

Effectiveness Of Young Papaya Book Consumption To Increasing Breast Milk Production In Breastfeeding Mothers

Masniar Hutahayan^{1*}, Ita Herawati²

¹ Lecturer STIKes Abdi Nusantara, Indonesia

² Student STIKES Abdi Nusantara, Indonesia

*Corresponding Author:

Email: masniarmasniar988@gmail.com

Abstract.

In 2020 UNICEF reported that the average coverage of exclusive breastfeeding in the world for infants aged 0-6 months only reached 38%. In Indonesia in 2018, the coverage rate for exclusive breastfeeding was 52%, in West Java Province in 2020 the coverage for exclusive breastfeeding for infants was 72.6%. The low coverage of exclusive breastfeeding can be caused by various factors, one of which is the production of breast milk which is not optimal, so that many babies have less nutritional needs because mothers cannot provide maximum breast milk according to the nutritional needs of babies. Breast milk production can be increased by doing complementary therapies, one of which is consuming young papaya stew. To determine the effectiveness of consuming young papaya stew to increase the smooth production of breast milk in nursing mothers. Quasy experiment with one group pretest-posttest design. The sample in this study were all postpartum mothers at PMB Midwife Masniar in November 2022 as many as 30, the sampling technique was total sampling. The smooth distribution of milk production before consuming young papaya stew was mostly substandard 60.0% and after consuming unripe papaya stew most of it was smooth 63.3%. There is an effectiveness of consuming young papaya stew to increase the smooth production of breast milk in nursing mothers (p value 0.000). There is the effectiveness of consuming young papaya stew in increasing the smooth production of breast milk in nursing mothers. It is hoped that midwives can provide midwifery care for postpartum mothers who experience breast milk difficulties by consuming young papaya stew.

Keywords : Young papaya stew, smooth milk and Consumption.

I. INTRODUCTION

During the Covid-19 pandemic, the World Health Organization (WHO) and the United Nations International Children's Emergency Fund (UNICEF) continued to encourage the continuation of exclusive breastfeeding for babies for the first 6 months of a child's life without separating the mother from the baby, while still paying attention to appropriate transmission control measures. In 2020 UNICEF reported that the average coverage of exclusive breastfeeding in the world for infants aged 0-6 months only reached 38%. According to UNICEF, exclusive breastfeeding in developing countries can prevent 90% of under-five deaths from diarrhea and acute respiratory infections (UNICEF, 2020). The results of the Indonesian Demographic and Health Survey (SDKI) in 2018, stated that there was an increase in the number of exclusive breastfeeding coverage in Indonesia, from 42% in the 2013 SDKI to 52% in the 2018 SDKI, but the increase was still far from the national target set by the Ministry of Health, which was 80%. Non-optimal breastfeeding has an impact on the occurrence of deaths due to neonatal infections 45%, deaths due to diarrhea 30%, and due to respiratory infections in toddlers 18% (Ministry of Health RI, 2020). Data from the West Java Provincial Health Office in 2021 shows that the coverage of exclusive breastfeeding for babies in the last three years has fluctuated, namely in 2018 by 71.3%, in 2019 coverage decreased to 69.3%, and in 2020 coverage increased again to 72.6%. The coverage is still less than the national standard set, which is 80% (West Java Provincial Health Office, 2021). Based on data from the Bogor Regency Health Office, it shows that the percentage of coverage of exclusive breastfeeding in infants in the last three years has increased but has not met the expected National target of 80%.

In 2018 exclusive breastfeeding coverage was 64.25%, in 2019 it was 66.59% and in 2020 it continued to increase to 70.93% (Bogor Regency Health Office, 2021). The low coverage of exclusive breastfeed-

ing can be caused by various factors, one of which is the factor of breast milk production that is not optimal, so that many babies have insufficient nutritional needs because the mother cannot provide maximum breast milk that suits the baby's nutritional needs. The cause is due to poor maternal nutritional intake, unbalanced food menu, and also eating less regular foods. Other causes that can affect the production of breast milk are improper attachment, lack of intensity of breastfeeding, consumption of drugs and contraceptives (Astutik, 2017). The impact of breast milk that is not smooth makes mothers think about taking the step of stopping breastfeeding and replacing it with formula milk. Another impact of uneven milk production is that it can inhibit the process of exclusively breastfeeding in babies up to 6 months of age, so that the scope of breastfeeding is not met. Babies who are not given exclusive breastfeeding can affect their growth and development and protect them from various diseases (Roesli, 2019). Indonesian government policies related to exclusive breastfeeding include the Minister of Health of the Republic of Indonesia No. 240 / MENKES / PER / V / 1985 which regulates the replacement of breast milk, the Ministry of Health of the Republic of Indonesia No. 450 / Menkes / SK / IV2004 concerning exclusive breastfeeding, PP No. 33 of 2012 concerning exclusive breastfeeding and Permenkes RI No. 15 of 2013 concerning the provision of special facilities for breastfeeding and / or milking in order to protect mothers who leave their babies to work outside the home can still provide breast milk to their babies either giving directly or by milking. The regulations made by the central government have so far not been evaluated because their implementation is left to each region. Even though local governments do not all implement this regulation, as a result, implementation in the regions has not fully gone well.

Efforts to increase breastfeeding that have been widely carried out based on the results of studies are counseling, besides that there is also assistance by family and hypnolactation. The results of the study show that counseling or counseling / education about exclusive breastfeeding is the most widely done effort. Obstetric care that is often applied to breastfeeding mothers in smoothing breast milk is by doing breast care, gently massaging the breasts, giving warm compresses to the breasts, reducing stress, and milking or pumping breast milk at least once every 3 hours to increase breast milk production (Husanah, 2020). Facilitating breast milk production can be done pharmacologically, one of which is by consuming supplements such as Moloco + B12, Lactaman, Asifit, Lancar ASI, Black Mores Pregnancy and Breastfeeding Gold, etc. Some supplements may have side effects for the mother and it is possible that the herbal ingredients of such supplements are also consumed by the baby through milk. If taking supplements has side effects for mothers and babies, there are several suggestions that need to be considered by mothers who are breastfeeding their babies, namely consuming vegetables and fruits that can increase breast milk volume. The amount of breast milk can be overcome by mothers by consuming katuk vegetables, Siamese pumpkin, green beans, long beans and young papaya (Soetiarso, 2017). Increasing breast milk production can also be done with complementary therapies, one of which is consuming a decoction of young papaya. Papaya as one of the fruits that contain Lactagogum is a tropical fruit known as carica papaya. Latagogum is a drug that can increase or facilitate the production of milk. Latagogum has an effect in stimulating the production of the hormones oxytocin and prolactin such as alkaloids, polyphenols, steroids, flavonoids which are effective in increasing the secretion and production of breast milk. Other ingredients found in papaya fruit such as starch (43.28%), sugar (15.15%), protein (13.63%), fat (1.29%), moisture (10.65%), fiber (1.88%). This shows that young papaya fruits are rich in nutrients and explains that papaya is beneficial in many treatments (Desi, Sherly, 2018). Young papaya also contains enzymes that provide the effect of increasing the amount and diameter of kalenjer mammae, vitamins C, A, B and E, as well as minerals. The chemical content of young papaya fruit contains polyphenols, and steroids. Polyphenols and steroids in papaya can increase the work of the hormone prolactin which stimulates the alveolus to form breast milk.

Polyphenols and Steroids also have an effect on the work of homron oxytocin to drain breast milk, so that breast milk flows more rapidly in mothers who consume papaya fruit than mothers who do not consume it (Wilda, 2021). In the green papaya fruit, there is a lot of vitamin A content, which is 0.7065 in 1 gram of green papaya fruit. Vitamin A is an important micronutrient for postpartum mothers. Vitamin A helps the anterior hypophyse to stimulate the secretion of the hormone prolactin inside the epithelium of the brain and

activates the epithelial cells in the alveoli to hold milk inside the breast (Siagian, 2020). Carolin research (2021) on 30 post partum mothers by giving young papaya fruit regularly 3 times a day as much as 600 mg for 7 days. It shows that there are significant differences in the increase in breast milk production in mothers before the consumption of young papaya fruit. Research by Risa Pitriani, (2020) said that mothers who were given young papaya fruit vegetables as much as 400 grams 3x a day for 5 days managed to collect breast milk as much as 80 ml. A preliminary survey that has been conducted at PMB Midwife Masniar through interviews with 10 breastfeeding mothers found that 6 of them had breast milk production problems. The six people said that their milk was little and not smooth both when sucked by the baby and when it was pumped, so the baby kept crying and the mother was forced to stop breastfeeding exclusively and switched to formula milk. When asked if they had ever consumed a decoction of young papaya to facilitate breast milk, they said they had never eaten young papaya stew in any processed form. Based on the background description above, researchers are interested in conducting a study entitled "The effectiveness of consumption of young papaya decoction on increasing the smoothness of breast milk production in breastfeeding mothers at PMB Midwife Masniar in 2022".

II. METHODS

Quasi experimental with one group pretest protest with design. The samples in this study were all puerperal mothers at PMB Midwife Masniar in November 2022 as many as 30 people who met the requirements for inclusion and exclusion criteria, a sampling technique, namely total sampling. The analysis method used is univariate and bivariate analysis with paired simple t test.

III. RESEARCH RESULTS

Table 1. Distribution of the Frequency of Smooth Milk Production in Breastfeeding Mothers Before Consumption Young Papaya Stew

No	Smooth ASI production	Frequency	%
1.	Fluent	4	13,3
2.	Pretty smooth	8	26,7
3.	Less fluid	18	60,0
Total		30	100.0

Based on the table above, it can be seen that from 30 respondents before consuming young papaya decoction, most of the milk production was not smooth as many as 18 people (60.0%), breast milk production was quite smooth as many as 8 people (26.7%), and current milk production as many as 4 people (13.3%).

Table 2. Distribution of Frequency of Smooth Milk Production in Breastfeeding Mothers After Consumption Young Papaya Stew

No	Smooth ASI production	Frequency	%
1.	Fluent	19	63,3
2.	Pretty smooth	10	33,3
3.	Less fluid	1	3,3
Total		30	100.0

Based on the table above, it can be seen that out of 30 respondents after consuming young papaya decoction, most of the milk production was smooth as many as 19 people (63.3%), breast milk production was quite smooth as many as 10 people (33.3%), and breast milk production was less smooth as much as 1 person (3.3%).

Table 3. Effectiveness of Consumption of Young Papaya Decoction Against Improved Smoothness Breast milk production in breastfeeding mothers

Group	Categories Smoothness	Frequency		Mean		Mean Difference	SD Difference	P value
		Pre test	Post-test	Pre test	Post-test			

Consumption of	Fluent	4	19	54,67	78,67	24,00	3,823	0,000
decoction of	Pretty smooth	8	10					
young papaya	Less fluid	18	1					

Based on the table above, showing the difference in the average smoothness of breast milk in breastfeeding mothers before and after consumption of young papaya decoction is 24.00 with a standard deviation of 3.823. The results of the statistical test obtained a p-value of 0.000 ($p < 0.05$), which means that there is a significant difference in the smooth production of breast milk before and after consuming young papaya decoction. Based on the data above, it can be concluded that there is an effectiveness of consumption of young papaya decoction against increasing the smooth production of breast milk in breastfeeding mothers, because there is a significant difference in the average value between the pre-test group and the post-test group.

IV. DISCUSSION

Distribution of Frequency of Smooth Milk Production in Breastfeeding Mothers Before Consumption of Young Papaya Decoction

From the results of the study, it can be seen that from 30 respondents before consuming young papaya decoction, most of the milk production was not smooth as many as 18 people (60.0%), breast milk production was quite smooth as many as 8 people (26.7%), and smooth milk production as many as 4 people (13.3%). Breast milk production is a cumulative value based on what is seen in the field that can be measured using the large volume of breast milk that the baby drinks for one day. Signs of babies getting enough breast milk are babies drinking breast milk every 2-3 hours or in 24 hours at least getting breast milk 8-10 times in the first 2-3 weeks, babies will urinate (BAK) at least 6-8 times a day, the baby's weight increases by 125 grams per week and there is no decrease in baby weight more than 7% of birth weight (Susilaningrum, 2018). The results of this study are in line with the results of Nani Jahriani's research (2020) who said that the results of the study were obtained by the majority of respondents before consuming young papaya decoction, whose milk production was not smooth.

The results of this study are also supported by the results of research by Dewi Sartika Siagian (2019) who said that the average milk expenditure was not smooth before the consumption of young papaya. According to the researchers' assumptions from the results of the study, it can be seen that breastfeeding mothers before consuming young papaya decoction of their milk production are mostly not smooth, this is because mothers who are breastfeeding their babies must get additional food to be able to provide exclusive breastfeeding, avoiding setbacks in the manufacture and production of breast milk. If the mother's food constantly does not meet adequate nutritional intake, of course the milk-making glands in the mother's breast will not work perfectly and will eventually affect breast milk production. Nursing mothers should pay attention to several things to improve the quality and amount of milk volume they have. Consuming vegetables and fruits can increase the volume of breast milk. The amount of breast milk can be overcome by consuming katuk vegetables, Siamese pumpkin, string beans, and young papaya.

Distribution of Frequency of Smooth Milk Production in Breastfeeding Mothers After Consumption of Young Papaya Decoction

From the results of the study, it can be seen that from 30 respondents after consuming young papaya decoction, most of the milk production was smooth as many as 19 people (63.3%), breast milk production was quite smooth as many as 10 people (33.3%), and breast milk production was less smooth as much as 1 person (3.3%). Young papaya aka green papaya is one of the best fruits that is believed to be able to increase breast milk production. This green papaya fruit is a papaya that has not yet fully ripened. The advantage of this fruit is that its potassium content is quite high, which is 50% more than oranges. This potassium content is needed by mothers during breastfeeding. Eating young papaya or green papaya will help breast milk production because it increases the production of the hormone oxytocin. This hormone will be able to improve mood. A good mood will make breast milk production smoother and more abundant. In addition, green papaya fruit contains a variety of important vitamins such as Vitamin A, B, C and E. Green papaya is usually consumed as a dish and accompanied by various delicious side dishes and chili sauce. Young papaya can also

be used as a fresh sour vegetable (Okta, 2019). The results of this study are in line with the results of Nani Jahriani's research (2020) who said that the results of the study were obtained by the majority of respondents after the consumption of young papaya decoction of breast milk production became smooth.

The results of this study are also supported by the results of research by Dewi Sartika Siagian (2019) who said that the average milk expenditure becomes smooth after consuming young papaya. According to the researchers' assumptions from the results of the study, we can see that after consuming young papaya decoction, most breastfeeding mothers produce smooth milk production, this is because young papaya is a source of enzymes that can break down fats and carbohydrates. The enzyme content in this fruit is even more than when the fruit is ripe. Green papaya has more active enzymes than mature ones. The two enzymes contained are chymopapain and papain. Both can petrify the breakdown of protein fats and carbohydrates. Consume vegetables and fruits that can increase the volume of breast milk. The small amount of breast milk can be overcome by consuming katuk vegetables, Siamese pumpkin, peas, and young papaya. The chemical content contained in young papaya contains vitamins A, C, E, K, folic acid, as well as minerals, such as magnesium, potassium, and calcium. The content in raw papaya can also increase the hormone oxytocin, which regulates breast milk production.

Effectiveness of Consumption of Young Papaya Decoction against Increasing Smooth Milk Production in Breastfeeding Mothers

From the results of the study, it can be shown that the average difference in breast milk smoothness in breastfeeding mothers before and after consumption of young papaya decoction is 24.00 with a standard deviation of 3.823. The results of the statistical test obtained a p-value of 0.000 ($p < 0.05$), which means that there is a significant difference in the smooth production of breast milk before and after consuming young papaya decoction. Based on the data above, it can be concluded that there is an effectiveness of consumption of young papaya decoction against increasing the smooth production of breast milk in breastfeeding mothers, because there is a significant difference in the average value between the pre-test group and the post-test group. Young papaya contains more Papain than mature papaya. Papain is a proteolytic enzyme that helps break down proteins into smaller protein fragments called peptides and amino acids. Raw papaya is also rich in sources of magnesium, potassium, vitamins A, C, E, and B. Raw papaya has a tasteless, slightly bitter with a hard texture. This fruit is often present in rojak dishes with chili sauce. Eating young papaya can support the healing of infections, reduce pain, and reduce the risk of certain diseases (Sendari, 2019). Papaya fruit has protective, antibacterial, laxative, and lactagogum effects whose properties have been scientifically proven from papaya fruit. Papaya has lactagogum content (lactagogue) which can be one of the ways to increase the rate of secretion and production of breast milk and become a strategy to increase the effectiveness of exclusive breastfeeding (Nadiyah, 2018).

Papaya fruit is a type of plant that contains lactagogum, where this lactagogum can stimulate the hormones oxytocin and prolactin, steroids, flavonoids and other substances that are effective in increasing and facilitating breast milk production. Hormonally Reflex Prolactin is a hormone that can produce breast milk. The pathophysiology is that when the baby sucks the mother's breast, neorohormonal stimulation of the puts and areola of the mother's breast occurs. These stimuli are passed to the pituitary through the nervous vagus, then to the anterior lobe. From this lobe will secrete the hormone prolactin, which flows into the blood circulation to the glands that produce breast milk. The glands will be stimulated to produce breast milk. The results of this study are in line with the results of research by Dewi Sartika Siagian (2019) who said that the P value of 0.000 means that there is an influence of green papaya consumption on increasing breast milk production. The results of this study are also supported by the results of research by Ifni Wilda (2021) who said that the Wilcoxon Statistical test, obtained a value of $p = 0.001$ so that H_0 was rejected, it was concluded that there was an effectiveness of young papaya on the smooth production of breast milk. According to the researchers' assumptions from the results of the research that has been carried out, breastfeeding mothers before being given young papaya, the milk production is not smooth and after consuming young papaya decoction, the results of most breastfeeding mothers with smooth milk production are obtained, This is because young green papaya contains lactagogum, where this lactagogum can stimulate the hormones oxytocin

and prolactin, steroids, flavonoids and other substances that effectively increase and facilitate breast milk production.

For respondents after consuming young papaya decoction but the milk production is still not smooth, this is due to lack of regularity in consuming it and the dosage is not as recommended. Because at the time of this study it was not supervised for 24 hours so that respondents forgot or were lazy to consume young papaya so that breast milk production was not optimal. The results of the study also showed that each mother's milk production is different, this is because it is not only influenced by the consumption of young papaya decoction, but is caused by other factors such as the nutrients consumed by breastfeeding mothers are different so that it affects the production of breast milk in breastfeeding mothers, besides that it is also caused by the length of pregnancy and the mother's weight. From the results of the study, it was found that the effectiveness of young papaya on the smooth production of breast milk in breastfeeding mothers because the lactogogum content has the potential to stimulate the hormones oxytocin and prolactin such as alkaloids, polyphenols, steroids, flavonoids in increasing and facilitating breast milk production. Based on the results of research that there was 1 person who did not experience an increase in the smoothness of breast milk, this was due to the lack of interest of mothers in consuming young papaya decoction on the grounds that they did not like it. The intake of raw or green papaya can increase the production of the hormone oxytocin in the body, thereby increasing the flow of breast milk. Raw papaya can be processed and added to the meal menu after childbirth. Young papaya fruits are low in calories and do not contain cholesterol. Eating young papaya fruit can make you full and help you lose weight after giving birth.

V. CONCLUSION

The smooth distribution of breast milk production before consuming young papaya decoction is mostly less than 60.0% smooth. The distribution of smooth milk production after consuming young papaya decoction was mostly smooth 63.3%. There is an effectiveness of consumption of young papaya decoction against increasing the smooth production of breast milk in breastfeeding mothers at PMB Midwife Masniar in 2022 (p value 0.000).

REFERENCES

- [1] Astutik, RY. (2017). Breasts and Lactation. Jakarta: Salemba Medika.
- [2] Carolin Tiara, (2021). Giving Young Papaya Fruit (*Carica Papaya Linnaeus*) to the Adequacy of Breast Milk in Post Partum Mothers. *Journal of SMART Midwifery*, 2021, 8 (2), 97-103 SJKB 2021. doi:http://dx.doi.org/10.34310/sjkb.v8i2.474 pISSN: 2301-6213, eISSN: 2503-0388
- [3] Ministry of Health R.I., (2017), Exclusive Breastfeeding in Breastfeeding Mothers, <http://depkes.go.id>, Retrieved April 23, 2021.
- [4] Bogor Regency Health Office, (2020), Bogor Regency Health Profile in 2020, Bogor Regency Health Office.
- [5] West Java Provincial Health Office, (2020), West Java Provincial Health Profile in 2020, West Java Provincial Health Office
- [6] Desi, Sherly. (2018). Increased Breast milk Production with Papaya Fruit Consumption. *Journal of Health Prima Nusantara Bukittinggi*: 9(1).1-4.
- [7] Husanah, E., (2020), Obstetric Care In Mrs P with Breast Milk Production Problems Through Date Therapy, *Journal of Health Communication*, Vol. 11, No.1, 71-77.
- [8] Ministry of Health R.I., (2020), National Strategy: Increasing Breastfeeding, Ministry of Health of the Republic of Indonesia, Jakarta. Available form: <http://www.bankdata.depkes.go.id>, Retrieved 23 April 2021.
- [9] Nadiyah D L, Kharisma Y, Yuniarti. (2018). Determination of the degree of acute toxicity of water extract of young papaya fruit (*carica papaya l.*) in mice using purposed new recommended method. *Indonesian Herbal Medicine*.1 (2):15-9.
- [10] Nani Jahriani, (2020). The Relationship of Green Papaya Fruit Consumption to Smooth Milk Production in Breastfeeding Mothers in Tanjung Alam Village in 2020. eISSN: 2655-8688 pISSN: 2548-3943 <http://jurnal.stikes-sitihajar.ac.id/index.php/jhsp> Received March, Accepted May, Publish July p: 172-177 Volume 2, Number 2 – 2020
- [11] Okta Ivana, (2019). Green Papaya, a Fruit to Facilitate Breast Milk Production. <https://www.fimela.com/parenting/read/3993141/pepaya-hijau-buah-untuk-memperlancar-produksi-asi>

- [12] Roesli, U., (2019), Getting to Know Exclusive Breastfeeding, EGC, Jakarta.
- [13] Soetiarso, L., (2017), Supplementary Food for Smooth Breastfeeding in Mothers, IDAI Issuing Agency, Jakarta.
- [14] Siagian Sartika, (2020). Green Papaya Consumption Against Increased Breast Milk Production. *Journal of Endurance* : Scientific Studies of Health Problems. E-ISSN - 2477-6521 Vol 5(3) October 2020 (514-521)
- [15] Sendari Ayu, (2019). 5 Benefits of Consuming Young Papaya for Health, Rich in Nutrients. <https://hot.liputan6.com/read/4066032/5-manfaat-konsumsi-pepaya-muda-untuk-kesehatan-kaya-nutrisi>
- [16] Susilaningrum, R., Nursalam, & Utami, S. (2018). Infant Nursing Care and Child. Salemba Medika
- [17] UNICEF, (2020). World Breastfeeding Week: UNICEF and WHO are calling on the Government and Stakeholders to support all breastfeeding mothers in Indonesia during COVID-19. <https://www.who.int/indonesia/news/detail/03-08-2020-pekan-menysui-dunia-unicef-dan-who-menyatakan-pemerintah-dan-pemangku-kepentingan-agar-mendukung-semua-ibu-menysui-di-indonesia-selama-covid-19>. Retrieved 26/11/2020
- [18] Wilda Ifni, (2021). The effectiveness of papaya (carica papaya l) on the smooth production of breast milk in breastfeeding mothers. *Jomis (Journal of Midwifery Science)* P-ISSN : 2549-2543 Vol 5, No 2, July 2021 E-ISSN : 2579-7077