The Effectiveness Of Local Plants Katuk Leaves And Papaya Leaves As Galactagogues In Increasing Breast Milk Production At TPMB Badriah Susilawati In 2022

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Abstract.
Background: The main source of food and nutrition for newborns is breast milk (ASI). The nutrients that newborns need to meet their nutritional needs during the first six months of life are found in breast milk. Purpose of Writing: to find out the Effectiveness of Local Plants Katuk Leaves and Papaya Leaves as Galactagogues in Increasing Breast Milk Production at TPMB Badriah Susilawati in 2022. Research Methods: The research methodology used in this research is a quasy experimental research design used is a Nonequivalent Control Group Design with a quantitative approach. Researchers wanted to know the effectiveness of local plants katuk leaves and papaya leaves as a galactagogue to increase breast milk production. Research Results: Independent statistical test results sample t test value Sig. (2-tailed) namely 0.189 which is 0.189 > 0.05, so it can be concluded that there is no difference between giving katuk leaves and papaya leaves to increase milk production so that there is a similarity in the effectiveness of loka katuk leaves and papaya leaves as a galattagogue for increasing milk production in TPMB Badriah Susilawati Year 2022 Conclusions and Suggestions: The results of this study are expected to be a guide for female students who are interested in learning more about how to increase milk production by consuming foods that act as galactagogues, especially papaya and katuk leaves.

Keywords: *Katuk Leaves, Papaya Leaves And Increase Breast Milk Production.*

I. INTRODUCTION

The main source of food and nutrition for newborns is breast milk (ASI). The nutrients that newborns need to meet their nutritional needs during the first six months of life are found in breast milk. White blood cells, immunological components, proteins, hormones and digestive enzymes are all found in breast milk. Breast milk is also rich in complete carbohydrates, lipids, multivitamins, water and minerals, making it ideal for babies and easily absorbed by them. It also has no negative effect on the kidney function of the growing baby. Therefore, the best thing you can do for your baby's nutrition, growth and development is to exclusively breastfeed him. The ability of exclusive breastfeeding to prevent sudden infant death syndrome is a significant advantage. Race, nutritional status, lactation stage, and mother's diet are some of the variables that can affect the composition of breast milk (Pratiwi, Nurjanah and Windiyani, 2020).Chemicals called galactagogues can increase milk production. Milk production can be increased in two ways: improving breastfeeding technique; or by consuming foods that increase milk production, especially those that have the potential to contain natural ingredients which are effective galactagogues; and routinely perform breast care from an early age. Ingredients that contain galactagogues include carbohydrates, lipids, proteins, some B vitamins, vitamin C, iron, and calcium among other minerals. Alkaloids, polyphenols, steroids, and flavonoids which act as galactagogues to stimulate the release of the hormones oxytocin and prolactin are beneficial in increasing milk supply. (Budiarti, Novi Yulia. 2020).One of the various plants that can be found in Indonesia is the papaya plant (Carica papaya). This herb is often used in traditional medicine.

Leaves are the component most often used in medicine. Alkaloids, karpain, papain enzymes, vitamin C, and vitamin E are all found in papaya leaves (Anindhita and Oktaviani, 2016) According to research findings, 90% of mothers are between 20 and 35 years old, 70% of mothers have previously experienced spontaneous labor without difficulty, 40% of mothers have completed junior high school, and 70% of primiparous mothers. Prolactin levels generally increased after the intervention with an average of 19.59 ng/ml, while neonatal weight gain generally increased by 165 grams. The Wilcoxon test yielded p values of 0.047 < 0.05 for increased prolactin levels and 0.009 < 0.05 for increased neonatal weight, respectively.A traditional medicinal plant known as katuk (Sauropus androgynus L.) has high nutritional value, functions as

an antibiotic, and contains beta carotene as an active dye. It contains the phytochemicals saponins, flavonoids, and tannins. Meanwhile, isoflavonoids that resemble estrogen can slow down the loss of bone mass (osteomalacia), saponins have been shown to be effective against cancer, microbes, and can strengthen the immune system (Santoso, 2009 in Oktaviani.J, 2018)

In Syahadat's research, A. D. (2020). states Various pharmacological actions of katuk leaves (Sauropus androgynus (L.) Merr.) have been proven. The chemical composition of katuk leaves contributes to its pharmacological activity. Phytochemical screening aims to provide an overview of the class of compounds present in the plants studied. Alkaloids, steroids/triterpenoids, saponins, tannins, polyphenols, glycosides, and flavonoids were found during the phytochemical screening of katuk leaves (Sauropus androgynus (L.) Merr. The results of the phytochemical screening test showed that katuk leaves (Sauropus androgynus (L.) Merr. L. extract) .)) in 90% ethanol contains components of alkaloids, triterpenoids, saponins, glycosides, and flavonoids.In Triananinsi's study, (2020) it was stated that there is a connection between giving katuk leaf vegetables to multiparous mothers to facilitate breastfeeding and accompanying mothers whose milk production is limited to eating katuk leaves as a routine food source. There is also research by Kusumaningrum, D. (2017) which claims that sticking papaya leaves has a considerable impact on regular milk production. Giving papaya leaves as a stick is less effective than taking papaya leaf herbal medicine.Based on previous studies which stated that papaya leaves and katuk leaves can increase milk production. As a result, researchers are motivated to take the research topic "Effectiveness of Local Plants Katuk Leaves and Papaya Leaves as a Galactagogue on Increasing Breast Milk Production at TPMB Badriah Susilawati in 2022"

II. METHODS

The research methodology used in this research is a quasy experimental research design used is a Nonequivalent Control Group Design with a quantitative approach. Researchers wanted to know the effectiveness of local plants katuk leaves and papaya leaves as a galactagogue to increase breast milk production. complete sampling method of 20 people, with 10 people using katuk leaves and 10 people using papaya leaves. sample by taking respondents who happen to be there or the time available at the location according to research needs. The implementation stage is to find out the benefits of katuk and papaya leaves in increasing breast milk production.The implementation stage of this research uses primary data that has been adjusted to the research objectives.

In the group giving katuk leaves and papaya leaves, the method of administration was consumption of katuk and papaya leaves in the form of vegetables. Prior to the intervention of giving katuk leaf vegetable and papaya leaf vegetable, the researcher conducted an assessment on milk production whether milk production was in the category of smooth, moderately smooth and substandard. Then the mother is given katuk leaf vegetables and papaya leaf vegetables routinely 2x a day for 7 days, then on day 8 the increase in milk production is reassessed whether it is smooth, moderately smooth and not so smooth. The use of research instruments, namely katuk and papaya leaf vegetables, and the researcher prepared an observation sheet. The inclusion criteria were willing to be respondents, 3 days postpartum mothers, exclusion criteria for mothers experiencing CED, mothers experiencing illness during the study.

III. RESEARCH RESULT

A. UNIVARIATE ANALYSIS

1. Frequency Distribution of Breast Milk Production in Katuk Leaf Giving Groups in 2022

Milk production	**Pre-test**		**Post-test**	
	(f)	**(%)**	**(f)**	**(%)**
Fluent	0	0	8	80
smooth enough	8	80	2	20
Not that smooth	2	20	0	0
Total	**10**	**100**	**10**	**100**

Based on Table 1 above, the majority of the 10 respondents in the group showed fairly smooth milk production before giving katuk leaves, namely 8 respondents (80%), whereas after giving katuk leaves all respondents showed smooth breastfeeding. production, totaling 8 respondents (80%), and milk production quite smoothly, totaling 2 respondents (20%).

2. Distribution of the Frequency of Breast Milk Production in the Papaya Leaf Giving Group in 2022

Milk production	**Pre-test**		**Post-test**	
	(f)	**(%)**	**(f)**	**(%)**
Fluent	0	0	7	70
smooth enough	4	40	3	30
Not that smooth	6	60	0	0
Total	**10**	**100**	**10**	**100**

Based on Table 2 above, it can be seen that of the 10 respondents in the group before giving papaya leaves, the majority showed substandard milk production, namely 6 people (60%), while after giving papaya leaves, all respondents showed smooth milk production, totaling 7 people (70%) and production Breast milk is quite smooth, amounting to 3 people (30%).

3. Average Milk Production in the Katuk Leaves Giving Group in 2022

Breast Milk Production Assessment	**N**	**Mean**	**standar deviasi**	**Min**	**Max**
Before Giving Katuk Leaves	10	56,00	10,750	40	70
After Giving Katuk Leaves		76,00	15,775	60	100

This is evident from table 3 above that the assessment of breast milk production before administration of katuk leaves obtained an average value of 56.00 and a standard deviation of 10.750 with an assessment of breast milk production based on an assessment of the yes answer questionnaire regarding breast milk production with a minimum score of 40% (milk production substandard) and a maximum of 70% (quite fluent) while the average value after giving dauk katuk is 76.00 and a standard deviation of 15.775 with an assessment of breast milk production based on the assessment of the yes answer questionnaire regarding breast milk production with a minimum score of 60% (milk production quite smooth) and a maximum of 100% (smooth milk production)

4. Average Milk Production in the Papaya Leaf Giving Group in 2022

Penilaian Produksi ASI	**N**	**Mean**	**standar deviasi**	**Min**	**Max**
Before Giving Papaya Leaves	10	48,00	16,193	30	70
After Giving Papaya Leaves		80,00	16,330	60	100

Based on table 4 above, it shows that the evaluation of breast milk production before administration of papaya leaves produces an average value of 48.00 and a standard deviation of 16.193 with an assessment of breast milk production based on an assessment of the Yes answer questionnaire regarding breast milk production with a minimum score of 30% (milk production is substandard) and a maximum of 70% (smooth enough) while the average value after giving papaya leaf is 80.00 and a standard deviation of 16.330 with an assessment of breast milk production based on an assessment of the yes answer questionnaire regarding breast milk production with a minimum score of 60% (milk production is quite smooth) and a maximum of 100% (smooth milk production)

5. Shapiro-Wilk Normality Test Results

It is first necessary to run a normality test before starting the bivariate analysis. After Levene's tests for homogeneity and normality were completed. This test tries to determine that it is the administration of the intervention group and the control group that causes the average change in gross motor development, not the variability in the respondents. The data is said to be homogeneous if the p value is greater than 0.05

Pengukuran	**statistik**	**df**	**sig**	**Keterangan**
before giving katuk leaves	0,892	10	0,177	Normal
After giving katuk leaves	0,855	10	0,067	Normal
Before giving papaya leaves	0,873	10	0,109	Normal
After giving papaya leaves	0,859	10	0,073	Normal

According to the findings of Table 5, the katuk and papaya leaf treatments both passed the Kolmogorov-Smirnova and Shapiro-Wilk normality tests (p > 0.05). If the sig number is greater than 0.05, then it is considered normal; otherwise, it is considered abnormal. Therefore, the data on giving katuk and papaya leaves are usually scattered based on these results. So then the researchers conducted an independent sample T test to continue the statistical analysis of the difference test between giving katuk leaves and papaya leaves.

B. BIVARIATE ANALYSIS

1. The Effectiveness of Local Plants Katuk Leaves and Papaya Leaves as Galactagogues in Increasing Breast Milk Production at TPMB Badriah Susilawati in 2022

Variabel	n	Independen Sampel T Tes		Sig	t	Sig. (2-tailed)
		M	SEf			
giving katuk leaves Giving papaya leaves	20	6,000	4,397	0,313	1,365	0,189

*n = Sampel; M = Mean; S-ED= standar Eror Differenced

Based on Table 6 above, it is known that the average value after giving katuk leaves and papaya leaves is 6.000, the standard error difference is 4.397, the sig is 0.313 and the t value is 1.365 Independent statistical test results sample t test Sig value. (2-tailed), namely 0.189, which is 0.189 > 0.05, it can be concluded that giving katuk leaves is no different from papaya leaves in increasing breast milk production so that there is a similarity in the effectiveness of loka katuk leaves and papaya leaves as a galattagogue for increasing milk production in TPMB Badriah Susilawati in 2022

DISCUSSION

This research shows the results of independent statistical tests sample t test value Sig. (2-tailed) namely 0.189 which is 0.189 > 0.05, it can be concluded that giving papaya leaves or katuk leaves makes no difference to increasing milk production so that there is a similarity in the effectiveness of loka katuk leaves and papaya leaves as a galattagogue to increase milk production in TPMB Badriah Susilawati in 2022.The results of the research on giving katuk leaves, which found effectiveness on breast milk production, are in line with previous research, namely according to Suyanti, S., & Anggraeni, K. (2020) which stated that according to research results, katuk leaves are one of the plants that can stimulate the secretion of Breast milk, therefore mothers who consume katuk leaves every morning and evening for a week will see an increase or increase in the quantity of their breast milk.The results of research on giving papaya leaves obtained the effectiveness of giving papaya leaves on breast milk production in line with research according to Novi, R., et al. (2020) previously, namely the treatment before and after administration of stir-fried papaya leaves to the amount of milk production for nursing mothers was significantly different (p=0.000). Therefore, it can be concluded that giving stir-fried papaya leaves to nursing mothers will increase milk production. This research is expected to be the basis for midwives' recommendations to educate breastfeeding mothers about the benefits of stir-fried papaya leaves and how to process them to increase milk production.However, the current research proves the results that both katuk and papaya leaves have properties in terms of breast milk production which has been explained by various studies revealing that a number of food ingredients in Indonesia act as lactagogums.

Papaya leaves and katuk leaves are plants that act as galactagogues. Polyphenyls and steroids found in katuk leaves contribute to the prolactin reflex, stimulate the alveoli to produce breast milk, and stimulate the release and flow of breast milk through stimulation of the hormone oxytocin. Meanwhile, according to research (Setyono, et al, 2016) explains one galactogogue containing guaercetin which can activate the hormone prolactin.There is also research opinion (Wijayanti et al., 2019) Many mineral elements found in papaya leaves can help produce breast milk. Through a mechanism involving the hormones prolactin and oxytocin, which are important for the production and release of breast milk in nursing mothers, the minerals manganese and potassium can help increase milk supply. As for preparations for making stir-fried papaya leaf vegetables, the researchers followed based on previous research, namely according to (Novi, et al, 2020) The composition of processed stir-fried papaya leaves is as much as 300 grams of processed papaya leaves, 50 grams of carrots, 5 grams of shallots, 2 grams of galangal, 10 grams of garlic, 1 gram of red chili, 10

grams of tomatoes, 15 grams of sugar, 5 grams of salt, 1 gram of bay leaf and 100 ml of water to make a stir fry. As much as 300 grams of processed papaya leaves are boiled in water until tender, then squeezed, drained and washed with cold water that has been previously boiled. After 45 grams of oil is heated, add 50 grams of carrots and 300 grams of papaya leaves after sauteing the spices and bay leaves until the aroma comes out.

The processed papaya leaves that have been sauteed are then put into 100 ml of water along with 5 grams of salt and 15 grams of sugar. The cooking is stopped after the water has completely seeped into the papaya leaves which have been cut into pieces and fried.While preparations for making stir-fried papaya leaf vegetables, the researchers followed based on previous research, namely according to (Apriadi, 2015) giving katuk leaf vegetables provides katuk leaf vegetables boiled katuk leaves which are given to breastfeeding mothers for a week (7 days), moms drink a dose of 50 grams of katuk leaves boiled with 300 ml of water in the morning and evening. On the second or third day after giving birth, mothers may consume this katuk leaf decoction.Based on the results of research and the opinions of previous studies where katuk leaves and papaya leaves have the same properties in terms of increasing breast milk production, the researchers hope that the results of this study will prove that mothers who are breastfeeding can eat katuk leaves or papaya leaves. consumption of katuk or papaya leaves in an amount that is in accordance with the needs of nursing mothers so that breastfeeding mothers can maximize the benefits of increasing milk production. Preparations for making papaya leaves can be made according to taste which makes it easier for breastfeeding mothers to consume, such as stir-frying vegetables, adding papaya juice so that the taste makes breastfeeding mothers like it. Likewise, for the consumption of katuk leaves, it can be consumed by making katuk leaf vegetables, which vegetables are preferred by nursing mothers.

IV. CONCLUSION

From the results of research on the Effectiveness of Local Plants Katuk Leaves and Papaya Leaves as Galactagogues in Increasing Breast Milk Production at TPMB Badriah Susilawati in 2022, it was found:

1. It can be seen that of the 10 respondents in the group before giving katuk leaves, the majority showed fairly smooth milk production, namely 8 people (80%), while after giving katuk leaves, it showed that all respondents had smooth milk production, totaling 8 people (80%) and milk production was quite smooth amounted to 2 people (20%).
2. It was seen that of the 10 respondents in the group before giving papaya leaves, the majority showed substandard milk production, namely 6 people (60%), while after giving papaya leaves, all respondents showed smooth milk production, totaling 7 people (70%) and milk production was quite smooth amounted to 3 people (30%).
3. It is known that the assessment of breast milk production before administration of katuk leaves obtained an average value of 56.00 and a standard deviation of 10.750 with an assessment of breast milk production based on an assessment of the yes answer questionnaire regarding breast milk production with a minimum score of 40% (milk production is substandard) and a maximum of 70 % (smooth enough) while the average value after giving dauk katuk is 76.00 and a standard deviation of 15.775 with an assessment of breast milk production based on an assessment of the Yes answer questionnaire regarding breast milk production with a minimum score of 60% (milk production quite smooth) and a maximum of 100% (production smooth milk).
4. As can be observed, the evaluation of breast milk production before administration of papaya leaves gives an average result of 48.00 and a standard deviation of 16.193 with an assessment of breast milk production based on an assessment of the yes answer questionnaire regarding breast milk production with a minimum score of 30% (milk production is substandard) and a maximum of 70% (smooth enough) while the average value after giving papaya leaf is 80.00 and a standard deviation of 16.330 with an assessment of breast milk production based on an assessment of the yes answer questionnaire regarding breast milk production with a minimum score of 60% (milk production is quite smooth) and a maximum of 100% (smooth milk production)

5. Independent statistical test results sample t test value Sig. (2-tailed) namely 0.189 which is 0.189 > 0.05, so it can be concluded that there is no difference between giving katuk leaves and papaya leaves to increase milk production so that there is a similarity in the effectiveness of loka katuk leaves and papaya leaves as a galattagogue for increasing milk production in TPMB Badriah Susilawati in 2022.

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