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THE APPLICATION OF OKETANI MASSAGE IN INCREASING BREAST MILK PRODUCTION IN POST-CESAREAN SECTION MOTHERS

Melafilani S[*1]
[1]*Academy of Nursing Kesdam Iskandar Muda Banda Aceh,Indonesia,*

* Corresponding Author: *filanimela@gmail.com*

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ABSTRACT

In post Sectio Caesarea mothers often experience problems with poor milk production. this is due to pain at the suture location which inhibits the production of prolactin and oxytoxsin which play a role in the smooth production of breast milk, to smooth breast milk production, nonpharmacological efforts are needed, namely with Breast care Oketani massage is a breast massage technique that focuses on the aerola and nipple area to stimulate the hypothalamus, adenohypophysis so that it secretes prolactin which can stimulate alveoli cells that function to make breast milk. The purpose of the case study describes the application of oketani massage in increasing breast milk production in post Sectio Caesarea mothers. The research method used is descriptive with a case study approach and data collection techniques through interviews and observations. This study was conducted with a sample size of 2 respondents with the criteria of mothers who gave birth with sectio caesarea, patients who were cooperative and willing to become respondents. This study was conducted on August 02 to August 16, 2023. The results showed that after the intervention of applying oketani massage for 3 days, breast milk production in respondent I increased from 7 ml to 85 ml and respondent II increased from 5 ml to 65 ml. Thus it can be concluded that the application of oketani massage can increase breast milk production in post Sectio Caesarea mothers. It is hoped that the community can increase the application of oketani massage as an alternative therapy in increasing breast milk production.

INTRODUCTION

Caesarean section (CS) is a surgical procedure to deliver a baby through an abdominal and uterine incision. In certain labor conditions, a caesarean section is necessary. Mothers who give birth via caesarean section often experience delays in colostrum secretion due to several factors. Breastfeeding difficulties in postpartum caesarean mothers are generally caused by postoperative pain, which disrupts maternal comfort and inhibits the function of the posterior pituitary gland in producing oxytocin, a hormone that plays a vital role in the lactation process (Putrianingsih & Haniyah, 2022).

The incidence and mortality rates of caesarean section have increased worldwide over the past five years. In the United States, one in every ten women who give birth each year has undergone a caesarean section. In Southeast Asia, the number of caesarean deliveries reached 9,550 cases per 100,000 births in 2016. In Indonesia, the rate of caesarean deliveries in 2016 was 912,000 out of 4,039,000 births, or approximately 22.8% of all deliveries (Damayanti, 2014). According to the 2018 Basic Health Research (Riskesdas), caesarean births in Indonesia accounted for 17.6% of 78,736 deliveries, with the highest proportion in Jakarta and the lowest in Papua. Recovery from CS requires more time, especially in terms of mobilization, which makes early initiation of breastfeeding more difficult (Putrianingsih & Haniyah, 2022).

Breast milk is an emulsion of fat in a solution of protein, lactose, and inorganic salts secreted by the mammary glands, serving as the primary food for infants (Maryunani, 2012). Adequate breast milk production is crucial to fulfill infants' nutritional needs. Lack of breastfeeding during the first 0–3 years of life can affect cognitive development and physical growth, leading to conditions such as: (1) delayed brain development, resulting in lower intelligence, (2) stunted growth, (3) weakened immunity, and (4) increased risk of allergies, asthma, obesity, digestive problems, dental and malocclusion disorders, iron deficiency anemia, hypertension, heart disease, and sudden infant death syndrome (Dorothy et al., 2022).

According to Widiastuti & Jati (2020), mothers who deliver via caesarean section frequently experience breastfeeding problems. Their study showed that 82% of CS mothers faced difficulties with milk production. These problems are often caused by pain at the incision site, which interferes with prolactin and oxytocin production (Bobak, in Widiastuti & Jati, 2019). Breast milk production is considered inadequate when it does not flow, drip, or spray effectively during infant suckling (Purwanti, in Widiastuti & Jati, 2019). Other contributing factors include improper breastfeeding positions, postoperative pain, limited mobilization, and mother–infant separation (Desnawati, 2013).

An imperfect let-down reflex can result in infants feeling unsatisfied and crying during feeding. This leads to maternal stress and discomfort, which further decreases oxytocin production. Babies who are not satisfied tend to suck harder, causing nipple injuries and increasing maternal discomfort, thus creating a vicious cycle (circulus vitiosus) that can result in breastfeeding failure (Machfuddin, in Rahayu & Yunarsih, 2018).

Anxiety also affects breast milk production. The release of adrenaline causes vasoconstriction of alveolar blood vessels, reducing the oxytocin that reaches the myoepithelial target cells of the mammary glands. This process, along with the release of noradrenaline in the central nervous system, inhibits the milk ejection reflex, ultimately decreasing milk production. Psychological support helps mothers gain confidence in their ability to produce sufficient milk (Rahayu, 2018).

Efforts to improve breastfeeding rates can be carried out using pharmacological and non-pharmacological methods. Pharmacological approaches are often expensive, while non-pharmacological methods—such as the use of medicinal plants (TOGA)—are more accessible (Yuliani et al., 2015). Another non-pharmacological method is breast care, which improves blood circulation and prevents blocked milk ducts, thereby facilitating breast milk flow (Astutik, in Sari & Syahda, 2020).

Breast care includes various lactation massages such as oxytocin massage, arugaan massage, marmet massage, and Oketani massage. Oketani massage is a specific lactation management technique designed to overcome breastfeeding problems such as low milk supply or engorgement (Machmudah, 2017). The technique consists of eight hand movements—seven involving separation of the mammary glands (retro-mammae) and one involving milk expression from each breast. This technique aims to help postpartum mothers through painless massage (Jeongsug et al., in Sari & Syahda, 2012).

Oketani massage helps mothers overcome breastfeeding difficulties by providing comfort and reducing postpartum pain. It relaxes the body, softens the breasts, areola, and nipples, and increases elasticity, making it easier for the baby to latch. The technique enhances milk flow by maturing and expanding mammary glands, thereby increasing the number of milk-producing cells and boosting milk production (Machmudah, 2017).

Research by Jahriani (2019) showed that prior to Oketani massage, 76.7% of mothers had insufficient milk production and only 23.3% had normal production. After Oketani massage, normal production increased to 73.3% while insufficient production dropped to 3.3%. Similarly, a study by Fatrin (2021) reported an increase in milk volume from 19 cc before Oketani massage to 25 cc after the intervention.

Based on assessment, Subject I, who delivered via CS, experienced breastfeeding problems. Examination revealed slightly protruding nipples and firm breasts, with milk volume at 7 ml when pumped. Subject II, who also delivered via CS, had similar problems, with slightly protruding nipples, firm breasts, and a milk volume of 5 ml when pumped.

RESEARCH METHODS

The data collection method used was a descriptive and observational approach to assess the increase in breast milk production before and after administering Oketani massage. This study was conducted on two postpartum mothers who had undergone Sectio Caesarea. The research employed an informed consent form for respondents, a Standard Operating Procedure (SOP), observation sheets, breast milk pumping, a measuring cup, and baby oil. The procedure was carried out directly by the researcher with the aim of observing breast milk expression after Oketani massage in postpartum mothers.

RESULTS AND DISCUSSION

The results of the case study before and after the implementation of Oketani massage intervention in postpartum mothers following Sectio Caesarea are presented in the table below, showing the evaluation of breast milk expression in both subjects:

Table 1. Increase in Breast Milk Production Before and After the Application of Oketani Massage in Subject I

No	*Subject I*	*Before (D1)*	*After (D5)*
1	Oketani Massage Intervention	20 ml	85 ml

Based on Table 1, after the implementation of Oketani massage, it was shown that on the first day the amount of breast milk expressed was still low at 20 ml, then increased to 50 ml on the second day and 85 ml on the third day in the postpartum mother.

Table 2. Increase in Breast Milk Production Before and After the Implementation of Oketani Massage in Subject II

No	Subject II	Before (D1)	After (D3)
1	Oketani Massage Intervention	14 ml	65 ml

Based on Table II, after the implementation of Oketani massage, the amount of breast milk expressed in postpartum mothers with cesarean section was 14 ml on the first day, 32 ml on the second day, and 65 ml on the third day.

DISCUSSION

The results showed an increase in breast milk production in both subjects before and after the implementation of Oketani massage, indicating that Oketani massage is effective in enhancing breast milk production. The authors assume that the application of Oketani massage is particularly suitable for mothers who experience obstacles in breast

milk production. As observed in both subjects, there was an increase in breast milk production. In subject I, before the intervention the amount was 7 ml, after Oketani massage on the first day it was 20 ml, on the second day 50 ml, and on the third day 85 ml. In subject II, before the intervention the amount was 5 ml, and after Oketani massage on the first day it was 14 ml, on the second day 32 ml, and on the third day 65 ml.

A study by Yasni et al. (2020) involving 35 postpartum mothers reported a significant effect ($p = 0.000$, $p < 0.05$). The study found that Oketani massage performed for 15 minutes with a frequency of twice daily significantly increased breast milk production. This was evidenced by the increase in infants' urination frequency, averaging 6–8 times daily after Oketani massage, compared with 4–5 times daily before massage. Oketani massage also improved milk flow, changes in nipple elasticity, and prevented breast engorgement. Oketani massage is a management skill to address lactation problems such as insufficient breast milk production and breast engorgement. It makes the breasts more supple and produces better quality milk with increased total solids, fat concentration, and gross energy content (Machmudah, 2018).

The massage movements and breast care in Oketani massage improve elasticity of the areola, lactiferous ducts, and nipples while stimulating the hypothalamus, which in turn stimulates the anterior pituitary gland to release prolactin. Prolactin stimulates the alveolar cells responsible for milk production. At the same time, stimulation continues to the posterior pituitary gland to release oxytocin. Oxytocin is carried by the blood to the breast, causing contraction of the myoepithelial cells. These contractions expel the milk produced by the alveoli into the duct system and out through the lactiferous ducts (Kabir & Tasnim, 2009; Anggraini, 2010; Guyton & Hall, 2014). Applying Oketani massage twice daily for three days can enhance breast milk production in post-cesarean section mothers, with production increasing gradually over the three-day period. Factors supporting the success of this therapy include frequency of intervention, breastfeeding position, education, family support, and maternal age. Both subjects routinely received Oketani massage twice daily for three days, 15 minutes each session.

The authors assume that Oketani massage has a significant effect, especially in post-cesarean section mothers, and that consistent application helps mothers adapt and increase milk production. Farida (2022) found that after Oketani massage for 15 minutes twice daily for three days, breast milk production in cesarean mothers improved significantly.

Breastfeeding position is another supporting factor. The authors assume that the correct breastfeeding position in both subjects contributed to the success of breastfeeding. The more accurate the position, the smoother the milk ejection. Laily (2022) reported a statistically significant relationship ($p < 0.05$) between breastfeeding technique and successful breastfeeding, with an OR of 3.300, meaning that mothers who breastfeed correctly are 3.3 times more likely to succeed compared to those who use incorrect techniques. Kristiyanasari (2011) emphasized that correct breastfeeding technique involves proper positioning and attachment, which maximizes milk ejection. Comfort in breastfeeding benefits both the mother and the infant, resulting in optimal milk production. Education is also a supporting factor. Both subjects had a high school education (SMA). The authors assume education level influences success, as higher education facilitates easier comprehension of health information. Frequent exposure to information about breastfeeding improves maternal knowledge. Laily (2022) found a significant relationship ($p = 0.040$, OR = 3.667), showing that mothers with higher education were 3.6 times more likely to breastfeed successfully than those with lower education. Similarly, Monika (2014) noted that higher education increases one's ability to absorb and utilize information, whereas low education may hinder responsiveness to new health knowledge.

Family support also plays a critical role. Subject II had less support from her family and husband, which may have negatively affected her milk production. Lack of support can lead to feelings of neglect and emotional distress, reducing milk output. Laily (2022) reported that husband's support was significantly associated with successful breastfeeding ($p = 0.030$, OR = 3.750). Friedman (2009) defined support as meeting the needs of others, including motivation and encouragement. Andarmoyo (2012) noted that emotional support from partners during pregnancy reduces emotional and physical symptoms, facilitates adjustment, and lowers delivery complications. Maternal age is another factor. Subject I (25 years old) produced more milk compared to subject II (27 years old). The authors assume that younger mothers within the optimal age range of 20–35 years tend to have better lactation capacity. Laily (2022) found that mothers within this age group had significantly higher chances of successful breastfeeding ($p < 0.05$). Monika (2014) and Ebrahim (1978, cited in Ida, 2012) also noted that women above 35 years may have regressive changes in the alveolar glands, reducing milk production.

Other factors affecting milk production in cesarean mothers include pain intensity, anxiety, age, education, sleep disturbances, and contraception. Both subjects experienced

pain at the surgical site. Pain can inhibit oxytocin release, reducing milk production (Pratiwi, 2016). Similarly, Brown (2016) noted that mothers with higher pain levels had reduced milk output.

Anxiety also plays a role. Subject II expressed anxiety due to being alone after her husband left, fearing she could not care for the baby. Anxiety reduces milk production, while emotional support from family, spouse, and healthcare providers can help mothers relax and produce more milk. Pratiwi (2016) and Mardjun (2019) both reported significant associations between maternal anxiety and milk output in post-cesarean mothers. Stress triggers adrenaline release, leading to vasoconstriction in the alveoli, inhibiting milk let-down reflex and causing engorgement (Soetjiningsih, 2014). Sleep disturbance was another issue, especially in subject II who struggled with rest due to caring for the infant alone. Lack of rest reduces milk supply, delays uterine involution, and can lead to depression and postpartum blues (Suhana, 2010). Contraceptive use also influences milk production. Subject I chose injectable contraception. The authors assume that the 3-month Depo Medroxyprogesterone Acetate (DMPA) injection is more suitable for breastfeeding mothers, as it does not interfere with milk production compared to monthly injections containing estrogen. Astuti (2020) found that mothers using 3-month injectables had higher average milk volumes (168.7 ml) compared to those using 1-month injectables (120 ml). Estrogen-containing contraceptives can suppress prolactin secretion, thereby inhibiting milk production (Saifuddin, 2003; BKKBN, 2007; Triyusna, 2016).

CONCLUSION

The application of Oketani massage in increasing breast milk production among post-cesarean section mothers. The results demonstrated an increase in breast milk production in both case study subjects.

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