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Efficacy of Oketani Massage and Therapeutic Massage among Lactating Mothers with Breast Engorgement

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ABSTRACT:

Introduction: Breast engorgement, a painful condition affecting large number of women in their early post-partum phase that cause discomfort to the mother and also interfere with the baby's ability to latch and nurse at the breast. **Aim:** To determine the effect of Oketani massage and Therapeutic massage among Lactating mothers with breast engorgement. **Methods:** A total of 70 post-partum mothers diagnosed with breast engorgement were included into the study. They were randomly allocated into two groups; Oketani massage (OK) group (n=35) received Oketani massage along with Therapeutic Ultrasound therapy while Therapeutic massage (TM) group (n=35) were treated with conventional massage technique along with therapeutic ultrasound therapy. Outcomes were assessed through Numerical Pain Rating Scale and SPSRBE scale and the value were recorded. **Results:** The study revealed that both the groups had a significant improvement in the outcomes while the OK group had better levels in reducing pain and tenderness when compared to TM group. The OK group showed a significant improvement in the outcome measures with $p < 0.0001$. **Conclusion:** From the results obtained it can be concluded that both the group has better improvement with the outcomes while the OK group has a significant change than the TM group. Hence this Ok technique could be a viable alternative for management of breast engorgements among post-partum mothers.

KEYWORDS: Breast engorgement, Lactating mothers, Oketani massage, Therapeutic massage, manual lymphatic drainage, post-partum nursing mothers

INTRODUCTION:

Breastfeeding is an important component of the post-partum phase for the well-being of the baby's physical and mental health [1,2]. However, in few cases, One of the nursing issues that women face in the early stages of lactation is breast engorgement, which is brought on by enhanced lactogenesis as a result of postpartum women's lower blood levels of steroid hormones and higher levels of prolactin [3].

Engorged breast is a typical issue that arises during the early phase lasting from days to weeks following breast feeding. About 65%-75% of lactating women reported having breast engorgement during their first pregnancy[4]. Breast engorgement is due to the accumulation of milk in the breast with either no proper emptying if he milk or over secretion of the milk that results in pain, oedema, and distension in the breast due to fullness preventing breastfeeding. When these issues are left untreated may lead to fissures in the nipple, ruptured nipple, mastitis, puerperal fever leading to termination of lactation[5].

A decrease in milk production and reabsorption results from alveoli compressing and distending the milk ducts, which clogs the milk's outflow and causes more obstruction. The increased circulation of blood and lymph when milk is consumed is another theory of engorgement that has been proposed. This causes discomfort and swelling. Milk excretion is decreased and engorgement is enhanced as a result of collecting ducts being filled rather than discharged[6]. In the early phases of nursing, mothers breast generate little amounts of colostrum, yellowish liquid rich in critical nutrients and

antibodies that a newborn need immediately after birth; however, after a few days, they begin to produce more milk. The first step to healthy nutrition is starting to breastfeed successfully, which is also a unique gift for the mother and child. [7].

When there is overfilling of the milk in the ducts and when there is lack of proper breast feeding or expression of milk either manual or by breast pumps may results in rigid, puffy, and painful breasts leading to mastitis, decreased milk output, damaged nipples, and premature weaning leading to breast engorgements[8,9]. Extreme breast engorgement can be extremely uncomfortable for moms and make it difficult for a baby to nurse at the breast[10]. The prevalence of breast engorgement and its related aspects may be influenced by the fact that few studies have shown that primipara postpartum moms know less about caring for their newborns than multipara postpartum mothers[11]. Research has indicated that expectant mothers lack sufficient knowledge and comprehension of the expression and storage of breast milk, which should be addressed in the prenatal sessions[12,13]. The usage and storage of expressed breast milk has been promoted as a successful strategy, particularly for working moms who must return to their jobs after giving birth. [7].

Breast engorgement, which affects nursing moms in the early postpartum period, is still treated with traditional methods to provide an instantaneous type of pain alleviation and discomfort[14,15]. One of the main causes of early breastfeeding discontinuation is the discomfort and tenderness brought on by engorgement, and research is still ongoing in a few areas of breastfeeding myths[16,17]. Application of hot water bag as well as cold compression methods on engorged breast area were one of the immediate and oldest way of management for breast engorgements [18-22]. Even supplementary herbal intakes are initiated to accelerate milk production and to sustain breast feeding to resolve issues related to engorgements[23]. A recent study found that mothers who are engorged get significant relief from acute breast discomfort while receiving therapeutic breast massage in their place of work throughout lactation[24]. Research has demonstrated that using the "reverse pressure softening technique" decreased the frequency of breast engorgement by encouraging tissue repair and easing pain and suffering in the engorged breast area. [25].

There are many physiotherapeutic treatments available for the treatment of engorgements such as massage, hod and cold compression techniques, ultrasound therapy, K- tapping technique and lymphatic drainage[17,26-30]. Breast massage can help with pain management and the symptoms of illnesses that lead to nursing cessation[17]. Traditionally, primary, or manual, procedures are the most often used methods for treating breast engorgement. These methods can be applied by the nursing woman, nurse or by an obstetric & gynecological physiotherapist[31,32].

“Oketani breast massage” is an efficient, easy form of massage application technique that addresses breast feeding issues even though its impact and support on successful breastfeeding for new mothers are still unknown[33]. The massage helps to soften the breast tissues thereby increasing the elasticity of the nipples and areola, which facilitate the baby's ability to feed. It is because the alveoli are prioritized that the milk flows more smoothly. Interesting findings have been found that Oketani massage could influence breastfeeding support and results, specifically for infant latching, audible swallowing, nipple type, and breastfeeding positions. But it's crucial to take into account the larger context of breastfeeding assistance, particularly for moms who have had cesarean sections[34]. Breastfeeding and its maintenance can be particularly difficult after a cesarean delivery for a variety of reasons, including potential separation from the baby, delayed skin-to-skin contact, and postoperative healing concerns. Since cesarean sections are one of the major risk factors for breastfeeding issues, it is imperative that healthcare providers give these moms complete support[34,35]

Therefore, this study attempts to evaluate the effectiveness of Oketani massage technique in conjunction with therapeutic massage technique for the treatment of breast engorgement.

MATERIALS AND METHODS:

A total of 70 mothers admitted for delivery following postpartum care at Saveetha Medical College and Hospital, Chennai was recruited in the study. Primiparous postpartum and Preterm primiparous mothers of age between 20- 40 years, with either normal vaginal delivery, caesarean section, or induced labor with a gestational period of between 37 and 42 weeks without any congenital anomaly, who were breast feeding, complaining of breast tenderness and pain, were included in the study. Mothers who had complications during pregnancy, labor and delivery, and postpartum complications were

excluded from the study. The mothers were randomly allocated into groups of Oketani Massage group (n=35) treated with Oketani massage technique and the therapeutic massage group (n=35) treated with the conventional massage technique. To all the mothers the study procedure, purpose, benefits and disadvantages was explained and informed consent was obtained. Outcomes were assessed through "Numerical Pain Rating Scale(NPRS) and Six point Self - Rated Breast Engorgement Scale (SPSRBE)" as pre-test value and the same was recorded as post-test after a period of seven days.

Every study procedure was carried out in compliance with the Institution's and the Declaration of Helsinki's ethical guidelines. The Institutional Review Board of Saveetha College of Physiotherapy, Saveetha Institute of Medical and Technical Sciences, gave its approval to the study,with ISRB Number: 04/019/2023/ISRB/SCPT.

PROCEDURE

Subjects diagnosed with breast engorgement were taken for the study from SMCH after getting consent. The baseline evaluation was done using "NPRS" scale and "SPSRBE" scale.

Oketani massage group (OMG): The subject was positioned comfortably in supine with the treatment part being exposed. Moderate pressure manipulations were applied over the tender area of the breast moving towards the pectoralis major fascia. Oketani breast massage focuses on retromammary space-separating techniques and milking technique for both the breasts for 30 minutes of duration. The therapist used both of her hands over the entire breast with two thumbs down in order to apply the pressure manipulation. The entire breast is compressed in the direction towards the umbilicus. Through this technique the tough areas of the breast were released[14]. Then the breast was gradually rotated in a clockwise direction while stretching its base, later the curdled milk was extracted from the affected breast by applying pressure staring from outer, inner, lower and upper periphery aspect of the breast area for 12 minutes .[7,27].

Therapeutic massage group (TMG): The subject positioned comfortably in a relaxed position. A small amount of oil or Vaseline used for lubrication was applied over the areola of the engorged breast. Small circular motion with firm pressure was applied over the breast. Light tapping of the breast with the tips of the fingers and firm kneading of the breasts with the knuckles of the hand was applied. The milk was scooped out in between the massage to release the engorgement The frequency of massage was reduced to 1-2 times for every 3-4 times once the milk begins to flow for 12 minutes[28].

Outcome Measures:

Breast Pain – Breast pain during the postpartum phase is to understand and master the technique of breastfeeding which at times lead to breast pain and breast engorgements due to improper feeding and latching techniques. "Numerical Pain Rating Scale used to measure breast pain. The scale used for measuring breast pain yields a value obtained for severity of pain felt by the subject on a 10cm horizontal line. The scale ranges from 0 as no pain and 10 as the worst pain[32]."

"Breast Engorgement – Engorgement was assessed by a 6-Point Self Rated Engorgement Scale[29] (SPSRBES) rating from 1 to 6

1- being soft, no change
2- being slight change
3- being firm, non-tender
4- being firm, beginning tenderness
5- being firm, tender
6- being very firm, very tender

(Any measure of 3- firm, no tender or more after baseline was the threshold for this subjective rating)"

RESULTS:

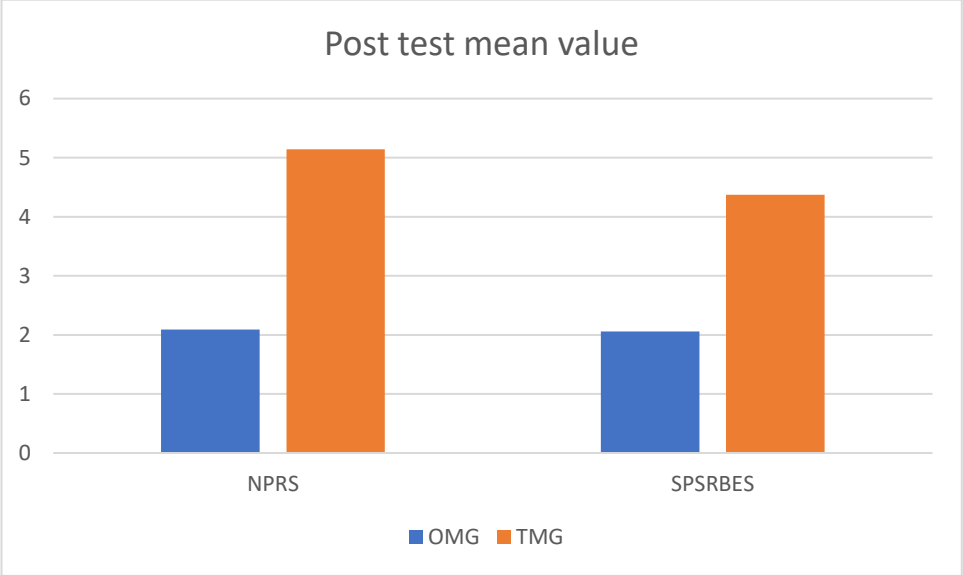
The post mean value for NPRS scale was 5.14 and the Six-point self-rated engorgement scale is 4.37 in Therapeutic massage group whereas the post mean value for the NPRS scale was 2.09 and the engorgement scale was 2.06 in Oketani massage group. The post-test 't' values between the groups for NPRS was18.3351 and SPSRBES was 15.0615 with 'p' value of <0.0001resulting in significance between the groups (Table 1).

Table 1 – Post-test mean values for NPRS and SPSRBES for OMG and TMG group

Parameters	OMG (mean ±SD)	TMG (mean ±SD)	t value	p value
NPRS	2.09 ± 0.66	5.14±0.73	18.33	<0.0001
SPSRBES	2.06± 0.48	4.37±0.77	15.06	<0.0001

Abbreviations : SPSRBES- Six Point Breast Engorgement Scale ,OMG-Oketani Massage Group,TMG- Therapeutic Massage Group and NPRS- Numerical Pain Rating Scale .

Charts



Graph 1 – Post-test mean values for NPRS and SPSRBES for OMG and TMG group

DISCUSSION

The breastfeeding moms' self-reported responses were used to diagnose breast engorgement in this study. According to the previous study, approximately 65–75% of nursing moms experienced breast engorgement because they are likely to have some degree of breast discomfort in the first two weeks after giving birth, and possibly for a longer period of time[6]. Breast engorgement, also known as breast milk dam, can result in painful and swollen breasts due to a variety of causes, including insufficient breast emptying or anomalies in the nipples. The back pressure and back flow of milk production has to be avoided from developing and eventually reducing milk production to prevent engorgements[30] . The issue can be resolved by frequent and exclusive breast feeding as the baby nursing is the most successful and effective tool for sucking out the milk. Breast massage and manual approaches help alleviate the blockage of leftover milk in the ducts, which can lead to curdling and engorgements, if the baby is not sucking effectively due to sleepiness or poor latching[35]. The 'SPSRBES' and 'NPRS' are valid diagnostic tools and reliable measure used for measuring breast engorgement and pain [36,37].

Oketani massage, a novel approach to breast care, aims to enhance nursing and ease postpartum discomfort. It helps postpartum moms to overcome the challenges of nursing by concentrating on relaxation and pain alleviation, in contrast to traditional breast massage[33]. It emphasizes the value of treating both the physical and emotional components of

postpartum care with its all-encompassing approach to breastfeeding assistance. The massage focused on stroking both the the areola and the base of the breast that influences lymph flow and circulation, and it can lessen breast milk stasis without unintentionally having any negative effects. By inducing the oxytocin/milk ejection response, it can even lessen the discomfort associated with breast congestion and improve the success of nursing [38]. Breastfeeding success rates are positively impacted by oketani massage, which also prolongs breastfeeding sessions. Pain can be reduced by non-pharmacological methods including better nursing practices, traditional breast care (such as massage and hot compresses), and manual techniques[21,22,26]

Non-thermal ultrasound therapy appears to be a viable treatment for engorgement, although more investigation may be required to clarify these differences and establish reliable results[38]. NPRS, SPSRBES were the outcome tools employed in the study to assess the results with regard to breast engorgement and breast pain. There were significant improvements observed in both the group imply that the effects of therapeutic ultrasound along with manual technique may be brought on by a number of variables. It is evident that physical therapy interventions including massage, education and counselling, and therapeutic ultrasound are frequently used to treat breast discomfort in nursing mothers. Nevertheless, there appears to be a knowledge gap about these therapeutic alternatives among postpartum mothers. It's possible that many women are not aware of the advantages physical therapy interventions as they are mostly prescribed with antibiotics or told to use human milk expressed actively to relieve their discomfort. This underscores the significance of increasing knowledge on the array of treatment alternatives accessible for breast discomfort during nursing among medical professionals and recent mothers.

General knowledge that educational initiatives can be a useful means of addressing breast discomfort following childbirth. Enabling women with the right knowledge and skills- like positioning and latching-on can help them breastfeed their babies properly, decreasing the risk of engorgement and boosting their self-assurance in the process of nursing. Up to six months of successful breastfeeding have been linked to educational programs that improve self-efficacy and nursing practices, as well as better postpartum adjustment helps in recovery. Maternal and newborn health and well-being can benefit greatly from providing moms with the information and abilities to handle breastfeeding difficulties.

CONCLUSION

From the results obtained in the study were concluded that both the group showed significant improvement while Oketani massage shows significant effect on Breast engorgement among lactating mothers compared to the Therapeutic massage which can be used as an adjuvant method for the treatment of engorgements.

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CONFLICT OF INTEREST

The authors declared no conflict of interest.

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