

Comparison of The Effectiveness of Decil of Bangun-Bangun Leaf with Cassava Leaves in The Production of Breast Milk

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Abstract:

Based on a report by the Central Statistics Agency, the percentage of exclusive breastfeeding in the capital city decreased by 5,23% compared to the previous year. The low level of exclusive breastfeeding will impact the quality and viability of the next generation. Efforts to increase the coverage of breast milk can be made by non-pharmacological methods, one of which is by consuming wake-up leaves and cassava leaves containing galactagogue and vitamin A for breast milk. The aim of this study is knowing the comparison the effectiveness of giving a decoction of wake-up leaves with cassava leaves in breast milk production at PT. Jakarta Medica Administration in 2023. This study used a two-group pretest and posttest design. A sample of 32 respondents after giving birth 40 days to 50 days was taken using a non-probability sampling technique. The instruments used were Breast Milk Production Observation Sheets and SOPs for interventions. The data normality test used Shapiro Wilk and data analysis using the Paired T-Test and Independent T-Test. The average volume of breast milk increased after being given the intervention of 361,25 ml of guava leaves and 256,25 ml of cassava leaves. The results of the Paired T-Test showed a p-value of 0,71 which means that both interventions were effective in increasing breast milk volume. Based on the average value of the two interventions that experienced an increase in breast milk production, the results of the Paired T-Test showed a p-value of 0.71, which means that both interventions were effective in increasing breast milk volume. and There is no difference in the effectiveness of Bangun-Bangun leaves and cassava leaves for breast milk production, but Bangun-Bangun leaves are more effective for increasing milk production.

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INTRODUCTION

Lactation is the process of breastfeeding, from the production of breast milk (ASI) to the baby sucking and swallowing breast milk. Mother's Milk (ASI) is the best and most ideal food for babies because all the nutrients needed in the right quantities and considerations are contained in breast milk (Wiji & Mulyani, 2013). According to the World Health Organization (WHO), exclusive breastfeeding is breastfeeding without adding other liquids, whether formula milk, water, orange juice, or other additional food, before six months (Unicef, 2013). Exclusive breastfeeding is one of the efforts to reduce infant mortality. Exclusive breastfeeding can reduce the risk of death from respiratory tract infections and diarrhea because breast milk is proven to have beneficial bacteria and substances babies need to form intestinal microflora, which is important for the baby's immune system (Wiji, 2013).

WHO data for 2016 shows that the average rate of exclusive breastfeeding worldwide is around 38%. In Indonesia, 96% of women have breastfed children, but only 42% have had exclusive breastfeeding. In 2020 WHO again presented data in the form of exclusive breastfeeding rates globally. However, there has been an increase; this figure has not increased significantly, namely around 44% of infants aged 0-6 months worldwide who received exclusive breastfeeding during the 2015-2020 period of 50% target of exclusive breastfeeding. The low level of exclusive breastfeeding will impact the quality and vitality of the next generation. Globally in 2019, 144 million children under five were estimated to be stunted, 47 million were underweight, and 38.3 million were overweight or obese (WHO, 2020).

Riskesdas (2018) states that the proportion of breastfeeding patterns for infants aged 0-6 months in Indonesia is 37.3% exclusive, 9.3% partial, and 3.3% dominant. Dominant breastfeeding is breastfeeding babies but never giving a little water or water-based drinks such as tea as food or pre-lacteal drinks before the milk comes out (Ministry of Health, 2018).

DKI Jakarta has the lowest percentage of exclusive breastfeeding (ASI) on the island of Java in 2021, according to a report from the Central Statistics Agency (BPS). The rate 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 rate of exclusive breastfeeding in DKI Jakarta in 2021 is even lower than in 2019, which was 68.08%.

Decreased milk production causes the breastfeeding rate to fall, and anatomical and physiological abnormalities, age, parity, and maternal nutritional intake are internal factors that affect milk production (Anggraeni, 2015). Currently, breast milk production seems to be considered a non-serious problem; this is because if breast milk production is reduced, most mothers switch to using formula milk so that the coverage of breastfeeding for babies is low, while breast milk is the first and best food for babies that is natural and contains various nutrients needed for the process of growth and development of infants (Prasetyono, 2012).

Breastfeeding provides many benefits for both mother and baby, such as increasing the quality of emotional relationships and improving the baby's immunity. Therefore, there can be several impacts on babies if they do not get exclusive breastfeeding after birth, including babies at risk of experiencing health problems, such as digestive infections, upper respiratory infections, and ear infections. In addition to health problems caused by infection, babies will also be more susceptible to non-infectious diseases when they grow old, such as obesity, allergies, malnutrition, asthma, and eczema. As well as less-than-optimal brain growth and development.

Efforts to increase the coverage of breast milk can be carried out using several methods, namely pharmacological and non-pharmacological methods. Pharmacological management that can help expedite postpartum milk production includes the Oxytocin Massage method, Marmet Technique, Warm Compresses, Rolling (back) Massage, Breast Care, and the SPEOS Method. Still, due to limited information in health services regarding implementation procedures, these methods are only known but rarely given by nurses as caregivers to patients. While management of non-pharmacological or traditional medicine to increase milk production in the long term and not cause harmful side effects, one of which is by consuming Bangun-Bangun leaves and cassava leaves as galactagogues and vitamin A in traditional processed forms, namely as stew, vegetables, or soup (Ayu, 2019).

Bangun-Bangun leaves are believed to be able to increase milk production and have a high nutritional content. The substance in the leaves is lactogagum which increases the secretion rate and milk production. In addition, wake-up leaves have other ingredients such as antioxidant immunoglobulin, anti-hypertension, anti-inflammatory, and the content of vitamin C and Vitamin B12 in the leaves will help mothers meet their nutritional needs (Mangkuji, 2018).

Cassava leaves or cassava leaves are easy to find and are beneficial for mothers. Cassava leaves are easily used as food to increase milk production, which is useful for the success of exclusive breastfeeding programs because cassava leaves contain galactagogue substances that can increase milk production so that they can meet the nutritional needs of babies through breast milk. Apart from containing galactagogue substances that can increase breast milk production, cassava leaves also contain vitamins and minerals, one of which is vitamin A which is very much needed for the formation of high-quality breast milk that babies need in the first months of life. (Prisusanti et al., 2013).

Based on the study on Bangun-Bangun leaves, it was stated that there was an effect of increasing milk production after being given Bangun-Bangun leaves; the intervention was given for seven days with a dose of 150 grams once a day. The result was that after being given the plant leaf vegetable, there was an increase in milk production, measuring the volume of breast milk at one week of giving the plant, and the results of the milk volume increased by 34.8% (Putri, 2011). In a similar study, in his research, the leaves of Bangun-Bangun were given to 150 postpartum mothers given for 7 days, and measuring the volume of breast milk increased at one week of sharing the leaves of the plant, and the results of the milk volume increased by 47.4% (Ariescha, 2019).

Based on the results of research on cassava leaves, there is an effect of giving boiled sweet potato/cassava leaves on the adequacy of breast milk in nursing mothers by consuming boiled sweet potato leaves regularly, namely every two times per day for seven days, with a dose of 100 grams of sweet potato leaves, the adequacy of breast milk after being given a decoction of sweet potato leaves in nursing mothers is known to experience a 32% increase in breast milk. (Weni, 2017). Then research on postpartum mothers will examine the adequacy of breast milk production before and after giving boiled sweet potato leaves every day for seven days as much as 200 grams using an observation sheet. There was an effect of boiled cassava leaves on the adequacy of breast milk, which increased up to 35.9% after giving boiled cassava leaves (Sharif & Author, 2020).

The results of a survey conducted by the author in the breastfeeding room of PT. Jakarta Medical Administration conducted interviews with several breastfeeding employees, and several mothers still did not give exclusive breastfeeding. With several breastfeeding employees, the milk produced was around 270 ml to 300 ml in a day doing breast pumps with a frequency of 3 to 4 times breast pump and given to the baby after coming home from work at night without direct breastfeeding. The reasons received from mothers for not giving exclusive breastfeeding were due to low milk production, so mothers took the initiative to give their babies formula milk. So, the writer decided to choose PT. Jakarta Medika Administration is a research location because of the results of a survey of employees who breastfeed at PT. Due to the lack of milk production, many Jakarta Medical Administration still has not given exclusive breastfeeding. Therefore, researchers are interested in comparing the effectiveness of providing a decoction of Bangun-Bangun leaves and cassava leaves to breast milk production, which can be assessed because of the outcome of milk production volume.

METHOD

This type of research is quantitative with a quasi-experimental design. using a two-group pretest and posttest design. Non-probability sampling technique. A sample of 32 people was divided into the Bangun-Bangun leaf intervention group of 16 people and the cassava leaf

intervention group of 16 people. This division was based on a purposive technique. A data analysis using Paired T-Test and Independent T-Test.

Measurements were made before and after the intervention was given. The research instrument used to collect data in the study used the Breast Milk Production Observation Sheet and the SOP for giving a decoction of the leaves of the plant and cassava leaves. Processing of boiled leaves of Bangun-Bangun and cassava leaves using 150 grams of Bangun-Bangun leaves plus 2.5 grams of salt and boiled with 500 ml of water for 3 minutes to obtain vegetables waking leaves. How to consume 1 time a day during the day. Likewise, for cassava leaves using, 150 grams of cassava leaves were added to 2.5 grams of salt and boiled with 500 ml of water for 3 minutes to obtain vegetable cassava leaves. How to consume 1 time a day during the day.

Inclusion criteria in this study include primipara, Multipara, Grande multipara; postpartum day 40 to 50; exclusive breastfeeding status; working at PT. Jakarta Medical Administration and willing to be research respondents by signing informed consent. The exclusion criteria in this study were to give the baby additional formula milk besides breast milk, have allergies, or do not like vegetables.

RESULT

The Effect of Bangun-Bangun Leaves and Cassava Leaves on Breast Milk Volume

Table 1. The Effect of Bangun-Bangun Leaves and Cassava Leaves on Breast Milk Volume

Intervention	Test	n	Min	Max	Mean	SD	Mean difference	p-value
Bangun-Bangun Leaves	Pretest	16	100	580	243.43	150.60	177.81	0.000
	Posttest	16	170	700	361.25	168.04		
Cassava Leaves	Pretest	16	90	515	208.81	145.30	47.43	0.000
	Posttest	16	120	580	256.25	148.18		

Table 1 shows that the minimum volume of breast milk before being given the leaves of Bangun-Bangun is 100 ml, the maximum is 580 ml, the mean is 243.43 ml, and the standard deviation is 150.60. After being given the leaves, the minimum value is 170 ml, and the maximum is 700 ml. The mean is 361.25 ml, and the standard deviation is 168.04, which means there is an increase in the volume of breast milk after being given the Bangun-Bangun leaves. It was obtained that the average volume of breast milk before giving the leaves was 243.43 ml, while the average volume of milk after giving the leaves was 361.25 ml, the mean difference was 117.81 ml. In addition, a $p\text{-value}=0.000 < 0.05$ was obtained, which means that there was an effect of giving Bangun-Bangun leaves to increase the volume of breast milk at PT. Jakarta Medical Administration in 2023.

It is known that the minimum volume of breast milk before being given cassava leaves is 90 ml, the maximum is 515 ml, the mean is 208.81 ml, and the standard deviation is 145.30. After being given cassava leaves, the minimum value is 120 ml, the maximum is 580 ml, the mean value is 256.25 ml, and a standard deviation of 148.18, which means an increase in the volume of breast milk after being given cassava leaves. The average volume of breast milk before giving cassava leaves was 208.81 ml, while the average volume after giving cassava leaves was 256.25 ml mean difference of 47.43 ml. In addition, a $p\text{-value}$ of $0.000 < 0.05$ was obtained, which means that there was an effect of giving cassava leaves to increase the volume of breast milk at PT. Jakarta Medical Administration in 2023.

Comparison of the Effectiveness of Bangun-Bangun Leaves and Cassava Leaves on Breast Milk Production

Table 2. Comparison of the Effectiveness of Bangun-Bangun Leaves and Cassava Leaves on Breast Milk Production

Milk volume	Mean		Mean difference	p-value
	Bangun-Bangun Leaves	Cassava Leaves		
Posttest	361.25	256.25	105	0.07

Data in Table 2 is from the two groups' different test results using the independent t-test. From these data, it is known that the posttest p-value is $0.07 > 0.05$, which means there is no difference between the administration of Bangun-Bangun leaves and Cassava leaves on milk production at PT. Jakarta Medical Administration in 2023.

DISCUSSION

Based on the average volume of breast milk before and after the Bangun-Bangun leaf intervention, namely 243.43 ml pretest and 361.25 ml posttest. And in cassava leaves, the average pretest volume of breast milk was 208.81 ml and 256.25 ml post-test. Paired T-Test results in a p-value of $0.000 < 0.05$ were obtained, which means that the administration of Bangun-Bangun leaves, and cassava leaves affect increasing the volume of breast milk.

Based on the research results, it is known that the value of the p-value posttest is $0.07 > 0.05$. It can be concluded that there is no difference between the administration of Bangun-Bangun leaves and cassava leaves in milk production at PT. Jakarta Medical Administration in 2023.

The increase in the volume of breast milk experienced by respondents after being given a decoction of Bangun-Bangun leaves is evidenced by the results of a study conducted by Kumala & Dede (2021) regarding the effectiveness of Bangun-Bangun leaves in increasing breast milk production. The results showed that the results of measuring milk production were given to the plant leaves, not the leaves. It can be concluded that there was an effect of giving the leaves. That is, there was a change in the average value of measuring the volume of breast milk as an indicator of breast milk production. given the leaves of the Bangun-bangun, namely 180 ml to 400 ml, there is an effect of giving the leaves on breast milk.

Weni's research (2017) concerning the effect of giving boiled sweet potato or cassava leaves on the adequacy of breast milk. The results showed that of 20 respondents, all respondents (100%), before being given sweet potato leaf decoction, breastfeeding mothers had insufficient milk. It was known that of the 20 respondents, almost all respondents, namely 17 people (85%), after being given sweet potato leaf decoction, ASI flow has increased or sufficient ASI.

Bangun-Bangun leaves are believed to be able to increase milk production and have a high nutritional content. The substance contained in the leaves is lactogagum which increases the rate of secretion and milk production. In addition, Bangun-Bangun leaves have other ingredients such as antioxidant immunoglobulin, anti-hypertension, and anti-inflammatory. The content of vitamin C and Vitamin B12 in the leaves will help mothers meet their nutritional needs (Mangkuji, 2018). Cassava leaves are easily used as food to increase milk production, which is useful for the success of exclusive breastfeeding programs because cassava leaves contain galactagogue substances that can increase milk production so that they can meet the nutritional needs of babies

through breast milk. Apart from containing galactagogue substances that can increase breast milk production, cassava leaves also contain vitamins and minerals, one of which is vitamin A which is very much needed for the formation of high-quality breast milk that babies need in the first months of life. (Prisusanti et al., 2013).

According to the researchers, there was no difference in the volume of breast milk in the Bangun-Bangun leaf and cassava leaves groups. The two groups of leaves and cassava leaves have the effect of helping to increase the volume of breast milk production in nursing mothers. Based on the average value of the leaves, the leaves are more effective for increasing milk production.

CONCLUSION

From the results of the research that has been done, it can be concluded as follows: the average value of breast milk volume before the intervention was given was 243.43 ml, and after the intervention was given, it was 361.25 ml; the average value of breast milk volume before the cassava leaf intervention was given was 208,81 ml, and the average value of breast milk after the cassava leaf intervention was given was 256.25 ml; there is an effect of giving a decoction of Bangun-Bangun leaves on breast milk (ASI) production at PT Administrative Medika Jakarta in 2023 with a p -value of 0.000; there is an effect of giving boiled cassava leaves on the production of breast milk (ASI) at PT. Jakarta Medical Administrative in 2023 with a p -value of 0.000; There is no difference between the administration of Bangun-Bangun leaves and cassava leaves on milk production at PT. Jakarta Medical Administration Year 2023, but the leaves of the plant are more effective for increasing breast milk production.

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CONFLICT OF INTEREST

There is no conflict of interest.

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