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The Effect of Massage and Acupressure on Breast Engorgement: A Review

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Abstract

Background: Breast engorgement is a postpartum problem in postpartum mothers; more than two-thirds of women develop it. Therefore, various complementary medicine techniques are used to decrease severity of breast engorgement. We aimed to determine the effect of massage and acupressure on severity of breast engorgement in lactating mothers.

Materials and Methods: In this review, the search process for clinical trials of massage and acupressure on breast engorgement in lactating mothers was carried out systematically on the databases of Medline, Web of Science, EMBASE, Cochrane and Scopus. The single and combined keywords of (Breast Hyperemia OR Breast Engorgement OR Treatment OR Therapeutics OR Therapy OR Lactating) AND (Acupressure OR Massage), without time restriction from inception up to February 10, 2019 were searched. Two reviewers did study selection.

Results: Finally, six studies were included (with 581 participants). The findings of four studies showed that acupressure has positive effects on breast engorgement. In one study, an intervention protocol consisting of pamphlet and video preparation, massage (once a day for two days), breastfeeding training, counseling and support resulted in a greater reduction in breast size, lower sodium levels in breast milk, and greater breastfeeding than the control (no intervention) group. Another study showed that the decrease in breast engorgement intensity in the breast Oketani-massage group was significantly greater than the control group.

Conclusion: A supportive approach can be used to improve mild breast engorgement, and both acupressure and massage can be used to treat moderate and severe breast engorgement. Therapeutic measures can be accomplished alone or in combination with pharmacology.

Key Words: Acupressure, Breast Engorgement, Massage, Lactating Mother.

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1- INTRODUCTION

Breastfeeding is an art and needs skill (1), which plays an important role in providing food safety to a large portion of infants in the world (2), and is the best way for maternal health and growth of a healthy infant. The World Health Organization (WHO) recommends that the infants should be exclusively breastfed for the first six months of life. However, some of the problems that occur in the early postpartum period have a negative impact on sucking and breastfeeding. Therefore, early detection and resolution of breastfeeding problems observed in the postpartum period are essential for maternal and infant health (3, 4). According to the WHO, about 98% of mothers should be able to exclusively breastfeed their babies up to 6 months (1). Some of the common disorders of breastfeeding in the first days after birth include low milk volume, nipple pain and injury, breast engorgement, and other more serious problems such as mastitis (1).

Breast engorgement has been introduced as the third maternal factor affecting breastfeeding cessation (5). Studies showed that up to 92% of primiparous mothers have trouble in breastfeeding (2). Breast engorgement is one of the postpartum problems among breastfeeding mothers, which often occurs between 3-5 days postpartum, and affects more than two-thirds of women by the fifth day after delivery, as well as up to 9 and 10 days after delivery in some women (5). As a normal process, mother's breasts are full of milk almost two days after giving birth, which causes heaviness and swelling of the breasts; under normal conditions, the breasts should not be stiff and painful. A sudden increase in milk volume during the puerperal period, lymphatic and vascular density and increased interstitial fluid of the breast may develop breast engorgement in the mother (6), which may affect the area around the nipple and areola or entire breast, and may damage one or both breasts. Following breast engorgement, the swelling around the nipple may make the baby unable to feed successfully, and this may worsen the engorgement. If the mothers are concerned about having enough milk, or pain and swelling of the breast, this problem may become complicated and discourage women from continuing breastfeeding. In addition, the mothers may receive limited advice and support from health professionals; absence of awareness in managing this condition can worsen it (7).

The breast engorgement can lead to breast abscesses (8). Non-pharmacological treatments for breast engorgement are becoming increasingly prevalent (9, 10). Some recommended non-pharmacological interventions in breast engorgement include proper breastfeeding training, frequent breastfeeding, and use of cold compresses on the breast during lactation intervals (11), use of warm compresses immediately before breastfeeding (11-14), whole-breast massage by hand (5), and acupuncture (15, 16). Nevertheless, due to the side effects of medications, acupuncture is recommended in this regard (2). Selection of the correct points to stimulate is very important in acupuncture. Acupressure is one of the complementary therapies, and is based on the principles of acupuncture. In this review, we aimed to determine the effect of massage and acupressure on the severity of breast engorgement in lactating mothers.

2- MATERIALS AND METHODS

2-1. Search strategy

In this review, all clinical trials and non-clinical trials evaluating the effect of massage and acupressure on breast engorgement of lactating women were searched on the electronic databases of Scopus, EMBASE, Cochrane, Web of Science and Medline (via PubMed) with no language or time restrictions (up to

February 10, 2019). The single and combination keywords of: (Breast Hyperemia OR, Breast Engorgement OR Treatment OR Therapeutics OR Therapy OR Lactating) AND (Acupressure OR Massage), and their Persian synonyms and all their possible combinations, were searched in the national databases (Magiran, SID, and Iran.Doc). Two independent researchers performed the search process and a supervisor resolved any discrepancies in this regard.

2-2. Included studies

Randomized controlled trials (RCT), clinical studies both randomized and nonrandomized either retrospective or prospective. Due to the limited number of published RCT in the literature, other types of clinical studies were included. Pilot, preliminary and case report studies were not included due to the limited sample size and the higher risk of bias. Studies published in Persian and English up to February 10, 2019.

2-3. Selection process

Two reviewers, initially reviewed the abstracts of searched articles, downloaded their full texts to review carefully, then chose the relevant studies independently. Finally, the articles that met the inclusion criteria were enrolled in the review, and relevant references were reviewed to find further studies. The third reviewer resolved any discrepancies.

3- RESULTS

Finally, six studies with 581 participants were included in this review. In one study, the participants were 205 mothers with inflammatory symptoms of the breast during lactation. The mothers were randomly assigned to one of three treatment groups, two of which included acupuncture in the care interventions and one involving the use of oxytocin nasal spray. Significant differences were found in the mean Severity Index (SI) on contact days 3 and 4 between oxytocin nasal spray group and the two acupuncture groups (15). In the second study, eight mothers were randomized into three treatment groups. All three groups were given advice regarding emptying of the breasts and care in the form of comfort interventions. The acupuncture was included in the treatment regime for two of the groups and the oxytocin nasal spray in the third group. Mothers in all groups expressed relative satisfaction with the breastfeeding situation despite considerable discomfort. There was no significant difference between the groups (16). In the third study, the patients were randomly divided into two compress group and acupressure group. The score of hyperemia intensity in both left and right breasts showed a significant decrease in the compress group (hot and cold) than in the acupressure group (7). A randomized controlled trial was conducted on 54 postpartum women with breast engorgement. The Gua-Sha protocol selected appropriate position of acupoints, which included ST16, ST18, SP17 and CV17. Each position was lightly scraped seven times in two cycles.

The researchers used hot packs and massage for 20 minutes in the control group according to recommendations given in an obstetrical technique textbook. Body temperature, breast temperature, breast engorgement, pain levels, and discomfort levels were statistically different between the 2 groups at 5 and 30 minutes after intervention ($p<0.001$). The results of generalized estimating equation analysis indicated that all variables, except for body temperature, remained more significant ($p<0.0001$) to improve the engorgement symptoms in the experimental group than those in the control group, after taking related variables into account (17). Cho and Ahn (2014), in a pre/post-test study without homogenization with the control group, aimed to provide a program to improve

breastfeeding and examine the effects of this program on breast discomfort, breast size, sodium levels in breast milk and method of breastfeeding in mothers with breast engorgement after cesarean section. They showed that the intervention program, including pamphlet and video preparation, breast massage (once a day for two days), breastfeeding training, counseling and support, resulted in greater breast size reduction, lower sodium levels in breast milk and greater breastfeeding compared to the control group (no intervention) (18). This clinical trial was performed on 94 breastfeeding women with breast engorgement in the first to fifth days postpartum, who were assigned to two groups of breast Oketani-massage and conventional care. The intensity of engorgement was determined with the standard engorgement intensity index. Both groups received treatment twice in two consecutive days. The mean engorgement intensity was decreased after intervention in the right and left breasts in the Oketani-massage and control groups; but there was a significant difference in the mean engorgement intensity of both breasts between the two groups, so that the decrease in the breast engorgement intensity in the breast Oketani-massage group was significantly more than in the control group, and the breast Oketani-massage reduced the breast engorgement intensity after childbirth faster and more effectively than conventional care (5).

4- DISCUSSION

In this review, we aimed to determine the effect of massage and acupressure on severity of breast engorgement in lactating mothers. The findings of four studies (5, 7, 15, 16) showed that acupressure has positive effects on the breast engorgement. In one study, an intervention protocol consisting of pamphlet and video preparation, breast massage (once a day for two days), breastfeeding training, counseling and support resulted in a greater reduction in breast size, lower sodium levels in breast milk, and greater breastfeeding than the control group (16). Another study showed that the decrease in breast engorgement intensity in the breast Oketani-massage group was significantly greater than the control group (5).

According to the principles of acupuncture, a disease is caused by an energy imbalance. Therefore, the needle must be inserted at certain points in the body to correct this imbalance. These points are along the meridians that supply energy to all parts of the body. These points are not necessarily close to the affected limb. Activating these points seems to release energy. There are 12 main meridians in the body, including gallbladder meridian. Gall21 is one of the meridians of gall bladder. This point is at the highest part of the shoulder that lies between the shoulder protrusion and the acromion, which is one of the most important points in the treatment of breast disorders (7, 19).

Findings from acupressure studies on breast engorgement showed positive effects, but contradictory results have also been reported. Some of the reasons for this discrepancy include differences in sample size and the number of times acupuncture is used to treat breast engorgement, indicating a further decrease in the breast engorgement intensity with continued intervention. Presumably, due to the continued stimulation of acupuncture points, the vital energy flow in meridians is intensified and has stronger therapeutic effects (7). Previous studies have shown that the reason for decreased breast engorgement intensity due to areola and total breast massages can be attributed to the effect of massage on the blood flow and lymph nodes in the target region; and the stimulation of milk leakage reflex, as well as milk flow due to pressure on the nerves concentrated in the center of the areola and the nerves in the nipple

engorgement point. The milk flow by stimulating this leakage reflex affects one of the areas of engorgement that is the accumulation of milk in the breast (5, 20). Common methods for reducing breast engorgement include pharmacological and non-pharmacological approaches. Medication has specific drug side effects and should be adjusted when breastfeeding. However, most non-pharmacological methods require the use of tools, time, and cost, and there is still no single way to reduce congestion without the problems mentioned. In some studies, some herbal medicine such as Mint and sage are used for breast engorgement (21).

5- CONCLUSION

Given the growing popularity of non-medicinal methods and the low cost of these techniques, the use of massage and acupuncture can be a useful and low-cost option along with routine treatments to reduce breast engorgement. A supportive approach can be used to improve the mild breast engorgement, and both acupressure and massage can be used to treat moderate and severe breast engorgement. Therapeutic measures can be accomplished alone or in combination with Pharmacology. The breast Oketani-massage reduced the breast engorgement intensity after childbirth faster and more effectively than conventional care. The physiological effects of massage are exerted through impact on blood flow, nervous system and altered body metabolism. Mechanical stimulation during massage works by affecting the central nervous system and blocking the ascending neural pathways (A delta and C fibers) as an analgesic. The massage also leads to the secretion of central analgesic substances including enkephalins and endorphins from the midbrain. These substances prevent the secretion and release of neurotransmitters and inhibit pain sensation by penetrating the dorsal horn of the spinal cord. Future studies should evaluate the combined effects of massage and herbal essential oils.

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7- CONFLICT OF INTEREST: None.

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