Research Article

The Effectiveness of Acupressure and Fenugreek Therapy in Increasing Breast Milk Production in Postpartum Mothers: Literature Study

Ririn Harini¹*, Henny Dwi Susanti², Juwitasari³ Eni Tri Wahyuni⁴

¹Nursing Science Study Program, Faculty of Health Sciences, University of Muhammadiyah Malang
²Department of Maternity Nursing, Nursing Science Study Program, University of Muhammadiyah Malang

ORCID
Ririn Harini: https://orcid.org/0000-0001-9064-2530

Abstract.
Inadequate breastfeeding leads to a lack of nutritional intake by infants. Reduced breast milk secretion can be caused by psychological and physiological factors. Not getting enough breast milk can increase the risk of gastrointestinal infections, and obesity in babies. It can also reduce the level of intelligence of children, and increase infant mortality. This study was a literature review with a sample of 10 journals, including ScienceDirect, PubMed, and Google Scholar. The keywords fenugreek OR trigonellas OR Foenumgraceum AND acupressure OR shiatsu OR zhi ya OR chih ya AND feeding OR breastfeeding AND breastfeeding OR milk secretion AND breast milk OR breast milk were used. The exclusion criteria were publications that were older than 10 years, those with irrelevant titles, inaccessible full text, in a language other than English and Indonesian, had the incorrect population, not an RCT journal, was a case-control study, and a quasi-experimental study. The results showed that from a total of 10 journals, fenugreek therapy was found in journal numbers 1 (Egyptian), 2 (Iranian), 3 (Egyptian), and 4 (Indian). Increased breast milk production had a p-value <0.005, but journal number 2 was considered the most effective as an increase in breast milk can be seen from the increase in variables in infants. Acupressure therapy in journals number 6 (Iranian), 7 (Indonesian), 8 (Indonesian) and 10 (Indonesian) was also equally significant in increasing breast milk production with p-value <0.005, but in journal number 10, presenting ST points 17 and ST 18 which was done every 2 days for 2 weeks showed a significantly higher value. To conclude, fenugreek and acupressure both contribute to increasing breast milk production.

Keywords: Fenugreek-1, Acupressure-2, Breastmilk Production-3, Postpartum-4
1. INTRODUCTION

Lactation or breastfeeding can be described as a method of providing nutrition to babies that are obtained directly from the mother’s breast (1). Breast milk will be able to come out on the 2nd or 3rd day after giving birth. This is in line with research conducted by (2) which said that in the first 30-40 hours after giving birth breast milk has begun to be produced, and usually the mother’s breasts will start to feel full in 50-73 hours or around 2-24 hours. first 3 hours.

The importance of giving breast milk to infants is reflected in the recommendations of the World Organization (WHO) which says that all newborns up to 6 months of age should be exclusively breastfed (3). Exclusive breastfeeding can reduce the risk of respiratory disorders and gastrointestinal infections in the baby’s first year of life (4). Children who were exclusively breastfed performed better on intelligence tests. Mothers who breastfeed will also have a reduced risk of breast cancer and ovarian cancer (3). Breastfeeding can also reduce the risk of infection, and reduce the incidence of non-communicable diseases (5). Meanwhile, according to (6) breastfeeding for newborns up to the age of 6 months can effectively reduce infant mortality under 28 days of age by 22%.

Breast milk can be said to be sufficient if there are the following characteristics, breast milk will seep out of the mother’s nipples, the baby will suckle for > 10 minutes at each feeding, the baby is not fussy after being given breast milk, the baby will urinate > 6 times / day, audible sound when the baby swallows breast milk, there is a tingling feeling in the mother while breastfeeding, the baby suckles >6 times a day, the baby defecates >3 times a day (7). According to data from the WHO (World Health Organization) and UNICEF, only 41% of infants with the age of less than 6 months who are exclusively breastfed are targeted to reach 70% by 2030 (3). According to Indonesia’s health profile data in 2017, infants in Indonesia who received exclusive breastfeeding in 2017 were 61.33% and in 2018 infants aged 0-5 months who received exclusive breastfeeding were only 37.3%, this percentage is fairly high. is still very low, because Indonesia itself targets 80% of mothers to exclusively breastfeed their babies (8). In 2019, 47% of children under five died in the neonatal period, three-quarters of whom died in the early newborn stage (0–7 days) (9). The main cause of newborn death is sepsis or infection (10). The majority of these neonatal deaths (80%) occur in low- and middle-income countries (11), between 5% and 86% in all countries (11).
Studies show that up to 92% of all mothers experience problems while breastfeeding (12). Insufficient milk secretion can be caused by various factors such as breast abnormalities, difficulties in lactation management, and stress and anxiety in the mother (13). Reduced milk production is also influenced by premature birth and emotional stress (14). Conditions such as anxiety and emotional stress can inhibit the release of hormones that play an important role in the smooth production of breast milk, namely the hormones oxytocin and prolactin (8).

Nurses have a role, namely as care givers, which means nurses provide nursing services or care including bio-psycho-social-cultural and spiritual as an effort to fulfill basic needs using the nursing process approach (15). Various efforts can be made by nurses, such as providing therapy or interventions that can facilitate the release of breast milk in postpartum mothers and meet the nutritional needs of babies due to a decrease in lactation hormones in mothers (16).

Management to stimulate the hormones oxytocin and prolactin can be done by providing pharmacological and non-pharmacological therapy (17). Giving pharmacological therapy such as domperidone and metoclopramide can cause adverse side effects such as arrhythmias and hyperthyroidism in mother and child (13). Non-pharmacological therapy to increase breast milk production is non-invasive, simple and inexpensive, and effective without causing side effects that can harm the patient (18).

Non-pharmacological therapy can be used as an effort to increase milk production without causing side effects. One of the non-pharmacological therapies that can be given is complementary therapy. There are several types of complementary treatments that can be given to support increased milk production in breastfeeding mothers, one of which is Acupressure and Fenugreek consumption. Acupressure therapy is a therapy by providing stimulation and emphasis using the hands and fingers at certain points of the body (19). Stimulation at several points of the body can cause hormone secretion, increase prolactin and oxytocin and balance blood circulation. (20). Another treatment that can be used as an increase in breast milk production is the consumption of fenugreek. Fenugreek is one of the Galactagogue plants (stimulates milk production) (21). Fenugreek seeds contain phytoestrogens and diosgenin and can stimulate precursor hormones that lead to increased milk production (22). Fenugreek is widely cultivated in Mediterranean and Asian countries (23). As well as southern Europe (24). Fenugreek or fenugreek seeds is a local plant that has been designated in Indonesian herbal medicine in 2016 as Galaktogogue (25). So that Fenugreek is often found in the Indonesian market. Fenugreek plants come in the form of seeds or seeds (26). And Herbal Tea (27) and Cookies (28).
2. MATERIALS AND METHODS

Research design is something that is really needed to help make a design in a study, so that the research is carried out and functions as it should according to the expectations of researchers (7). The design used in this research is Study Literature or Literature Review. Literature study is a process or activity in collecting data through various literature sources such as books and journals, then the data that has been obtained will be compiled, analyzed and then concluded so as to get a conclusion to be able to answer existing questions (29). Meanwhile, according to (30) this study can be described as a systematic way to collect and synthesize previous research, and this research can advance knowledge and facilitate theory development. Literature studies are the best way to synthesize research findings to show evidence at the meta level and to uncover areas where more research is needed, which is an important component of creating a theoretical framework and building a conceptual model. This literature study focused on identifying the effectiveness of complementary therapy in increasing milk production in post partum mothers.

Literature study research has several stages that must be carried out so that the research results are recognized for their credibility. Following are the stages: The writing method uses a literature review of several scientific articles taken from databases accessed online including Google Scholar, Pubmed, Sciencedirect. The keywords used in the article search include Fenugreek, Acupressure, Breastmilk Production, Postpar- tum. The journals or articles selected are journals with the topic of Fenugreek therapy and acupressure in increasing postpartum mother’s milk production.

This study uses inclusion criteria and exclusion criteria. The inclusion criteria used are journals in the range of 2012 to 2022, all articles can be fully accessed by design of RCT (Randomized Controlled Triall), Case Control Study and Quasy Experimental. The exclusion criteria were publications > last 10 years, irrelevant titles, inaccessible full-text, not English and Indonesian, incorrect population, and journal quality assessment using JBI appra- cial tools. This study uses a literature review design on several scientific articles. This research method was used because it was related to the Covid-19 pandemic situation which made researchers have limitations in data collection.
3. RESULTS

Based on the results of the Literature Study that has been analyzed in 10 international and national journals, it can be concluded that both fenugreek and acupressure administration can have an impact on the mother, namely increasing milk production, prolactin levels and feelings of comfort, while the impact on the baby is that it can increasing baby weight, baby head circumference, frequency of urination and defecation, and frequency of breastfeeding.

In the 10 journals that have been analyzed and of the many methods and doses of existing fenugreek and acupressure therapy, the therapy recommended by researchers because it is considered the most effective for increasing milk production is as follows, for fenugreek therapy in journals number 1, 2, 3 and 4 both can increase milk production, but in journal number 2, namely fenugreek therapy with a dose of Fenugreek herbal tea which is given as much as 7.5 g of fenugreek seed powder and taken 3 times/day.
is considered more effective because giving fenugreek with this dose can increase milk production which can be seen from several variables in infants, namely, baby’s weight, head circumference, frequency of urination and defecation, and frequency of breastfeeding. While for acupressure therapy in journal number on journal numbers 6,7,8, and 10 it is also equally significant in increasing milk production, but in journal number 10 by giving ST 17 and ST 18 points which are carried out every 2 days for 2 weeks shows higher significant value and considered the most effective in increasing milk production.

From the research conducted, the results of research and data analysis were obtained using the literature review method which collected data from three international journal database websites, namely Google Scholar, Pubmed, Sciencedirect. Journals that have been collected at the time of the search are screened according to the existing inclusion and exclusion criteria, then an assessment is carried out using JBI first and an assessment of the quality of the journal. The following table of journals obtained.

4. DISCUSSION

Breast milk is a type of food that can meet the needs of babies physically, psychologically, socially and spiritually (31). It also contains many immune nutrients (32). Breast milk has been proven to have many benefits for babies and mothers (33). There are various factors that affect the lack of breast milk supply to mothers, among them is the mother’s health condition (32). Such as stress conditions in mothers (34). Stress experienced by mothers can reduce oxytocin secretion which will affect the hormonal system in stimulating breast milk production (35). Babies who are not breastfed are 15 times more likely to die from pneumonia and 11 times more likely to experience diarrhea (36). Therefore it is necessary to provide intervention using a method that is simple, easy and friendly to the community (37).

According to the Ministry of Health, the coverage of breastfeeding in Indonesia in 2018 was 68.74% and there was a decrease of 64.74% in 2019. Indonesia itself has a target of exclusive breastfeeding and stipulates that all babies who have been born must be exclusively breastfed. It is concluded that the Indonesian government itself targets the coverage of breastfeeding to be 100%. Lack of breast milk production in mothers is a common problem that can affect the lactation process, therefore further studies on strategies to increase breast milk production, with journal analyzes carried out focus more on using fenugreek therapy and acupressure as follows:
## Table 1: Review Articles

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Title</th>
<th>Sample</th>
<th>Study Design</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>(El Sakka et al., 2015)</td>
<td>The Effect of Fenugreek Herbal Tea and Palm Dates on Breast Milk Production and Infant Weight Source: Google Scholar</td>
<td>50</td>
<td>Randomized Controlled Trial</td>
<td>It can be concluded that giving fenugreek and palm dates for 14 days can increase milk production during the early postpartum period.</td>
</tr>
<tr>
<td>(Ghasemi et al., 2015)</td>
<td>The Effect of Herbal Tea Containing Fenugreek Seed on the Signs of Breast Milk Sufficiency in Iranian Girl Infants Source: Pubmed</td>
<td>79</td>
<td>Randomized Clinical Trial</td>
<td>It can be concluded that fenugreek tea given as much as 7.5 grams, taken 3x/day, 2 hours after eating for 4 weeks was more effective in increasing breast milk compared to the control group.</td>
</tr>
<tr>
<td>(Abdou &amp; Fathey, 2018)</td>
<td>Evaluation Of Early Postpartum Fenugreek Supplementation On Expressed Breast Milk Volume And Prolactin Levels Variation Source: Science Direct</td>
<td>60</td>
<td>Case-Control Study</td>
<td>Consumption of fenugreek as much as 200 ml of Fenugreek Tea (50gram of Fenugreek seeds), taken 3 times / day for 15 days can affect lactogenesis and increase prolactin levels in the early postpartum stage.</td>
</tr>
<tr>
<td>(Ravi &amp; Joseph, 2020)</td>
<td>Effect of fenugreek on breast milk production and weight gain among infants in the first week of life Source: ScienceDirect</td>
<td>60</td>
<td>Quasi Experimental Study</td>
<td>Fenugreek water can increase milk production compared to the control group in the first week of the baby's life, as evidenced by the frequency of urination in infants.</td>
</tr>
<tr>
<td>(Wahyuningsih &amp; Liliana, 2019)</td>
<td>Comparison of Adequacy of Breastfeeding Mothers Between Consumption of Extracts Moringa Leaves With Fenugreek Seed Extract Consumption. Source: Google Scholar</td>
<td>32</td>
<td>Quasi Experiment With Non-Randomized Control Group Design</td>
<td>There is no significant difference between fenugreek seed extract and Moringa leaves with Significance values in the results showing $p = 0.559$. However, Moringa leaf extract has a higher value than fenugreek.</td>
</tr>
<tr>
<td>(Esfahani et al., 2015)</td>
<td>Effect of acupressure on milk volume of breastfeeding mothers referring to selected health care centers in Tehran Source: Pubmed</td>
<td>60</td>
<td>Randomized controlled trial</td>
<td>The control group also showed an increase after being given education with $p = 0.001$. However, in the comparison between groups, the administration of Acupressure showed higher results than the control group with a $p$ value of $&lt; 0.001$.</td>
</tr>
<tr>
<td>(Wulandari et al., 2019)</td>
<td>The Effect of Acupressure on Breast Milk Production (ASI) Source: Google Scholar</td>
<td>34</td>
<td>Quasi Experiment With Non-Randomized Control Group Pretest-Posttest design.</td>
<td>$p$ value obtained from the comparison is $p = 0.00 &lt; (0.05)$. It can be concluded that giving acupressure at points ST 15, ST 16, and LI 4 can effectively increase milk production.</td>
</tr>
</tbody>
</table>
4.1. PHENUGRECK

In a study (38) that compared the effectiveness of Fenugreek Herbal Tea, Palm Dates and controls. Fenugreek herbal tea grade A was used, taken 3x/day, with a dose of 2 tablespoons per cup and the palm dates grade A group was consumed 3x/day with a dose of 10 grains per consumption. This study states that consuming fenugreek and palm dates both help increase breast milk production in the early postpartum period with the results showing a p value <0.001.

According to (27), this journal uses an intervention in the form of fenugreek herbal tea to increase breast milk production. Fenugreek herbal tea given contains 7.5 g of powdered fenugreek seeds taken 3x/day. After the intervention for 4 weeks, the results showed that the condition, weight, head circumference, frequency of urination and defecation and the amount of time breastfeeding infants in the fenugreek group increased significantly, p < 0.001. However, there was no difference in height growth in the two groups (P = 0.078). Then fenugreek herbal tea can effectively be used to increase breast milk production.
The study (24) which gave 200 ml of Fenugreek Tea (50 gram of Fenugreek seeds) and taken 3x/day, the results were that the average volume of breast milk increased at the beginning (on day 3) in the intervention group showed higher results when compared to with the control group with a p value <0.005, the consumption of fenugreek can affect the early stages of lactogenesis and prolactin levels and can be used for maternal satisfaction and calm in the early stages of lactation.

Research conducted by (22) was given fenugreek water, which is water soaked in fenugreek (7.5 gram). The fenugreek soak is left for one night, taken 1x/day in the morning for 7 days. The results obtained are that fenugreek can optimize milk secretion in postpartum mothers and increase baby’s weight in the early weeks of life. Research (39) gave an intervention of fenugreek extract and Moringa leaves, both groups were given the same dose of 2 tablets/day with 500 mg/tablet. However, the results showed that there was no significant difference between the Moringa leaf extract and fenugreek extract groups, in the sense that both of them could increase the mother’s milk production.

4.2. Acupressure

According to (40) In this study the acupressure points used were the gall bladder GB20 (between the upper part of the sternocleidomastoid and trapezius muscles), the Large Intestine LI4 acupuncture point (on the back of the hand, between the 1st and 2nd metacarpal bones), and the point SI1 small intestine acupuncture (1 cun behind the corner of the nail on the upper side of the little finger. Performed 3x/day for 2-5 minutes, and for 12 consecutive days and obtained significant results in the acupressure group with p<0.001).

Research (41) which provides intervention on the meridian (stomach – ST), (Large Intestine – LI) with acupressure points ST 15, ST 16, and Li 4 30 times in the 1st session and 30 times in the 1st session. Second, the distance given for each session is 10 minutes. The result is that acupressure can increase the volume of mother’s milk. With a value of 3.00 points.

In a study (42) acupressure performed on the meridian (stomach – ST) with points ST 15 and ST 16 obtained results, namely, the coverage of infant milk in the acupressure group increased from 35% to 82% and the coverage of breast milk in the control group from 41% to 47%. These results showed that there was a significant increase in the acupressure group compared to the control group. According to (43) acupressure is carried out for 20-40 seconds for 5 minutes on the 2nd and 3rd postpartum days, at the Meridian conception vassel-CV/REN, stomach.
– ST, Spleen SP, small intestine-Si, Large Intentine – Li, gall bladder-GB with REN points CV 17, ST 18, ST 15, ST 16, ST 36, SP 18, SI 1, SI, LI 4, GB 21. Posttest results in the intervention group were 76.5% and in the intervention group control 70.5 with p = 1,000, which means that there is no significant difference between the two groups.

A proprietary study (2) compared between acupressure, oxytocin and control groups. Acupressure was performed at local points in the breast area which included the stomach - ST meridian with points ST 17 and ST 18. After follow-up every 2 days for 2 weeks, the results showed that the acupressure group showed the highest increase in breast milk than the oxytocin and control groups, namely of 51.11. So that this treatment can be used as an alternative intervention when caring for postpartum mothers. Nurses are also recommended to educate and teach acupressure techniques to mothers and families in the hope that they can do it independently and can overcome problems around lactation disorders.

5. CONCLUSION

Based on the results of the Literature Study which has been analyzed in 10 international and national journals, it can be concluded that giving fenugreek and acupressure both can have an impact on mothers, namely increasing breast milk production, prolactin levels and feelings of comfort, while the impact on babies can be increase the baby’s weight, the baby’s head circumference, the frequency of urination and defecation, and the frequency of breastfeeding.

In 10 journals that have been analyzed and from the many methods and doses of existing fenugreek and acupressure therapy, the therapy recommended by researchers because it is considered the most effective for increasing breast milk production is as follows, for fenugreek therapy in journals 1, 2, 3 and 4 both can increase milk production, but in journal number 2, namely fenugreek therapy with a dose of Fenugreek herbal tea given as much as 7.5 g of fenugreek seed powder and taken 3 times / day is considered more effective because giving fenugreek at that dose can increase milk production which can be seen from several variables in infants, namely, baby's weight, head circumference, frequency of urination and defecation, and frequency of breastfeeding. Meanwhile, acupressure therapy in journal numbers 6, 7, 8, and 10 were also equally significant in increasing breast milk production, but in journal number 10 by giving ST 17 and ST 18 points which were carried out every 2 days for 2 weeks showed significantly higher value and considered the most effective in increasing breast milk production.
References


