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Effect of Acupressure and Affirmation Relaxation on Breast Milk Production and Breast Feeding Self-Efficacy

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ABSTRACT

Introduction: *Current evidence from studies and systematic reviews indicates that breastfeeding is the gold standard for newborn nutrition, which is good for mom and baby. Increased human resource development, better baby development, and higher survival rates are all benefits of breastfeeding. Compared to infants given formula, those who breastfeed for longer periods of time had better health outcomes, fewer cases of dental malocclusion, and greater intelligence levels. Breastfeeding may also protect children from developing diabetes and obesity, according to the evidence.*

Material and methods: *Sixty healthy primiparous mothers suffering from scanty milk secretion were participated in this study. They wear selected from outpatient clinic of Al Azhar University Outpatient Clinic. The individuals' ages varied from 20 to 30 years old, and their BMI was below 30 kg/m2. The following conditions were not present in any of the participants: postpartum hemorrhage, poor mammary growth, cardiopulmonary disease, diabetes mellitus, breast tumors, recurrent pregnancy while breastfeeding, mental disorders, history of chest, breast, or surrounding area surgery, anemia, having twins, or medication that prevented them from nursing normally (such as mastitis, a retracted, cracked, inflamed, or inverted nipple). There were an equivalent number of women in the study group (A) and the control group (B) who were selected at random to participate.* ***Study group (A):*** *involved 30 healthy primiparous mothers suffering from scanty milk, were given a four-week course of acupressure at the subsequent points: Spleen 6 (Sanyinjiao), Liver 3 (Taichong), and Small Intestine 1 (Shaoze), and positive relaxation techniques in addition to medical therapy.* ***Study group (B):*** *consisted of 30 healthy primiparous mothers suffering from scanty milk, received medical treatment only (10 mg domperidone 3 sessions a day after meals all through the treatment period) for 4 weeks. Assessment of the degree of improvement in the flow of milk, Serum prolactin level and the weight of the baby were performed before and after the end of the treatment procedures (4 weeks) for both groups (A&B) before and after 4 weeks of treatment.*

Result: *Study group (group A) had statistically significant greater post - treatment values ($p<0.05$) of baby weight and prolactin concentrations in comparison with control group (group B), and no statistically significant difference ($p>0.05$) among both groups (A&B) in the pre-treatment values in baby weight and prolactin concentrations.*

Conclusion: *Combining affirmation relaxation and acupressure has an impact in improving milk production as well as breastfeeding self-efficacy.*

Keywords: *acupressure, affirmation relaxation, breast milk, breastfeeding*

INTRODUCTION

The physiological process of lactation, in which milk is secreted from the breasts, is complicated. According to Lyons et al. (2020), for breastfeeding to be a success, mothers need to be in excellent mental and physical health and have the purpose to breastfeed. A baby's optimal natural nutrition is breast milk. It has the most bioavailability, is nutrient dense, and is easy for the infant to digest and absorb. Breast milk also helps to avoid allergies and infections since it includes several anti-infectious components. Research conducted by Bao et al. (2023) indicates that breastfeeding is a crucial factor in promoting aristogenesis. Human breast milk is completely different from any other feeding preparation, human milk is the optimal option for infants.

Breast milk is the basis against which all other feeding techniques should be compared, with regards to their effect on growth, health and development, as awell as all other long term and short term effects. Furthermore, compared to preterm children given formula, those breastfed experience considerable advantages in terms of host protection and better developmental outcomes (Di Mattei et al., 2023). Children who are breastfed are up to 30% less likely to be overweight or obese if they are nursed exclusively for over six months (Mohapatra, 2020). It also makes it easier for mothers to return to their pre-pregnancy weight, as the production of breast milk burns calories. According to Korpela et al. (2020), breastfeeding minimizes the negative impact of a Caesarian section on respiratory outcomes, allergy risks, and the possibility of developing Type 1 diabetes. It is essential to start breastfeeding during the first week after delivery. According to Ma et al. (2020), lactation typically begins with very little milk production in the first two days after giving birth, but responds to the decrease in progesterone by increasing significantly in the third and fourth days. Delays in the onset of lactation (OL) are associated with a sevenfold increased risk of excessive weight loss in the 1st week of life compared to babies whose mothers start breastfeeding at the normal period. Delays in OL can affect as many as 33% of primiparas but just 5% of multiparas. The likelihood of a delayed OL increases in cases of caesarean section, prolonged labor, the use of drugs by the mother, and maternal age equal to or more than 30 years (Mann and Zhang, 2014). Breast milk production can begin before delivery in some moms, but it can be very inadequate or absent in others; it might be abundant at first, but later decrease, be rejected by the infant, or cause health problems for the newborn (Griffith, 2012). According to Bao et al. (2023), a fundamental feature of many traditional medical systems, including TCM, is a more comprehensive view of how organisms work and when they aren't. According to this School of Traditional Chinese Medicine (TCM), inadequate milk production can be caused by an imbalance in the body's energy flow, or qi, which can manifest as either a deficiency of qi in the spleen (pi qi xu) or stagnation of qi in the liver (gan qi stagnation). The breasts are swollen but not flowing when there is a spleen deficiency, and they are mushy and produce insufficient milk when there is liver stagnation or blockage (Farah et al.,2021).

The diagnostic criteria were developed in accordance with the standards for low milk production outlined in The Guiding Principle for Clinical Research on New Chinese Drugs. Grading milk production problems can be classified into mild, moderate and severe. A mild case is one in which the mother is able to produce enough milk to feed her infant for two thirds of the time; a moderate case is one in which she can produce enough milk for one third of the time; and a severe case is one in which she produces practically no milk at all. Fleckenstein (2020) cites a number of writers who have suggested herbal medicine, acupuncture, and massage as effective treatment options for inadequate milk production. It is difficult to draw conclusions on the efficacy of these therapies for low milk production due to the lack of high-quality research in this field (Kaya et al., 2018). TCM identifies each vital organ as yin or yang, between which flows Qi or life force energy. The Qi flows are referred to as meridians and play an important part in maintaining balance in the body (Ahmed et al., 2020). The meridian system is the basis for traditional Chinese medicine, which states that acupuncture points should be placed on certain parts of the body. The restoration of balance to the disrupted energy "Qi" occurs when various techniques are used to activate those points. In the course of any disease, the acupuncture sites' electrical resistance will decrease. Stimulation of these points will help alleviate disease as the energy balance will be preserved (Bhagat, 2004). Acupuncture is believed to affect the flow of energy by stimulating certain acupuncture sites along specific meridians, in order to attain a balanced equilibrium among one's physical, emotional, and spiritual selves (Maged et al., 2019). Needleless stimulation were used to get the same result. These needleless techniques offer the advantage of being non- invasive and, therefore, non-traumatic. Individuals who are scared of Needles have an intuitive preference for such techniques, for example, children, the frail, and the elderly. Being non-invasive there is no risk of infection or bruise. Traditional Chinese medicine includes acupressure, that is a combination of acupuncture and non-pharmacological treatments that involves applying pressure to certain areas of the body in coordination with their corresponding acupuncture sites. Utilizing fingers or blunt instruments that are not harmful to any parts of the body, the non-invasive method focuses on acupuncture points with no needles. This can have a suppressive impact, making it more acceptable by patients compared to acupuncture with needles. Acupoints

CV17, ST18, as well as SI1 are utilized to enhance milk production. Sulymbona et al. (2020) notes that researchers have shown an interest in studying the effects of acupressure treatment on postpartum women' production of milk. Through its effects on certain brain regions and the stimulation of beta-endorphin in the brain and spinal cord through neurotransmitters, acupressure treatment has the potential to elevate endorphin amounts in the blood and throughout the body. Acupressure points have a stimulatory action that can trigger the release of chemicals that block pain signals sent by neurons to the brain and activate a humoral transmitter. The pituitary gland secretes endorphins, that are opiates that the body uses to alleviate pain, influence memory and mood, provide a calming and pleasant sensation, and even raise prolactin levels (Sulymbona et al., 2020). An approach to nursing confidence that emerged from the concept of self-efficacy is known as breastfeeding self-efficacy. Mothers' confidence in their own abilities to breastfeed is known as breastfeeding self-efficacy. Breastfeeding onset and maintenance are influenced by the mother's reaction to her baby's feedings, which includes both mental and physical effort. The most successful theory of social change to enhance the rate of exclusive breastfeeding was self-efficacy of breastfeeding, which promotes breastfeeding covering (Arumsari et al., 2018). Physical and mental relaxation can be achieved by the practice of affirmation relaxation, which involves a combination of breathing exercises and the systematic repeating of a positive phrase (Suarilah & Lin, 2022). Arumsari et al. (2018) found that deep breathing exercises may have a number of health benefits, including better human resource, management of stress reduction, and homeostasis maintenance and recovery via increased beta-endorphin, IgG, as well as blood sugar production. Repetition of short, positive statements is an affirmation technique for building one's self-confidence. The physiological reaction to stress might be reduced, and daily stress could be better managed with the aid of repeated affirmations. Arumsari et al. (2018) found that affirmations have the potential to boost confidence as well as belief in one's ability to handle a certain scenario and bring about favorable outcomes.
Therefore, this study was to done to determine the impact of acupressure along with affirmation relaxation on milk production in addition to breast feeding self-efficacy.

MATERIALS AND METHODS:

Participants:

An overall of 86 premenopausal women with dyslipidemia participated in this study. Referral of patients was done by a gynecologist. Firstly, 86 people were assessed for eligibility. Before the start of the program, an informed consent session was held after explaining the study purpose and procedure to the patients. Then 80 participants signed the informed consent to join the study, where six patients declined to participate. Finally, 60 patients completed the study program. The data of the 60 participants were included in the analysis. Utilizing a closed envelope random assignment technique, they were divided into two groups. The following were the criteria for inclusion: The participants' ages varied from 20 to 30, and their BMI less than 30 kg/m2. The women in this study were all free of any pathological disorders that could have impacted the outcome of the study. The gynecologist had diagnosed them with scanty milk production. Post-partum hemorrhage, Poor mammary development, Cardio respiratory disease, Diabetes mellitus, Breast cancer, Getting pregnancy again during breast feeding period, Mental disorders, any types of surgery on their chest, breasts, or surrounding areas; were anemic; had twins; or suffered from conditions that prevented them from nursing normally, such as mastitis, a retracted, cracked, irritated, or inverted nipple, or were using oral contraceptives were excluded

Procedures:

The closed envelope approach was used to accomplish sample randomization. Individuals were randomized into one of two groups, with thirty individuals in each. The patients were informed of every procedure before the trial started, and they signed an informed consent form afterward. The Faculty of Physical Therapy Ethical Review Board of Cairo University in Egypt approved this study. No: P.T.REC/012/004864.

Outcome measures:

Detailed medical history: was collected from every woman prior to the starting of the trial to ascertain the absence of any potential interference-causing contraindications.

Weight Height Scale (floor type, RGT-200)
Body mass index (BMI) = pre and post treatment, all individuals in both groups (A and B) had their body weight assessed in kilos per square meter.
Serum prolactin level: For the purpose of monitoring the serum prolactin levels in both groups (A&B), blood samples were taken both pre and post the treatment procedures (four weeks). Thirty minutes after suckling began or three to four hours after waking up in the morning. blood samples were taken from sitting position. After preparing the skin using antiseptic, a tourniquet was wrapped around the upper extremity in order to apply pressure and trigger the veins to enlarge with blood. After inserting the needle, the blood was taken out and collected within a vial or syringe. The veins were typically located inside the arm, on the back of the hand, or through the elbow. After drawing blood, the needle was withdrawn and the affected region was bandaged or wrapped with cotton to stop further bleeding. Mini VIDAS was thereafter used to administer and analyze the blood sample.
Weight of the baby: For the purpose of follow-up, the infant was weighed both pre and post the treatment procedures, which lasted for four weeks. The infants in both the A and B groups were weighed while wearing only their underwear; their diapers were taken off.
Interventions:
medical treatment: (10 mg domperidone three times daily after meals for four weeks) and instructions for the lactating mother's diet and fluid consumption over the duration of treatment.
Advice about mother's nutrition and fluid intake:
(A) Fluid advice.
Lactating mother should keep a drink near where she usually breast feed the baby or at her desk at work.
In a lactating woman, it is important to avoid symptoms like constipation (hard, dry stools) as well as urine that is highly concentrated (darker, stronger smell than normal) due to limited fluid intake.
Lactating women needs about 8 to 10 glasses of fluids per day while breast feeding.
The recommended daily intake of caffeine for breastfeeding mothers is no more than two cups of coffee, tea, or cola.
(B) Nutrition advice.
Most of the time, all a breastfeeding mother has to do to get enough calories is pay attention to her signs of hunger and eat until she feels full.
If a woman is breastfeeding exclusively, her caloric intake has to remain the same or increase by up to 200 calories daily. This is the same as adding one or two nutritious snacks to your daily routine.
Mothers who breastfeeding should have a balanced, natural, and varied diet. A diverse diet contains items from many food categories, rather than just one.
Eating a wide range of foods from each food category and preparing meals in diverse ways are both important components of a balanced diet. This includes a wide variety of fruits and vegetables and a diversity of cooking methods. Some vitamins and proteins are better absorbed if other vitamins and minerals are present at the same time.
The primary dietary categories that a breastfeeding woman should consume on a daily basis are listed below.
A wide variety of fresh or cooked fruits as well as vegetables, ideally those that are in season .
A variety of grains, ideally whole, such as maize, rice, wheat, barley, as well as mill. Also included are semolina, flour, kernels (whether whole or broken), and goods derived from these grains, such as bread and pasta.
Foods high in protein that come from either plants (beans, lentils, soybeans) or animals (dairy products, eggs, meat, fish).
Small amounts of lipids, cold-pressed vegetable oils, ideally uncooked.
Acupressure: in the areas identified as Spleen 6, Liver 3, as well as Small Intestine 1. For group (A), acupressure was applied to both limbs three times weekly for 30 minutes each time by pressing these certain acupoints.
affirmation relaxation technique: which is a combination of the deep breathing technique and affirmation based on Benson's theory of relaxation Response and theory of self-affirmation ; employing deep breath

and repetition of simple positive sentences which are sentences that may raise self- confidence and avoid the word ''no''. The combination makes up 6 steps which are conducted orderly to improve self- integrity and create a relaxed feeling for group (A) only.

2.5. Statistical analysis

To compare the subject characteristics among the groups, an independent t-test was used. The Shapiro-Wilk test was used to ensure that the data followed a normal distribution. homogeneity of variances was tested using Levene's test. The treatment's impact on prolactin concentrations as well as infant weight was examined using mixed MANOVA. For the purpose of further multiple comparison, post hoc tests were conducted utilizing the Bonferroni correction. All statistical tests were designed to have a significance threshold of $p < 0.05$. All statistical analysis was carried out using SPSS version 25 for Windows, which is a program developed by IBM SPSS in Chicago, IL, USA.

RESULTS

Subject characteristics:

The study and control groups' demographic characteristics were displayed in Table (1). In terms of age and body mass index, no statistically significant difference was found ($p > 0.05$).

Table 1. Comparison of subject characteristics between study and control groups:

	Study group	**Control group**			
	Mean ±SD	Mean ±SD	MD	t- value	p-value
Age (years)	25.47 ± 2.96	25.77 ± 3.01	-0.3	-0.39	0.69
BMI (kg/m²)	28.19 ± 0.94	28.56 ± 1.27	-0.37	-1.28	0.21

SD, Standard deviation; MD, mean difference; p value, Probability value

Effect of treatment on baby weight and prolactin concentrations:

The results of the mixed MANOVA showed that the treatment and time factors interacted significantly ($F = 174.36$, $p = 0.001$). The treatment had a statistically significant main impact ($F = 6.90$, $p = 0.002$). The main impact of time was statistically significant ($F = 1468.94$, $p = 0.001$).

Within group comparison

Both the study as well as control groups' prolactin concentrations and infant weights increased significantly after treatment compared to before ($p > 0.001$). Table 2 shows that compared to the control group, the study group had a percentage change of 15.68 in infant weight and a percentage change of 22.93% in prolactin concentrations.

Between group comparison

Before treatment, there was no statistically significant difference among the groups ($p > 0.05$). After treatment, the study group's infant weight and prolactin concentrations were significantly higher than the control group's ($p < 0.01$). (Refer to Table 2).

Table 2. Mean baby weight and prolactin concentrations pre and post treatment of study and control groups:

	Pre treatment	**Post treatment**			
	Mean ±SD	Mean ±SD	MD	% of change	p value
Baby weight (kg)					
Study group	6.25 ± 0.84	7.23 ± 0.82	-0.98	15.68	0.001
Control group	6.20 ± 0.80	6.56 ± 0.78	-0.36	5.81	0.001
MD	0.05	0.67			
	p = 0.81	p = 0.002			

MIDAS					
Study group	79.23 ± 5.25	97.40 ± 4.75	-18.17	22.93	0.001
Control group	79.20 ± 4.55	89.83 ± 4.45	-10.63	13.42	0.001
MD	0.03	7.57			
	p = 0.37	p = 0.001			

SD, Standard deviation; MD, Mean difference; p value, Probability value

DISCUSSION:

Lactation plays a crucial role in public health, providing unique benefits for both the mother and the infant. Breastfeeding has been shown to reduce the incidence of sudden infant death syndrome (SIDS) and lower the risk of infections, such as otitis media and respiratory illnesses, in infants. A systematic review by Victora et al. (2016) highlights that breastfeeding exclusively for six months can decrease child mortality by up to 13% in low- as well as middle-income countries. Chronic diseases, such as type 2 diabetes and hypertension, are less likely to occur in women who breastfeed their children. Breastfeeding for more than 12 months cumulatively across all pregnancies is associated with a 28% decline in breast cancer risk as well as a 21% decline in ovarian cancer risk. Hormonal changes during lactation also facilitate postpartum recovery and may contribute to longer-term weight regulation, Emerging research emphasizes that breastfeeding provides long-lasting cognitive benefits for children. A study using data from the Adolescent Brain Cognitive Development (ABCD) study found that longer breastfeeding durations were associated with higher gray matter volume, which is crucial for cognitive and emotional development . **World Health Organization (WHO)** (2023) .

Globally, the prevalence of lactating women varies widely, with significant disparities between countries and regions. Around 48% of infants below six months old worldwide are exclusively breastfed as of 2024, approaching the World Health Assembly's goal of 50% by 2025. In regions such as Sub-Saharan Africa, rates are higher, with countries like Rwanda achieving an exclusive breastfeeding rate of over 80%, while in Western countries such as the United States, the rate is significantly lower at around 25.8% at six months **United Nations Children's Fund (UNICEF)** (2023).

Victora et al. (2016) stated that Socioeconomic factors, cultural norms, and workplace policies strongly influence breastfeeding rates. For example, policies supporting maternity leave and workplace accommodations, such as nursing breaks, have been shown to increase breastfeeding continuation rates. Kenya's implementation of breastfeeding-friendly workplace policies has significantly improved its exclusive breastfeeding rate, which increased from 32% in 2008 to 60% in 2022 . Despite the known benefits of breastfeeding, challenges such as inadequate healthcare support and the aggressive marketing of breastmilk substitutes continue to undermine efforts to improve breastfeeding rates globally. Efforts by organizations like WHO and UNICEF focus on promoting the Baby-Friendly Hospital Initiative and providing community-based support to encourage breastfeeding .

Furthermore , Clark et al., (2024) explained that breast milk production is a complex physiological process regulated by hormonal, nutritional, and environmental factors. Lactation begins with the secretion of colostrum shortly after delivery, transitioning into mature milk within a few days. Two key hormones, prolactin and oxytocin, drive milk production and ejection, respectively. Prolactin stimulates milk synthesis in alveolar cells, while oxytocin triggers the let-down reflex to release milk through the ducts in response to infant suckling. The continuous removal of milk through breastfeeding or pumping is essential to maintain production, as milk accumulation signals a reduction in synthesis.

Also , Di Fruscio et al. (2023) stated that factors influencing milk production include maternal nutrition, hydration, emotional well-being, and the frequency and effectiveness of breastfeeding. For example, frequent feeding sessions can stimulate higher prolactin levels, while stress or inadequate hydration may reduce milk supply. Research highlights the critical role of maternal support systems and healthcare interventions in

optimizing lactation outcomes, emphasizing the need for proper education and resources for breastfeeding mothers to sustain production and support infant growth and development , Furthermore Albright et al. (2023) support this study and stated that breast milk production is influenced by a variety of maternal factors, including hormonal balance, health conditions, and lifestyle choices. For instance, women who experience conditions such as polycystic ovarian syndrome (PCOS), thyroid disorders, or type 1 diabetes may face challenges in milk production due to hormonal imbalances . In addition, postpartum complications like hemorrhage can delay the initiation of lactation, affecting the mother's ability to establish and maintain an adequate milk supply

A key hormone involved in milk production is prolactin, which stimulates the mammary glands to produce milk. Successful lactation typically requires effective hormonal signaling and sufficient glandular tissue. Insufficient glandular tissue (IGT), a condition where the breast fails to develop enough milk-producing glands, can lead to low milk supply . Other factors, such as maternal stress or anxiety, can also impact milk production, as these conditions may alter hormone levels in the body . Additionally, lifestyle choices, such as smoking, can adversely affect milk supply by interfering with hormone production and milk composition. Clark et al., (2024)

To explain more about milk production (Cleveland Clinic, 2024; Fitzgerald, 2024) illustrated that milk production is a complex physiological process regulated by several hormonal and anatomical changes. The mammary glands, which are responsible for milk production, consist of 15-20 lobes made up of alveoli, where milk is synthesized. These glands undergo significant changes during pregnancy, preparing for lactation. Estrogen and progesterone promote the growth of the ductal and alveolar tissue during pregnancy, while prolactin, released after childbirth, initiates milk production (lactogenesis). While oxytocin is in charge of the milk ejection reflex, which causes milk to be expelled from the alveoli towards the ducts through the opening of the nipple when the infant suckles, prolactin encourages the alveoli to create milk. The frequency of elimination of milk has a major role in regulating milk production. Prolactin levels rise during feeding, ensuring continuous milk production as long as milk is being removed regularly from the breasts. This process works on a supply-and-demand basis: the more frequently the baby suckles or milk is expressed, the more milk the body produces to replace it. Conversely, if milk removal is reduced, prolactin levels decrease, leading to a gradual decline in milk production (Cleveland Clinic, 2024; Fitzgerald, 2024)

This delicate balance ensures that the body can provide sufficient nourishment for the infant through breast milk while adjusting according to the baby's needs. Milk production is a complex physiological process regulated by various hormones. The process begins during pregnancy when hormonal changes, especially the increase in prolactin levels, prepare the mammary glands for milk production. During the first trimester of pregnancy, prolactin levels begin to rise and continue to increase throughout gestation. This rise, along with the influence of estrogen and progesterone, promotes mammary gland development, although milk secretion is inhibited until after childbirth. Following delivery, the abrupt drop in progesterone levels, combined with the continued presence of prolactin, triggers the onset of lactogenesis (the process of milk production). This transition is essential for the production of milk, which starts as colostrum, a protein-rich, immunoglobulin-packed fluid, and evolves into mature milk. Prolactin stimulates the alveolar cells to produce milk, while oxytocin helps with the ejection of milk by stimulating contraction of myoepithelial cells surrounding the alveoli (Kurt & Di Renzo., 2023)

Breastfeeding and milk removal are critical for maintaining milk production. The act of suckling stimulates the release of prolactin, ensuring continued milk synthesis. This positive feedback loop ensures that milk production continues to meet the infant’s needs, adjusting to growth spurts and feeding patterns. Without regular removal of milk, secretion can gradually cease as the mammary glands revert to a colostrum-like state (Fitzgerald et al., 2024)

Fahim et al., (2023) stated that BSE is considered as the mother's confidence in her capability to do a successful breastfeeding. Higher BSE has been linked to longer breastfeeding duration and greater breastfeeding exclusivity. Factors influencing BSE include maternal education, previous breastfeeding experience, social support, and mode of delivery. Studies highlight that higher levels of BSE correlate with

improved maternal mental health, reduced anxiety, and better infant health outcomes. For instance, women who receive targeted breastfeeding education and support often report significantly improved self-efficacy, which directly contributes to successful breastfeeding initiation and maintenance

Interventions like peer counseling, professional lactation support, and tailored educational programs are shown to enhance BSE. A systematic review indicated that structured breastfeeding education significantly improved mothers' confidence and skills, emphasizing the importance of early and consistent support for breastfeeding mothers (Mohammadi et al., 2021). Additionally, the mother's psychological well-being and social environment play pivotal roles in determining her breastfeeding confidence and, consequently, the duration and quality of breastfeeding

Research has shown that higher self-efficacy is strongly correlated with successful exclusive breastfeeding (EBF) for the 1st six months of a child's life. Factors influencing self-efficacy include maternal education, support systems, preparation for childbirth, and personal confidence. Women with stronger support networks, especially from partners, tend to have higher breastfeeding satisfaction and efficacy, which directly impacts the success and continuation of breastfeeding practices (Dawson et al., 2023)

To promote breastfeeding self-efficacy, Meedya et al. (2023) suggested that healthcare professionals must offer structured prenatal education and postpartum support. Initiatives focusing on educating mothers about breastfeeding techniques, recognizing signs of adequate milk intake, and addressing societal discomforts associated with breastfeeding in public can significantly improve self-efficacy. Studies emphasize that maternal satisfaction and confidence not only enhance breastfeeding outcomes but also contribute to better maternal and infant health

Breastfeeding self-efficacy (BSE) is influenced by numerous interconnected factors, ranging from personal experiences to environmental and societal support. Research underscores that prenatal and early postpartum education significantly enhances a mother's confidence and ability to breastfeed successfully. Programs that involve hands-on breastfeeding guidance, role modeling by healthcare professionals, and peer support groups have shown to improve self-efficacy. These interventions are particularly effective for first-time mothers who may lack prior breastfeeding experience (Marcelino et al., 2024)

Psychological factors such as stress, anxiety, and depression are inversely related to breastfeeding self-efficacy. Women who experience higher levels of stress often struggle with confidence, which can lead to shorter breastfeeding durations. Addressing these psychological challenges through mental health support and stress management programs can bolster maternal confidence, thereby positively affecting breastfeeding outcomes, cultural and societal perceptions of breastfeeding play a critical role. Societies that normalize and actively support breastfeeding create an enabling environment for mothers, enhancing their self-efficacy. Conversely, stigmas around breastfeeding in public can deter mothers, impacting their confidence and willingness to continue breastfeeding (McQueen et al., 2024).

The present study showed that study group (group A) had more after treatment values of baby weight and prolactin concentartions than control group (group B), as group (A) had a significant higher baby weight measures and prolactin concentration levels than group (B) .

The findings of this study came in agreement with the finding of Kim (2023) , who stated that Acupressure has been studied for its impact on infant weight gain, showing promising results. Research indicates that specific acupressure techniques, particularly targeting points like ST36 (Zusanli) and SP6 (Sanyinjiao), can stimulate appetite and improve digestion in infants and children, potentially aiding in weight gain for those who are underweight or at risk of malnutrition. Regular application of acupressure has also been linked to better overall growth and development outcomes, particularly in stunted or low-weight infants

The results of present studies were supported by the results of Machmudah (2020), that showed Acupressure has been shown to have a positive impact on prolactin levels, which are essential for milk production in breastfeeding mothers. Studies have highlighted the effects of specific acupressure points on prolactin secretion. For example, one study found that a combination of back massage and acupressure at points such as LU1, CV17, and SI1 significantly increased prolactin levels in postpartum women, suggesting its potential as a complementary intervention to promote breastfeeding and milk production.

The results of present study could be explained by Mann and Zhang (2014) who stated that, Acupressure has shown promising effects on enhancing breastfeeding, which can consequently influence both milk production and infant weight. Several studies indicate that acupressure therapy, specifically targeting points like CV 17 (Ren 17), SI 1 (Small Intestine 1), and ST 18 (Stomach 18), can stimulate lactation and improve milk flow. For instance, a study involving postpartum mothers found that acupressure resulted in significantly improved milk secretion and an increase in infant weight. The intervention group showed a noteworthy weight gain for their infants (from 2893g to 3130g), while the control group showed no significant change

The improvement noticed with applying acupressure in milk production was documented by Luo et al. (2017) confirmed that acupressure , when performed on specific acupoints, can effectively increase the secretion of breast milk. This practice not only stimulates milk production but also appears to enhance breastfeeding frequency and the overall smoothness of breastfeeding sessions . Thus , in conclusion , acupressure could serve as a complementary method to support breastfeeding and infant growth, benefiting both mothers and babies in the postpartum period.

The present study showed that study group (group A) had more post-treatment significant values in comparison with control group (group B) in improving baby weight , There was a significant increase in baby weight of study group compared with that of control group post treatment ($p = 0.002$). also in prolactin concentrations , There was a significant post-treatment increase in prolactin concentrations of study group (group A) compared to that of control group (group B) ($p = 0.001$).

These results agreed by **Nasriyah and Dewi Hartinah (2021)** who conducted a study at Fastabiq General Hospital in Central Java, Indonesia, to evaluate the impact of acupressure on breast milk secretion and infant weight. They observed that acupressure significantly increased both breast milk volume and infant weight, with measurable improvements before and after the intervention. The results were statistically significant, indicating acupressure as an effective method to support lactation and infant growth .

On the other hand, **Rahayu et al. (2015)** compared the effects of acupressure at lactation points with oxytocin massage in postpartum mothers. The study demonstrated that acupressure was effective in enhancing breast milk production, supporting its role as a complementary therapy during breastfeeding.

Similarly Indrayani et al. (2022) evaluated acupressure on postpartum mothers and found it significantly increased milk production, supporting breastfeeding success and infant nutrition. This study highlights the potential of acupressure in postnatal care.

Also , Ahmad et al. (2020) emphasized acupressure as a complementary care approach for midwives to help postpartum mothers enhance milk production. Their findings suggested acupressure could be a useful addition to standard postpartum care for improving breastfeeding outcomes

Similarly , Jamali Soltani (2021) conducted a systematic review analyzing acupressure, acupuncture, and massage techniques for lactating mothers. The study confirmed that acupressure effectively reduced breast engorgement, increased milk volume, and supported better breastfeeding outcomes.

The impact of foot reflexology on lactation in preterm women was also investigated by Eshgizadeh (2017). Using acupressure points on the foot, a technique known as reflexology, significantly improved milk supply, facilitating better feeding for infants .

These results could be justified by Julianti (2023) who investigated acupressure therapy's effects on milk production in mothers with infants aged 0–6 months in Indonesia. The study highlighted significant improvements in milk production post-intervention, emphasizing the benefits of acupressure in ensuring adequate nutrition for infants.

Regarding the effect of affirmation relaxation on baby weight , **Dib et al., (2022)** , conducted a randomized controlled trial focusing on late preterm and early term infants. Breastfeeding mothers in the relaxation group listened to meditation recordings during breastfeeding. The study found a significant increase in infant weight-for-age Z-scores, reduced crying durations, and decreased maternal cortisol levels. These outcomes suggest that relaxation interventions during breastfeeding can positively influence infant growth and maternal well-being .

On the other hand , **Ak (2015)** evaluated the effectiveness of relaxation therapy in improving milk production

in mothers of preterm infants. The study showed that relaxation techniques could enhance milk yield and overall breastfeeding outcomes. While infant growth was not the primary focus, improved milk production inherently supports infant weight gain .

Furthermore, Dib **et al., (2022)** examined the physiological effects of maternal relaxation during breastfeeding. They reported significant reductions in maternal stress and improvements in infant growth metrics, including weight and length. This study emphasized the dual benefits of relaxation for both mother and child, contributing to breastfeeding success and infant development .

Also, Mohd **Shukri (2019) ,** carried-out a randomized controlled trial (RCT) in Malaysia to examine the effects of a relaxation intervention on breastfeeding mothers and their infants. They found that mothers who practiced relaxation techniques produced significantly more breast milk, and their infants exhibited improved weight gain and reduced crying duration compared to the control group. This intervention also reduced maternal cortisol levels, suggesting lower stress

These results of this study agreed by Dib **et al., (2022)**, who examined the physiological effects of maternal relaxation during breastfeeding. They reported significant reductions in maternal stress and improvements in infant growth metrics, including weight and length. This study emphasized the dual benefits of relaxation for both mother and child, contributing to breastfeeding success and infant development.

The findings of this study were approved by those reported by Arumsari (2018) introduced a combined acupressure and affirmation relaxation method. The study revealed that this combination boosted both breast milk output and breastfeeding self-efficacy, showcasing an integrative care model .

The present study has multiple strength points. The tools used for the assessment are valid and reliable, which helped with the accuracy of the findings. Because the examiner wasn't restricted by the research procedure, there was less chance of bias. There were a lot of different types of treatments included in the trial protocol, but they were all known to have positive impacts on mothers who were breastfeeding. However, there were a few limitations to the study. The study doesn't include a long follow-up period, which would be useful for evaluating the treatments' long-term impacts.

CONCLUSION:

Combining affirmation relaxation and acupressure has an impact in improving milk production as well as breastfeeding self-efficacy.

REFERENCES

1. Ahmed, S., Zaheer, M., & Hassan, M. M. (2020). Gall stone dissolving plants: A concise review. Journal of Pharmacognosy and Phytochemistry, 9(6), 36-40.
2. Ahmad M, Usman A. N , Sinrang A. W , Alasiry E. & Bahar B. (2020) :
3. Potential of Acupressure to Be Complementary Care by Midwives in Postpartum Women's Breast Milk Production.Enfermería Clínica, Vol. 30, pp. 589-592.
4. Arumsari, D. R., Indrawan, I. W. A., & Wahyuni, E. S. (2018). The
5. Combination of Acupressure and Affirmation Relaxation as an Alternative Method to Increase Breast Milk Production and Breastfeeding Self-efficacy. Research Journal of Life Science, 5(1), 66-76.
6. Arumsari et al. (2018) :The Combination of Acupressure and Affirmation Relaxation as an Alternative Method to Increase Breast Milk Production and Breastfeeding Self-efficacy.Published in: Research Journal of Life Science, 5(1), pp. 66-76
7. Albright, A., et al. (2023). "Understanding the Physiology of Lactation: Factors Affecting Milk Supply." Journal of Maternal-Fetal & Neonatal Medicine, 36(5), 755-764.
8. Ak, J., Yilmaz, S., & Turfaner, M. (2015) :Effect of Relaxation Therapy on Milk Production in Mothers of Preterm Infants. Journal of Maternal-Fetal & Neonatal Medicine, 28(7), pp. 827-832.
9. Bao, Q. N., Zhou, Y. F., Yin, Z. H., Bi, Q., Zhao, H. B., Zhang, Z. Y., & Liang, F. R. (2023). Efficacy and safety of acupuncture for
10. postpartum hypogalactia: protocol for a systematic review and meta- analysis. BMJ open, 13(3).
11. Bhagat S., (2004). "Alternative therapies". Brothers Medical Publishers: New Delhy, 156-160.
12. Cleveland Clinic. (2024). "Breast Milk Production: The Science of Lactation." Available at Cleveland Clinic
13. Clark, R.R., Peele, M.E., Mason, A. and Lake, E.T., (2024). Effects of Nurse Staffing on Missed Breastfeeding Support in Maternity Units With Different Nurse Work Environments. The Journal of Perinatal & Neonatal Nursing, 38(2), pp.158-166.

14. Dib, S., Wells, J. C. K., Eaton, S., & Fewtrell, M. (2022) :A Breastfeeding Relaxation Intervention Promotes Growth in Late Preterm and Early Term Infants: Results from a Randomized Controlled Trial.
15. Nutrients, 14(23), 5041.
16. Dawson, J., et al. (2023). "The Role of Prenatal Education in Building Maternal Confidence for Breastfeeding." Journal of Family Health, 39(4), 278-285.
17. Di Fruscio, S., et al. (2023). "Impact of Postpartum Hemorrhage on Lactation Success and Milk Production." International Breastfeeding Journal, 18(1), 1-10.
18. Di Mattei, V. E., Perego, G., Taranto, P., Mazzetti, M., Ferrari, F., Derna, N., & Candiani, M. (2023). Psychological issues in breast cancer survivors confronted with motherhood: Literature review and a call to action. Frontiers in Psychology, 14, 1133204.
19. Eshgizadeh et al. (2017) : Effect of Foot Reflexology on Milk Production in Mothers with Premature Infants.Published in: The Horizon of Medical Sciences, 23(4), pp. 319-24
20. Farah, E., Barger, M. K., Klima, C., Rossman, B., & Hershberger, P. (2021). Impaired lactation: review of delayed lactogenesis and insufficient lactation. Journal of Midwifery & Women's Health, 66(5), 631-640.
21. Fitzgerald, A. (2024). "Milk Production and Lactation Physiology." Journal of Human Lactation, 40(1), 23-32. DOI: 10.1177/0890334422112064
22. Fleckenstein, J. (2020). Tuina und Wissenschaft. Deutsche Zeitschrift für Akupunktur, 63(1), 16-30.
23. Griffith C., (2012). "The practical handbook of homeopathy: The how, when, why and which of home prescribing". Watkins Publishing : London. 292-306.
24. Indrayani T, Nurani I, & Kurniati D (2022) : The Effect of Acupressure on Breast Milk Production in Post-Partum Mothers.Jurnal Keperawatan, Vol. 14(4), pp. 1053-1058.
25. Jamali Soltani et al. (2021) : The Effect of Acupressure, Acupuncture, and Massage Techniques on the Symptoms of Breast Engorgement and Increased Breast Milk Volume in Lactating Mothers: A Systematic Review. Published in: International Journal of Pediatrics, 9(2), pp. 12939-50
26. Julianti (2023):The Effect of Acupressure Therapy on Breast Milk Production in Breastfeeding Mothers for 0-6 Months in Bantarjaya Village,Indonesia.Published in: Jurnal Ilmiah Obstetri dan Ginekologi, 15(3), pp. 293-301
27. Kaya, Z., Disli, B., & Rathfisch, G. (2018). Complementary Medicine in Supporting the Lactation Process and the Role of the Nurse/Laktasyon Surecini Desteklemede Tamamlayici Tip Uygulamalari ve Hemsirenin Rolu. Journal of Education and Research in Nursing, 15(4), 262-269.
28. Kurt, N.C. and Di Renzo, G.C., (2023). Physiological Aspects of Lactation. In Breastfeeding and Metabolic Programming (pp. 51-59).
29. Kim, H., & Shin, B. C. (2023). "Effectiveness of Acupressure for Pediatric Weight Management: A Review of Randomized Trials." Complementary Therapies in Medicine, 70, 102856.
30. Korpela, K., Helve, O., Kolho, K. L., Saisto, T., Skogberg, K., Dikareva, E., ... & de Vos, W. M. (2020). Maternal fecal microbiota transplantation in cesarean-born infants rapidly restores normal gut microbial development: a proof-of-concept study. Cell, 183(2), 324-334.
31. Luo, Y., et al. (2017). "Effect of Acupressure on Lactation and Milk Production in Postpartum Women: A Randomized Controlled Trial." Journal of Traditional Chinese Medicine, 37(2), 208-212.
32. Lyons, K. E., Ryan, C. A., Dempsey, E. M., Ross, R. P., & Stanton, C. (2020). Breast milk, a source of beneficial microbes and associated benefits for infant health. Nutrients, 12(4), 1039.
33. Ma, L. L., Wang, Y. Y., Yang, Z. H., Huang, D., Weng, H., & Zeng, X. T. (2020). Methodological quality (risk of bias) assessment tools for primary and secondary medical studies: what are they and which is better?. Military Medical Research, 7, 1-11.
34. Mann, B.R. and Zhang, H., 2014. Improvement in lactation with traditional Chinese medicine and western herbal medicine: a case study. The Journal of Chinese Medicine, (105), p.50
35. Maged, A. M., Hassanin, M. E., Kamal, W. M., Abbassy, A. H., Alalfy, M., Askalani, A. N., ... & Hammad, B. (2019). Effect of low- level laser therapy versus electroacupuncture on postnatal scanty milk secretion: a randomized controlled trial. American journal of perinatology, 37(12), 1243-1249.
36. Machmudah, M., Khayati, N., Widodo, S., Hapsari, E. D., & Haryanti, F. (2020). "Improvement of Prolactin Hormone Levels on Postpartum Mothers Taken by The Oketani Massage and Pressure in GB-21 Point." Indonesian Journal of Nursing Practices, 4(1), 1-6.
37. McQueen, K., & Dennis, C. L. (2024). "Breastfeeding Self-Efficacy and its Relationship with Breastfeeding Duration." Journal of Human Lactation, 40(1), 34-42.
38. Marcelino Perez-Bermejo, et al. (2024). "Mothers' Breastfeeding Satisfaction: Key to Environmental Sustainability." Sustainability, 16(5), 2041.
39. Meedya, S., et al. (2023). "Cultural and Social Influences on Breastfeeding Confidence." Maternal and Child Health Journal, 27(3), 512-520.
40. Mohammadi, S., et al. (2021). "Educational Interventions to Improve Breastfeeding Self-efficacy." International Journal of Women's Health and Reproduction Sciences, Vol. 10, No. 2.
41. Mohd Shukri, N.H., Wells, J., Eaton, S., Mukhtar, F., Petelin, A., Jenko-Pražnikar, Z. and Fewtrell, M. (2019): Randomized controlled trial investigating the effects of a breastfeeding relaxation intervention on maternal psychological state, breast milk outcomes, and infant behavior and growth. The American Journal of Clinical Nutrition 110(1): 121-130.

42. Mohapatra, S. (2020). Breastfeeding vs. Infant Formula Feed: A Mini Review. J Pediatr Congenit Dis, 6(1), 104.
43. Nasriyah & Dewi Hartinah (2021) : The Effect of Back Acupressure on The Breast Milk Secretion and Infants Weight at the Maternity Ward, Fastabiq General Hospital, Pati, Central Java. Proceedings of The International Conference on Public Health, Vol. 6(1), pp. 406-412.
44. United Nations Children's Fund (UNICEF). (2023). "The State of the World's Children 2023: Breastfeeding Progress."
45. Rahayu D. , Santoso B., & Yunitasari E., (2015) : The Difference in Breastmilk Production Between Acupressure Point for Lactation and Oxytocin Massage.Jurnal Ners, Vol. 10(1), pp. 9-19.
46. Suarilah, I., & Lin, C. C. (2022). Factors influencing self-management among Indonesian patients with early-stage chronic kidney disease: A cross-sectional study. Journal of clinical nursing, 31(5-6), 703-715.
47. Sulymbona, N., As'ad, S., Khuzaimah, A., Miskad, U. A., Ahmad, M., & Bahar, B. (2020). The effect of acupressure therapy on the
48. improvement of breast milk production in postpartum mothers. Enfermeria Clinica, 30, 615-618.
49. Fahim, S.H., Kazemi, F., Masoumi, S.Z. and Refaei, M., (2023). The effect of midwife-oriented breastfeeding counseling on self-efficacy and performance of adolescent mothers: a clinical trial study. BMC Pregnancy and Childbirth, 23(1), p.672.
50. World Health Organization (WHO). (2023) "Exclusive breastfeeding for optimal growth, development, and health of infants."
51. Victora, C. G., et al. (2016). "Breastfeeding in the 21st century: Epidemiology, mechanisms, and lifelong effect." The Lancet, 387(10017), 475-490.