effectively increases breast milk production in SC postpartum mothers by stimulating the oxytocin hormone. This intervention can be part of nursing care to overcome ineffective breastfeeding non-pharmacologically.

Keywords: *Oxytocin Massage, Breast Milk Production, Postpartum Mother, Sectio Caesarea*

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INTRODUCTION

After delivery, one of the most essential tasks of the mother is to breastfeed the baby as soon as possible, or early breastfeeding initiation. Breastfeeding is necessary at this stage as the mother effectively nourishes the baby through breast milk (Vijayanti et al., 2022). Every aspect of the baby's physical, psychological, social, and spiritual needs is met by breast milk. Hormones, growth factors, immunological components, anti-inflammatory and anti-allergic substances, and minerals are all present in breast milk. Breastfeeding should begin within the first half hour after the baby's birth and continue exclusively until the child is six months old.

According to the WHO, 48% of newborns worldwide now benefit from a healthy start in life, with the proportion of kids under six months old who are exclusively breastfed having climbed by more than 10% over the previous 12 years. Despite this noteworthy advancement, issues must be resolved to meet the WHO's goal of raising exclusive breastfeeding to at least 50% by 2025. The percentage of Indonesians who exclusively breastfed in 2022 was just 67.96%, down from 69.7% in 2021 (WHO, 2023). The Central Bureau of Statistics reports that in 2024, 80.31% of newborns under 6 months old in the province of West Java would be exclusively breastfed (BPS, 2024). According to the Dinkes Sumedang, exclusive breastfeeding coverage for infants under 6 months in 2022 was 80.97%, down from 81.26% in 2021 (Dinkes Sumedang, 2022).

Breast milk does not flow, which is one of the reasons why breastfeeding goals are challenging to achieve. Breastfeeding is disrupted or inhibited by problems with milk flow, which is one of the reasons why a person cannot breastfeed their child (Italia & Yanti, 2019). Field data shows that early breastfeeding is inhibited by milk production in the first few days after giving birth. The breastfeeding process may take longer if the mother does not initiate it within the first few hours after giving birth. Prolactin, the hormone that stimulates breast milk production in mothers, may be affected by delayed breastfeeding. Breastfeeding effectiveness issues may arise due to inadequate breastfeeding by the mother (Harismayanti & Latief, 2025).

Many mothers experience barriers or obstacles to exclusively breastfeeding their babies for a full 6 months. After birth, prolactin hormone levels will decrease if the baby does not suck the breast within 30 minutes, and it will be challenging to increase the hormone (Kurniawaty et al., 2023). Age, parity, and low levels of education and information are the main variables contributing to the failure of exclusive breastfeeding. Other considerations include that most mothers do not get support from their partners and work in offices (Juniar et al., 2023).

If a baby is not breastfed, this will affect the child's intelligence, understanding, and confidence. Lack of antibodies will make newborns more susceptible to disease and malnutrition, and infant mortality rates will increase. According to previous studies, exclusive breastfeeding is associated with a reduced risk of pneumonia, otitis media, UTI, allergic disorders, and diarrhea in newborns. In addition, exclusively breastfed infants gain weight more easily and are less likely to grow obese (Ahmed et al., 2023). The mother-child bond and the child's mental development are also significantly impacted emotionally by breastfeeding (Apriyanti & Dhilon, 2022).

Therefore, prolactin and oxytocin hormones should be stimulated in postpartum mothers. Oxytocin massage is one method to prevent breast milk production failure. The results of research by Apreliasari & Risnawati (2020) based on the results of further statistical tests using the Wilcoxon Signed Ranks Test, breast milk production before and after oxytocin massage has a p-value = 0.035 ($p < 0.05$), which indicates that oxytocin massage has an impact on breast milk production. Another study by (Setiyowati & Rofika, 2022) found a relationship between breast milk secretion and oxytocin massage in primiparous postpartum mothers. The results of the chi-square analysis showed a p-value of 0.005 <0.05 and a chi-square value of 10.754. Of the 14 mothers (58.3%) who were primiparous postpartum and underwent oxytocin massage, most of their milk production was smooth.

The results of the preliminary study in 2024 showed that the number of postpartum SC mothers at Umar Wirahadikusumah Hospital was 2434 people. The oxytocin massage at Umar Wirahadikusumah Hospital has been applied, but not every day, and it is used for every patient. The purpose of this study was to determine the description of the application of oxytocin massage to increase breast milk production in postpartum sectio caesarea mothers at RSUD Umar Wirahadikusumah through a nursing approach by integrating EBN.

METHOD

This type of research is descriptive with a case report design through a nursing care approach that integrates EBN. The population of this study was postpartum sectio caesarea mothers. The research subject was a postpartum sectio caesarea mother. The research was conducted in the dahlia room of rsud umar wirahadikusumah. The research was conducted 4 days from November 12-15, 2024. Determination of the sample using accidental sampling technique with the inclusion criteria of postpartum SC mothers inpatient have not received oxytocin massage, willing to be respondents, and the baby can suckle / suckle. This

research instrument used a nursing care format, oxytocin massage SOP, and breast milk output observation sheet. Data collection procedures included observation, interview, intervention, document analysis, and physical examination. This study has passed the ethical clearance of the Ethics Committee Universitas Jenderal Achmad Yani Cimahi with decision letter Number 031/KEPK/FITKes-Unjani/V/2025.

CASE DESCRIPTION

The assessment was conducted on November 12, 2024, at 09.00 am, and from the results of the interview obtained data that the patient named Mrs. L, a 25-year-old woman, last education in junior high school, the work of a housewife with a medical diagnosis of P2A0 partus maturus with SC + placenta previa. The patient had a primary complaint: breast milk had not yet dripped. The patient said she had never done an oxytocin massage. The patient said there was no pain or fullness in both breasts, and the complaint was felt after delivery. The frequency of the baby's micturition is 5x/day; the baby looks unsatisfied and calm after breastfeeding. On physical examination of the breasts, it was found that the milk had not been released, and there was no pain or discharge in the breasts. In addition, there was a 15 cm long horizontal wound on the abdominal symphysis, no REEDA sign, and the wound was covered with a bandage. TFU was two fingers below the center. On the genitalia, there was 10cc of rubra lochae and no perineal rupture.

RESULT AND DISCUSSION

Bobak noted that 82% of postpartum mothers who underwent cesarean section experienced the problem of insufficient milk supply. This is due to prolactin and oxytocin production being inhibited by pain at the incision site. In addition, post-cesarean anesthesia may interfere with breastfeeding. When compared to mothers who give birth vaginally, most postpartum mothers who undergo cesarean section are unable to produce breast milk smoothly. Psychological problems and the effects of anesthesia on the mother are some of the causes (Widiastuti & Jati, 2020). According to previous studies, women undergoing cesarean section may have difficulty breastfeeding due to positioning problems, increased discomfort and fatigue, and anesthesia residue (Li et al., 2023).

The nursing diagnosis that is the main problem for Mrs. L is ineffective breastfeeding. Characterized by the main symptoms of the patient complaining that breast milk has not dripped, the baby is unable to attach to the mother's breast, the baby micturates 5x/day, and the baby cries when breastfed. The conclusion of this nursing diagnosis is taken based on the SDKI guidelines, which state that the main signs found in patients with ineffective breastfeeding are breast milk not dripping, the baby is unable to attach to the mother's breast, the baby micturates less than 8 times in 24 hours, the baby's intake is inadequate, and the baby cries when breastfed (PPNI, 2017).

This study applied oxytocin massage to postpartum SC mothers for 4 days, 2 times daily for 15-20 minutes. This supports Purnamasari & Hindiarti's (2021) study, which shows that skin-to-skin back massage with moderate pressure for 15 minutes increases oxytocin and decreases adrenocorticotropic hormone. On the first and second day after giving birth, oxytocin massage works best if done twice a day because breast milk has not been produced sufficiently during these two days (Zakiudin & Setiyaningsih, 2021).

The application of oxytocin massage was observed using an observation sheet containing 13 items to assess the smoothness of milk production. Before the oxytocin massage, the observation showed that breast milk did not express when the areola was squeezed, the breasts did not feel full before breastfeeding, and the baby was micturated 5 times in 24 hours. This showed that Mrs. L had decreased milk production, according to Indrasari (2019), who explains that the hormones prolactin and oxytocin, which are essential for smooth milk production, may not be sufficiently stimulated, which can result in decreased milk production in the early days after delivery. Research conducted by Blair (in Indrasari, 2019) showed that if infant sucking stimulation decreased, the milk supply of 95 postpartum mothers who breastfed their infants also reduced. Similarly, Pace's research showed that the lack of infant sucking also reduced the activation of oxytocin and prolactin hormones. Breast milk production is said to be not smooth if the milk production is characterized by milk that does not come out or drips and gushes profusely when sucked by the baby (Purwanti, 2010, in Widiastuti & Jati, 2020). According to Kristiyansari & Ambarwati (2010, in Widiastuti & Jati, 2020), several criteria are used as a benchmark to determine the amount of breast milk that is smooth or not, including those based on maternal and infant indicators.

Evaluation of the last day of oxytocin massage showed that breast milk came out when the airplane was squeezed, breast milk seeped through the nipple without being squeezed before breastfeeding, the breasts felt empty after breastfeeding, the milk came out as soon as the baby started breastfeeding, the baby micturated 8x/day, and the baby looked satisfied and calm after feeding. This indicates that Mrs. L experienced an increase in milk production. This is by the opinion of Tri Budiarti (in Permatasari & Qomar, 2019) that the smooth production of breast milk seen from the baby's indicators is micturition at least 6 times in 24 hours, clear yellow color,

baby sleeps quietly in 2-3 hours, defecation 2-5 times per day is golden yellow, the number of breastfeeding in a day is 8-12 times, and there is an increase in baby's weight.

This study shows increased milk production after applying oxytocin massage in postpartum mothers. This study aligns with research by Dewi et al. (2022), which concluded that the average amount of breast milk produced by postpartum mothers before getting an oxytocin massage was 0.3 cc. Still, the average amount produced after getting an oxytocin massage was one cc. This shows that oxytocin massage has an impact on breast milk production in postpartum mothers. Up to 16 respondents (80%) had breast milk fluency scores that fell into the "not fluent" group before receiving an oxytocin massage. Up to 18 responders (90%) who had an oxytocin massage had a breast milk fluency score in the smooth group (Pujianti & Widyastuti, 2025).

Massage on the back area stimulates the parasympathetic nerves, which play a role in calming the body and reducing stress. Signals from the parasympathetic nervous system are transmitted to the brain's hypothalamus, which triggers the posterior pituitary gland to release the hormone oxytocin into the bloodstream. Blood oxytocin induces the myoepithelial cells around the breast glands' alveoli to constrict. As a result of this contraction, the milk is forced into the lactiferous duct from the alveoli. This process causes an increase in the volume of milk produced (Widiastuti & Jati, 2020). The primary food source for the infant is breast milk, which is produced by the mother's breast glands on both sides. Breast milk is an emulsion of fat in a solution of protein, lactose, and organic salts.

A nonpharmacological application that can be used to increase breast milk output in postpartum mothers is oxytocin massage. Oxytocin massage is administered to help moms express breast milk while nursing. This massage efficiently promotes the release of oxytocin. By activating the spine muscles, this massage can enhance milk production by up to 11.5 times and lower cortisol levels by 28%. By stimulating the medulla oblongata, neurotransmitters instruct the hypothalamus to trigger the production of oxytocin hormone by the posterior pituitary gland. Reflex milk ejection can be stimulated, and tension and stress can be relieved by massage of the spinal muscles (Dağli & Çelik, 2022).

CONCLUSION

This study aims to explain the application of oxytocin massage to increase breast milk production in SC postpartum mothers through a nursing approach that integrates EBN. Based on the nursing assessment of Mrs. L, the main problem was found to be that the breast milk had not been released. Nursing diagnoses based on SDKI include ineffective breastfeeding. Interventions based on SLKI and SIKI include breastfeeding education with independent nursing interventions, namely oxytocin massage. Nursing implementation was carried out for 4 days, with a frequency of 2 times a day, and oxytocin massage was applied 15-20 minutes per day. The nursing evaluation showed increased milk production, characterized by breast milk that began to gush when the areola was squeezed, infant micturition increased to 8 times per day, and the baby looked satisfied after feeding. Thus, oxytocin massage effectively increases breast milk production through oxytocin hormone stimulation in SC postpartum mothers.

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