THE EFFECT PROVISION OF MORINGA OLEIFERA, SAUROPUS ANDROGYNUS AND CARICA PAPAYA LEAF ON THE PRODUCTION OF BREAST MILK (ASI)

Ega Ersya Urnia[1], Dini Indo Virawati[1]

[1]Department of Midwifery, Health Polytechnic East Borneo, Samarinda, Indonesia

E-mail: egaersya@gmail.com

Abstract

There are several plants that can stimulate breast milk production, including moringa leaves, katuk leaves and papaya leaves.The purpose of the study was to explain the analysis of the article on the effect of giving moringa oleifera, sauropus androgynus and carica papaya leaf on the production of breast milk (ASI) in postpartum mothers.The research design used was a meta-analysis with a group contrast experimental meta-analysis research design. Statistical data analysis was carried out in a computerized manner by using the metamar program to analyze the data. Standardized mean difference (and) on the effect size. The results obtained a p-value of 0,0000 (<0,005), the effect of giving sauropus androgynus on breast milk production in postpartum mothers obtained a p-value of 0,0017 (<0,005) , the effect of giving carica papaya leaf on breast milk production in postpartum mothers obtained a p-value of 0,0000 (<0,005) which means that there is a significant effect between moringa oleifera, sauropus androgynus and carica papaya leaf on the production of breast milk (ASI) in postpartum mothers.

Keywords: *Breast milk, postpartum mother, moringa oleifera, sauropus androgynus, carica papaya leaf*

INTRODUCTION

According to the 2018 National Basic Health Research data in Indonesia, 65.7 percent of children aged 0-23 months have not/never been breastfed. Meanwhile, according to the 2018 East Kalimantan Basic Health Research data, 77.9 percent of children aged 0-23 months have not/never been breastfed[1].

The reasons why mothers do not give breast milk are very diverse, based on the 2018 National Basic Health Research in Indonesia, 65,7 percent of mothers did not give breast milk on the grounds that breast milk did not come out. Meanwhile, according to the 2018 East Kalimantan Basic Health Research data, 77,9 percent of mothers did not give breast milk on the grounds that breast milk did not come out[1].

Breastfeeding is a very important and valuable time for a mother and her baby. It is at this time that the emotional relationship between mother and child will be established, with a fairly long period. Breastfeeding is very good for the mental and psychological development of children. Breastfeeding means that it has provided important nutrients for the baby, can also protect the baby from infectious diseases and can strengthen the relationship between mother and baby. When breastfeeding mothers sometimes appear complaints and difficulties in

breastfeeding, one of which is breast milk that does not come out smoothly. The importance of preparing the mother's physical and mental condition as optimally as possible[2].

According to Aprilia and Krisnawati (2018) factors that affect the smooth flow of breastfeeding include food factors, contraceptive use factors, breast care factors, resting pattern factors, suction strength factors and the frequency of giving affect the smooth flow of breast milk in postpartum mothers[3].

The food consumed by the mother indirectly affects the quality, as well as the amount of milk produced. Breastfeeding mothers do not need to overeat, but it is enough to maintain a balance of nutritional consumption[2]. There are several plants that can stimulate breast milk production, including moringa leaves, katuk leaves and papaya leaves.

Furthermore, the researchers searched for research articles on the effect of plants on breast milk production (moringa leaves, katuk leaves and papaya leaves) and obtained as many as 1,228 research articles on Moringa leaves, katuk leaves and papaya leaves in 2020 to 2021 and obtained 13 research articles that were significantly states that there is an effect of consumption of Moringa leaves, katuk leaves and papaya leaves on breast milk in postpartum mothers.

From the above background, it is found that there are still gaps in research that state that it is not yet known significantly what plants can increase breast milk production so that researchers are interested in conducting a systematic review of meta-analyses from various journals.

MATERIAL AND METHODS

The research design used was a meta-analysis with a group contrast meta-analysis research design. The form of group contrast research design is a type of research that involves one or more variables that are measured in two or more groups of respondents and then compared. There are two forms of group contrast research that are often used, namely experimental research and group differences. In this meta-analysis, group contrast meta-analysis was used with experimental research. Experimental research is a type of research that compares groups of respondents based on the experimental conditions they receive (the treatment group and the control group) on the effect size. Research uses different measurement methods. With these very different measures, they produce different numerical values which are only meaningful in relation to the particular operation and scale used.

RESULTS

Based on the screening using the PRISMA diagram, several articles were obtained and then selected articles that met the criteria, namely 13 research articles.

Moringa Oleifera

Table 1. *Effect Size* Standardized mean difference Moringa Oleifera on Postpartum Mother's Milk Production

	high school	***p value***
Fixed Effect Model	4,54	0,0000
Random Effect Model	11,84	0,0017

From the results of data analysis in table 1, it is found that there is an effect of giving moringa oleifera to postpartum mother's milk production with a p-value of 0,0017.

Sauropus Androgynus

Table 2. *Effect Size* Standardized mean difference Sauropus Androgynus on Postpartum Mother's Milk Production

	high school	***p value***
Fixed Effect Model	3,53	0,0000
Random Effect Model	7,24	0,0000

From the results of data analysis in table 2, it is found that there is an effect of giving sauropus androgynus on postpartum mother's milk production with p-value 0,0000.

Carica Papaya Leaf

Table 3. *Effect Size* Standardized mean difference Carica Papaya Leaf on Postpartum Mother's Milk Production

	high school	***p value***
Fixed Effect Model	4.85	0,0000
Random Effect Model	8.57	0,0000

From the results of data analysis in table 3, it was found that there was an effect of giving carica papaya leaf on postpartum mother's milk production with a p-value of 0,0000.

DISCUSSION

The Effect of Moringa Oleifera on Breast Milk in Postpartum Mothers

The results of the meta-analysis of research articles on the effect of moringa oleifera on breast milk production in postpartum mothers obtained a p-value of 0,0017 (< 0,005) which means that there is a significant effect between moringa oleifera on breast milk production.

Food factors have a significant effect on breast milk production in addition to psychological factors and baby sucking. Moringa plant (Moringa oleifera) is a local food ingredient that has the potential to be developed in the diet of nursing mothers, because it contains phytosterol compounds that function to increase and facilitate breast milk production. Nutrient elements consisting of protein, carbohydrates, fats, vitamins, and minerals, are found in Moringa leaves. Therefore, it is no exaggeration to say that Moringa leaves are plants that are able to meet almost all human nutritional needs[4].

Moringa leaves are efficacious to overcome various complaints due to vitamin and mineral deficiencies, such as vitamin A deficiency (visual impairment), choline deficiency (fat accumulation in the liver), vitamin B1 deficiency (beri-beri), vitamin B2 deficiency. (dry and cracked skin), vitamin B3 deficiency (dermatitis), vitamin C deficiency (bleeding gums), calcium deficiency (osteoporosis), iron deficiency (anemia), and protein deficiency (cracked hair and growth disorders in children). Moringa leaves Phytosterol compounds will have a laktogogum effect, including sterols. Lactogogum has the potential to stimulate the hormones oxytocin and prolactin which are useful for increasing breast milk production[4].

Moringa oleifera in Indonesia is a local tree that has the potential to be developed as food for nursing mothers. It contains phytosterols (classified into steroids) has the function to increase and facilitate breast milk supply (galactagogue effect). In this study, researchers assessed the effect of M. oleifera leaf intake on pregnant women and lactating mothers on DHA and AA concentrations in breast milk [5].

Effect of Sauropus Androgynus on Breast Milk in Postpartum Mothers

The results of the meta-analysis of research articles on the effect of sauropus androgynus on breast milk production in postpartum mothers obtained a p-value of 0,0000 (< 0,005) which means that there is a significant effect between sauropus androgynus on milk production.

Sauropus androgynous is a potential commodity that is easy to find in Indonesia, so far many Indonesians have experienced its benefits, but scientific evidence to measure its effect on breast milk volume is still scarce[6].

The right way to increase breast milk production is to consume foods or herbs that are believed to increase milk production. Katuk (Saoropus androgynus) leaves are also believed to help increase breast milk production. Katuk leaves are rich in nutritional content compared to papaya leaves and leaves, so they have the potential to be used as natural medicinal ingredients[7].

The Effect of Carica Papaya Leaf on Mother's Milk in Postpartum Mothers

The results of the meta-analysis of research articles on the effect of Carica papaya leaf on breast milk production in postpartum mothers obtained a p-value of 0,0000 (< 0,005) which means that there is a significant effect between Carica papaya leaf on breast milk production.

Papaya is a plant from the Caricaceae family originating from Central America and grows in tropical and subtropical regions. Papaya leaf is a plant that contains galactagogue, a substance that can help increase and increase milk production. Lactagogue affects stimulating the release of the hormones oxytocin and prolactin, such as alkaloids, polyphenols, steroids, and flavonoids, effectively increasing the secretion and ejection of breast milk[8]. Papaya leaf is

one of the galactagogues that contains quercetin which can activate the hormone prolactin and help increase breast milk[9].

CONCLUSION

The conclusion of the research is that there is a significant effect between moringa oleifera, saurous androgynus and carica oaoaya leaf on postpartum mother's milk production with each p-value of 0,0017 for the variable moringa oleifera, 0,0000 for the variable saurous androgynus, and 0,0000 for the variable carica papaya leaves.

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