

EFFECTIVENESS OF CONSUMPTION OF BANANA KEPOK HEART VEGETABLES ON FLOWNESS MILK PRODUCTION IN BREASTFEEDING MOTHERS IN TPMB MURNI

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Abstract

Background: In 2020 UNICEF reported that the average coverage of exclusive breastfeeding in the world for babies aged 0-6 months only reached 38%. Exclusive breastfeeding in developing countries can prevent 90% of under-five deaths due to diarrhea and acute respiratory infections. Exclusive breastfeeding coverage in Indonesia is 52%, in Banten Province it is 72.6%, and in Pandeglang it is 70.93%. Low coverage of exclusive breastfeeding can be caused by various factors, one of which is not optimal breast milk production. The impact of breast milk not flowing smoothly makes mothers think about taking steps to stop breastfeeding and replace it with formula milk. One way to speed up breast milk production is by consuming boiled kepok banana blossoms which can increase breast milk production. The results of a preliminary study conducted at TPMB Murni found that 6 breastfeeding mothers had problems with breast milk production which was not smooth so they switched to formula milk. **Research Objective:** To determine effectiveness Consumption of kepok banana flower vegetables on the smooth production of breast milk in breastfeeding mothers. **Research Method:** *Quasi experimental with one group pretest-posttest design research type*. The sample in this study was all postpartum mothers at TPMB Murni in November 2023, totaling 30 people, the sampling technique was *total sampling*. **Research Results:** Frequency distribution of smooth breast milk production before consuming the Kepok banana flower vegetable was mostly substandard at 56.7%, and after consuming the Kepok banana flower vegetable the majority was smooth at 63.3%. Kepok banana flower vegetables can effectively increase the smooth production of breast milk in breastfeeding mothers at TPMB Murni in 2023 (*p value* 0.000). **Conclusions and Suggestions:** Kepok banana flower vegetables can effectively increase the smooth production of breast milk in breastfeeding mothers at TPMB Murni in 2023. It is hoped that midwives will be more active in providing counseling to breastfeeding mothers to consume lots of vegetables and fruit to increase breast milk production.

Keywords: Banana Kepok Grove, Breast Milk Production, Breastfeeding Mothers

Introduction

The World Health Organization (WHO) and the United Nations International Children's Emergency Fund (UNICEF) continue to encourage the continuation of exclusive breastfeeding for babies during 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 babies aged 0-6 months only reached 38%. According to UNICEF, exclusive breastfeeding in developing countries can prevent 90% of under-five deaths due to diarrhea and acute respiratory infections (UNICEF, 2020).

Exclusive breastfeeding coverage in Indonesia in 2022 was recorded at only 67.96%, down from 69.7% in 2021, indicating the need for more intensive support so that this coverage can increase (WHO, 2023). The results of the 2018 Indonesian Demographic and Health Survey (SDKI) indicate that there has been an increase in the number of exclusive breastfeeding coverage in Indonesia, namely from 42% in the 2013 SDKI to 52% in the 2018 SDKI, however this increase is still far from the national target determined by the Ministry of Health, namely 80%. Suboptimal breastfeeding has an impact on 45% of deaths due to neonatal infections, 30% of deaths due to diarrhea, and 18% of deaths due to respiratory tract infections in children under five (Central Statistics Agency, 2020).

exclusive breastfeeding (ASI) on the island of Java in 2021, according to the Central Statistics Agency (BPS) report. The percentage of exclusive breastfeeding in the capital city reached 65.63%. This figure decreased by 5.23 points compared to the previous year. In 2020, the percentage of exclusive breastfeeding was 70.86%. The percentage of exclusive breastfeeding in DKI Jakarta in 2021 is even lower than 2019 which was 68.08% (DKI Jakarta Health Service, 2021).

Low coverage of exclusive breastfeeding can be caused by various factors, one of which is the factor that breast milk production is not optimal, so that many babies have less nutritional needs because mothers cannot provide maximum breast milk that suits the baby's nutritional needs. The cause is due to the mother's poor nutritional intake, an unbalanced diet, and also consuming food less regularly (Tjahjani, 2018).

The impact of breast milk not flowing smoothly makes mothers think about taking steps to stop breastfeeding and replace it with formula milk. Another impact of non-smooth breast milk production is that it can hamper the process of exclusively breastfeeding babies up to 6 months of age, so that breastfeeding coverage is not met. Babies who are not given exclusive breast milk can affect their growth and development and protect them from various diseases (Roesli, 2018).

The Indonesian government's policies regarding exclusive breastfeeding include the Republic of Indonesia Minister of Health Regulation no. 240/MENKES/PER/V/1985 which regulates breast milk substitutes, Indonesian Ministry of Health No. 450/Menkes/SK/IV2004 concerning exclusive breastfeeding, PP No. 33 of 2012 concerning exclusive breastfeeding and RI Minister of Health Regulation no. 15 of 2013 concerning the provision of special facilities for breastfeeding and/or expressing breast milk to protect mothers who leave their babies to work outside the home and can still give their babies breast milk, either directly or by expressing breast milk. So far the regulations made by the central government have not been evaluated because their implementation is left to each region. Even though not all regional governments implement this regulation, as a result, implementation in the regions has not yet gone completely well (Ministry of Health of the Republic of Indonesia, 2020).

Efforts to increase breastfeeding that have been widely carried out based on the results of studies are counseling, apart from that there is also assistance by families and hypnolactation. The results of the study show that counseling or counseling/education regarding exclusive breastfeeding is the most frequently carried out effort. Midwifery care that is often applied to breastfeeding mothers to facilitate breast milk is by carrying out breast care, gently massaging the breasts, giving warm compresses to the breasts, reducing stress, and expressing or pumping breast milk at least 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, *BlackMores Pregnancy and Breastfeeding Gold*, etc. Some supplements may have side effects for the mother and it is possible that the herbal ingredients of these supplements are also consumed by the baby through breast milk. If consuming supplements has side effects for the mother and baby, there are several suggestions that mothers who are breastfeeding their babies need to pay attention to, namely consuming vegetables and fruit which can increase the volume of breast milk. Mothers can overcome small amounts of breast milk

by consuming katuk vegetables, chayote, green beans, long beans and banana blossoms (Soetiarso, 2018).

Increasing breast milk production can also be done with complementary therapies, one of which is consuming boiled banana blossoms. Banana flowers contain carbohydrates, protein, minerals, phosphorus, calcium, iron, fat, vitamin A, vitamin B1 and vitamin C. Complete nutrition is important to meet the nutritional needs of breastfeeding mothers which can trigger breast milk production. Apart from that, banana blossoms contain *lactagogum* which has the potential to stimulate the hormones oxytocin and prolactin such as alkaloids, polyphenols, steroids, flavonoids and other substances that are most effective in increasing and facilitating breast milk production. The prolactin reflex is hormonal to produce breast milk, when the baby sucks the mother's nipple (Fahmi, 2018).

The banana flower used as an intervention in this research was the Kepok banana flower. Kepok banana blossoms were chosen because they were cheap and very easy to obtain. Apart from that, Kepok banana blossoms are very good for consumption because they contain complex nutritional value. The heart of the Kepok banana has a savory and bland taste, so it is widely used as a raw material in processed food. In contrast to other banana blossoms, such as king banana blossoms have an astringent taste, marlin banana blossoms have a sour taste and white Ambon banana blossoms have a bitter taste (Putro and Rosita, 2018).

Based on a preliminary study conducted at TPMB Murni through interviews with 10 breastfeeding mothers and it was found that 6 of them had breast milk production problems. The six people said that their breast milk was little and not smooth either when sucked by the baby or when pumped, so that the baby continued to cry and the mother was forced to stop giving exclusive breast milk and switch to formula milk. When asked whether they had ever consumed banana blossoms to facilitate breast milk, they said they had never eaten banana blossoms of any kind or in any processed form. Based on the background description above, the researcher is interested in conducting research entitled " Effectiveness of consumption of kepok banana flower vegetables on the smooth running of breast milk production in breastfeeding mothers in TPMB Murni in 2023 ".

Research Methods

Quasi experimental with a one group pretest-posttest design research type. The sample in this study was all postpartum mothers at TPMB Murni in November 2023, totaling 30 people, the sampling technique was *total sampling*. The analytical method used is univariate and bivariate analysis with paired simple *tests*.

Research Result

Table 1. Frequency Distribution of Smooth Breast Milk Production in Breastfeeding Mothers Before and After Consuming Kepok Banana Heart Vegetables

Breast milk production	Pre-test		Post test	
	Frequency	%	Frequency	%
Fluent	1	3.3	19	63.3
Pretty smooth	12	40.0	10	33.3
Not that smooth	17	56.7	1	3.3
Total	30	100.0	30	100.0

Based on the table above, it can be seen that of the 30 respondents before consuming kepok banana flower vegetables, the majority of respondents had substandard breast milk production, 17 people

(56.7%), 12 people (40.0%) had fairly smooth breast milk production, and 12 people (40.0%) had moderate breast milk production. smoothly as much as 1 person (3.3%). After consuming kepok banana flower vegetables, the majority of respondents had 19 people (63.3%) have smooth breast milk production, 10 people (33.3%) had quite a lot of it and 1 person (3.3%) had less than fluent milk production.

Table 2. Effectiveness of Consuming Kepok Banana Heart Vegetables on Smooth Breast Milk Production In Breastfeeding Mothers

Group	Breast milk production		Mean	elementary school	P-value
	Category	F			
Pre-test	Fluent	1	52.67	12,847	0,000
	Pretty smooth	12			
	Not that smooth	17			
Post test	Fluent	19	80.00	13,646	
	Pretty smooth	10			
	Not that smooth	1			

Based on the table above, it can be seen that the majority of respondents before consuming the Kepok banana flower vegetable, most of their breast milk production was not smooth, 17 people and after consuming the Kepok banana flower vegetable, the majority of their breast milk production was smooth, 19 people. The average breast milk production before consuming kepok banana flower vegetables is 52.67 and the standard deviation is 12.847. Meanwhile, the average breast milk production after consuming kepok banana flower vegetables is 80.00 and the standard deviation is 13.646. The results of statistical tests obtained a *p-value* of 0.000 ($p < 0.05$), which means there is a significant difference in the smoothness of breast milk production between before and after consuming kepok banana flower vegetables. Based on the data above, it can be concluded that consumption of kepok banana flower vegetables can effectively increase 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.

Discussion

Smooth Breast Milk Production in Breastfeeding Mothers Before and After Consuming Kepok Banana Heart Vegetables

From the research results, it can be seen that before consuming kepok banana flower vegetables, the majority of respondents' breast milk production was substandard at 56.7%. After consuming kepok banana flower vegetables, the majority of respondents had 63.3% smooth breast milk production.

Breast milk production is a cumulative value based on what is seen in the field which can be measured using the volume of breast milk a baby drinks in one day. Signs that a baby is getting enough breast milk is that the baby drinks breast milk every 2-3 hours or within 24 hours, at least getting breast milk 8-10 times in the first 2-3 weeks, the baby will urinate (BAK) at least 6-8 times a day, heavy The baby's body increases by 125 grams per week and there is no decrease in the baby's weight of more than 7% of birth weight (Susilaningrum, 2018).

The results of this research are in line with the research results of Nurul Sugiarti Syam (2021) who said that the majority of respondents who consumed banana flower vegetables had smooth breast milk production, 86.7%, and respondents who did not consume banana flower vegetables, the majority of their breast milk production was not smooth, 73.3%. The results of this research are also supported by the research results of Vitrilina Hutabarat (2020) which stated that before consuming boiled kepok

banana blossoms, most of the respondents' breast milk production was less than smooth (85%) and after consuming boiled kepok banana blossoms it became 100% smooth.

According to the researchers' assumptions, from the research results, it can be seen that breastfeeding mothers before consuming kepok banana blossoms which are processed into vegetables, their breast milk production is mostly substandard, this is because mothers who are breastfeeding their babies must receive additional food to be able to provide exclusive breastfeeding, avoiding setbacks in manufacture and production of breast milk. If the mother's diet consistently does not meet adequate nutritional intake, of course the milk-making glands in the mother's breasts will not work perfectly and will ultimately affect breast milk production. Nursing mothers must pay attention to several things to increase the quality and volume of breast milk they have. Consuming vegetables and fruit can increase breast milk volume. After consuming boiled kepok banana blossoms, most breastfeeding mothers have smooth breast milk production, this is because kepok banana blossoms can smooth the blood cycle (have anticoagulant properties) and facilitate breast milk production. Apart from that, the smooth production of breast milk is influenced by food, which is wrong. One of them is banana blossom which is useful for increasing breast milk production in postpartum mothers because banana blossoms contain lactogogum which functions to stimulate the hormone oxytocin to produce breast milk. The chemical content contained in banana blossoms such as calories, protein, fat, carbohydrates, vitamin A, vitamin B1, vitamin C and important minerals such as phosphorus, calcium and Fe (iron) will be very helpful in the process of making breast milk. So it is recommended that breastfeeding mothers consume banana flower vegetables to facilitate breast milk production so that exclusive breastfeeding can be achieved.

Effectiveness of Consuming Kepok Banana Heart Vegetables on Smoothness Breast Milk Production in Breastfeeding Mothers

From the research results, it can be seen that the average breast milk production before consuming kepok banana flower vegetables is 52.67 and the standard deviation is 12.847. Meanwhile, the average breast milk production after consuming kepok banana flower vegetables is 80.00 and the standard deviation is 13.646. The results of statistical tests obtained a *p-value* of 0.000 ($p < 0.05$), which means there is a significant difference in the smoothness of breast milk production between before and after consuming kepok banana flower vegetables. Based on the data above, it can be concluded that consumption of kepok banana flower vegetables can effectively increase 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.

Banana flowers contain complex nutrients such as protein, carbohydrates, vitamins, minerals, iron and healthy fats. Complete nutrition is important to meet the nutritional needs of breastfeeding mothers which can trigger breast milk production. The high protein and vitamin content in banana blossoms can stimulate the milk-producing glands, therefore consuming banana blossoms is highly recommended for pregnant women to increase breast milk production before giving birth (Astawan, 2018).

Banana blossoms which contain lactagogum have the potential to stimulate the hormones oxytocin and prolactin such as alkaloids, polyphenols, steroids, flavonoids and other substances that are most effective in increasing and facilitating breast milk production. The hormonal prolactin reflex to produce breast milk, when the baby sucks the mother's nipple, *neorohormonal stimulation occurs* in the mother's nipple and areola. This stimulation is transmitted to *the pituitary via the vagus nerve*, then to *the anterior lobe*. From this lobe, the hormone prolactin is released, enters the bloodstream and reaches the glands that make breast milk. This gland will be stimulated to produce breast milk (Fahmi, 2018).

The mechanism of action of *lactagogum* in helping to increase the rate of secretion and production of breast milk is by directly stimulating protoplasmic activity in the secretory cells of the mammary glands and secretory nerve endings in the mammary glands which results in increased milk secretion, or

by stimulating the hormone prolactin which is a lactogenic hormone in the mammary gland cells. - alveolar epithelial cells which will stimulate lactation (Sari, 2018).

The hormonal prolactin reflex to produce breast milk, when the baby sucks the mother's nipple, neurohormonal stimulation occurs in the mother's nipple and areola. This stimulation is transmitted to the pituitary via the vagus nerve, then to the anterior lobe. From this lobe, the hormone prolactin is released, enters the bloodstream and reaches the glands that make breast milk. This gland will be stimulated to produce breast milk (Fahmi, 2018). The use of kepok banana blossoms in increasing breast milk production can help the success of government programs in efforts to provide exclusive breastfeeding (Astawan, 2018).

The results of this research are in line with the research results of Haryati Astuti (2020) who said that the effectiveness of banana blossoms on breast milk production in breastfeeding mothers in Teluk Kiambang Village, Tempuling Community Health Center Working Area, Tempuling District, Indragiri Hilir Regency is very influential with $p = 0.040$, meaning there is an influence of banana blossom consumption on production. breast milk in nursing mothers. The results of this research are also supported by the results of research by Hutabarat (2020) which states that from the results of statistical tests, the $p \text{ value} = 0.000$, where this value is smaller than $0.05 (p < \alpha)$, then H_0 is rejected and H_a is accepted so it can be concluded that there is There is a significant difference in average between smooth and non-fluent breast milk after being given the intervention, or in other words, there is an influence of banana blossom consumption on increasing breast milk production in postpartum mothers at the Deli Tua Community Health Center.

According to researchers' assumptions, from the results of research conducted at TPMB Murni, it was found that after consuming boiled kepok banana blossoms, most breastfeeding mothers had smooth breast milk production, this is because kepok banana blossoms can smooth the blood cycle (have anticoagulant properties) and facilitate breast milk production. Apart from that, the smooth production of breast milk is influenced by food, which is wrong one of them is banana blossoms which are useful for increasing breast milk production in postpartum mothers because banana blossoms contain lactogogum which functions to stimulate the hormone oxytocin to produce breast milk. The lack of excretion of breast milk in breastfeeding mothers is because the mother thinks that breast milk will not be enough to meet the baby's needs, so the mother feels afraid of giving breast milk to the baby and the nipples are not prominent which results in the mother not giving breast milk to her baby. Incorrect baby feeding techniques can also result in mothers not giving breast milk to their babies.

Banana flowers contain lactagogum which has several compounds that can increase breast milk production and quality. Increased breast milk production is influenced by the presence of polyphenols and steroids which influence the prolactin reflex to stimulate the alveoli which work actively in producing breast milk. Based on research results, each mother's breast milk production is different, this is because it is not only influenced by the consumption of banana blossoms, but is caused by other factors such as the nutrition consumed by breastfeeding mothers which is different, thus affecting breast milk production in postpartum mothers. also by the length of the pregnancy and the mother's weight.

The heart of the Kepok banana contains *lactagogum*. *Lactagogum* has the potential to stimulate the hormones oxytocin and prolactin such as *alkaloids*, *polyphenols*, *steroids*, *palfonoids* and other substances which are most effective in increasing and facilitating breast milk production. Banana hearts contain lactagogum *which* has several compounds that can increase breast milk production and quality. Increased breast milk production is influenced by the presence of polyphenols and steroids which influence the prolactin reflex to stimulate the alveoli which work actively in producing breast milk. In this study, researchers used *a one group pretest-posttest design*, or in other words, one respondent had their breast milk production measured before and after consuming kepok banana blossom stew for the reason that the sample size was limited and in this study the respondents were mothers who breastfed on the second day. 4-7 after giving birth, where most of the breast milk production was not smooth, the

researchers decided to use *a one group pretest-posttest design* research design, because they wanted to know the changes in breast milk production clearly in respondents after consuming boiled kepok banana blossoms. So it is recommended for midwives to provide midwifery care to postpartum mothers to facilitate breast milk production by advising postpartum mothers to consume kepok banana flower vegetables.

Conclusion

The frequency distribution of smooth breast milk production before consuming the Kepok banana flower vegetable was mostly substandard at 56.7%, and after consuming the Kepok banana flower vegetable the majority was smooth at 63.3%. Kepok banana flower vegetables can effectively increase the smooth production of breast milk in breastfeeding mothers at TPMB Murnim in 2023 (*p value* 0.000).

Suggestion

It is hoped that the results of this research can increase the knowledge of breastfeeding mothers and be used as material for providing education about foods that can facilitate breast milk production to support exclusive breastfeeding.

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