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The Effect of Kajauma Pudding (Green Bean Date Pudding) on Breast Milk Production for Postpartum Mothers

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ABSTRACT

Breastfeeding mothers are one of the groups that are included in the nutritionally vulnerable group because breast milk is the main source that babies get from the mother. Therefore, mothers who are breastfeeding must pay attention to the nutritional intake they consume. Breast milk production is greatly influenced by the food the mother eats, even though a mother's regular and nutritious diet is very necessary to influence breast milk production, because the breastfeeding glands cannot work perfectly without sufficient food. To produce good breast milk production, the mother's diet must contain sufficient calories, protein, fat and vitamins and minerals. This research aims to determine the effect of kajauma (date nut) pudding on the production of postpartum women in Bone Bolango district. The type of research used was pre-testing with a pretest posttest control group design for 30 respondents. In this design there are two groups selected at random, one group is given green bean pudding and the second group is given kajauma (green date bean) pudding. From the difference in average breast milk production before and after the treatment, the biggest change in breast milk production was in the treatment group with kajauma pudding. The Independent T-Test obtained $p=0.006$ (<0.05), and the paired T Test carried out on changes in the two groups obtained $p=0.000$ (<0.05), so it can be concluded that the 2 treatment groups with kajauma pudding had an effect. which is better for breast milk production than treatment with green bean pudding.

Keywords: kajauma pudding; milk production

Introduction

Breastfeeding mothers are one of the groups included in the nutritionally vulnerable group. This is in accordance with the mandate of Health Law no. 36 of 2009 Chapter III article 142. Breastfeeding mothers are classified as one of the vulnerable groups, because breast milk, which is the main thing for babies, is obtained from the mother. Therefore, mothers who are breastfeeding must pay attention to the nutritional intake they consume. The average daily secretion of breast milk is 800-850 ml and every 100 ml contains 60-65 Kcal, 1-1.2 g protein, and 2.5-3.5 g fat every 100 ml [1]. Substances in breast milk secretions are taken from the body of

breastfeeding mothers which are obtained from their daily food supply [2].

Based on data and information on Indonesia's health profile (2018), it is stated that in Indonesia the overall coverage of exclusive breastfeeding is only 37.8%, while the target to be achieved is 80%. Based on the 2018 Riskesdas results, the proportion of breastfeeding patterns for babies aged 0-5 months is exclusive breastfeeding 37.3%, partial breastfeeding 9.3% and predominant breastfeeding 3.3%. The birth rate in Indonesia reaches 4.7 million per year, so babies who receive breast milk for six months to two years do not reach two million. This figure indicates that only a few Indonesian children receive adequate nutrition from breast milk [3].

Based on data from the Gorontalo Provincial Health Service (2018), it is stated that 48.8% of babies receive exclusive breast milk, divided into 6 districts, namely Gorontalo Regency 53.8%, North Gorontalo Regency 50.3%, Pohuwato Regency 49.1%, Boalemo Regency 47.7%, Gorontalo City 42.7% and Bone Bolango Regency 38.2%. Based on data from the Bone Bolango District Health Service, it is stated that in 2018 there were several work areas of the Bone Bolango District Health Center that had very low exclusive breastfeeding coverage, namely only 258 babies (38.2%) out of 675 babies. One of them is the working area of the Toto Utara Community Health Center, where the exclusive breastfeeding coverage data is (8.7%), which means that only 4 babies out of 46 babies receive exclusive breastfeeding [4].

WHO research has stated that the most common reason mothers stop giving exclusive breastfeeding is because they feel that their breast milk is not sufficient for the baby's needs [1]. Around 35% of mothers stop breastfeeding exclusively after a few weeks postpartum because they feel there is not enough breast milk, and the baby feels dissatisfied [2].

There are various reasons why mothers stop giving breast milk to their babies, namely working mothers (20%), lack of breast milk production (32%), various nipple problems (28%), the influence of formula milk advertising (16%) also because they follow trends/styles (4%). Breast milk production is greatly influenced by the food the mother eats. If the mother's food is regular and contains enough of the necessary nutrients, it will affect breast milk production, because the glands that make breast milk cannot work perfectly without sufficient food. To produce good breast milk production, the mother's diet must contain sufficient calories, protein, fat and vitamins and minerals. Therefore, breastfeeding mothers need nutritional intake so that the breastfeeding process is successful, one of which is by consuming food ingredients that can stimulate breast milk production [6].

One way to speed up breast milk production is by consuming dates and green beans. The protein content in dates is around 1.8-2%, the glucose content is around 50-57% and the fiber content is 2-4%. Minerals in dates that can block dopamine receptors, and then stimulate the release of prolactin and protein can increase breast milk production by increasing glucose metabolism for lactose synthesis [5].

Green beans contain 20-25% protein and galactogum which can increase and stimulate breast milk secretion so it is hoped that they will be able to support the success of government programs (Ministry of Health) in efforts to provide exclusive breastfeeding [7]. In this way, dates and green beans can be processed as food addition.

Green bean juice is given as much as 250 ml per day for 6 days to 20 breastfeeding mothers. The results showed that there was an effect of giving green bean juice on the smooth production of breast milk for breastfeeding mothers [1]. The results of this study are also in accordance with research (Wulandari, 2015) where 4 respondents (57.1%) mothers experienced an increase in breast milk production after being given green bean juice [1].

The aim of this research was to determine the effect of giving Kajauma Pudding (Date Green Beans) on breast milk production in postpartum mothers in the working area of the North Toto Community Health Center, Bone Bolango Regency.

Methods

This type of research is pre-experimental research, namely research by providing experiments or treatments. The treatment given to respondents was to determine the effect of giving kajauma pudding on breast milk production in postpartum mothers. This study used a pretest posttest control group design, which means there were two groups used in the research, namely the control group who were given green bean pudding and the case group who were given kajauma pudding. The sampling method is purposive sampling which is carried out by determining the sample with certain considerations by determining exclusion and inclusion criteria. The population in this study were all postpartum mothers aged 0-2 weeks in the work area of the Community Health Center in Bone Bolango Regency. The research subjects were 30 respondents during the research period in the work area of the Community Health Center in Bone Bolango Regency starting in September-November 2020.

Data collection in this research used primary data. In this study, to determine the effect of giving kajauma pudding on breast milk production, the T-test and Paired T-Test were used for analysis. The research instruments used in the study were observation using a silicon manual breast pump and a questionnaire to see breast milk production with 5 indicators for babies and 5 indicators for mothers. This research has received ethical commission approval.

Results and Discussion

Tabel 1.
Respondent characteristics Based on Age

Respondent Characteristics Age (Years)	Frequency	Percentage
<20	1	3,33
20-30	16	53,34
>30	13	43,33
Total	15	100

Table 2
Differences In Breast Milk Production Before And After Intervention Based On Maternal And Infant Indicator Scores

Breast milk production	Intervention			
	Green Bean Pudding		Kajauma Pudding	
	Mean	p value	Mean	p value
Before and After	3,40	0,000	3,27	0,000
Difference	4,67		5,47	

Table 3
Changes In Breast Milk Production Before And After Intervention In Postpartum Mothers

Group	∑ Resp.	Δ Change		P value
		Mean ± SD		
Green Bean Pudding	15	4,67 ± 0,724		0,006
Kajauma Pudding	15	5,47 ± 0,192		

Table 4
Breast Milk Production Categories Based on Breast Milk Quantity

Breast milk production	Green Bean Pudding	Kajauma Pudding
Min	30 cc	50 cc
Max	80 cc	90 cc
Mean	55 cc	73 cc

Table 5
Quantity Of Breast Milk After Intervention In Postpartum Mothers

Group	∑ Resp	Breast milk quantity	p value
		Mean ± SD	
Green Bean Pudding	15	55 ± 12,101	0,000
Kajauma Pudding	15	73,33 ± 10,465	

The results of research regarding the effect of Kajauma pudding (green date beans) on breast milk production for postpartum mothers in the working area of the North Toto Community Health Center are in table form as follows.

Table 1 of the 30 respondents, the largest number were aged 20-30 years namely 16 respondents (53.34%), while the smallest number was <20 years old, namely 1 respondent (3.33%).

Table 2 shows that the results of the Paired T Test for the green bean pudding and kajauma

groups, the p value before and after being given green bean pudding for 7 days is smaller than the alpha value ($0.000 < 0.05$), so H_0 is rejected, meaning there is a difference in the averages breast milk production in the group given green bean pudding and kajauma.

Table 3 shows that analysis using the Independent Test, in the two groups obtained $p=0.006 (<0.05)$, so it is known that there is a significant difference between the change in breast milk production before and after the intervention,

namely the difference in the mean change in breast milk production which is the highest in the pudding group kajauma 5.47.

Table 4 shows that it is known that the respondents' breast milk production after the intervention was based on the quantity of breast milk, the majority in the kajauma pudding group was an average of 73 cc compared to the average of 55 cc for green bean pudding.

From table 5, analysis using the Independent Test, in the two groups it was obtained that $p=0.000$ (<0.05), namely there was a significant difference between the quantity of breast milk in the green bean pudding and Kajauma pudding interventions, namely the highest mean was the Kajauma pudding group 73.33.

The results of this research that there is a significant difference in the score of breast milk production indicators with the results of the Paired t-Test statistical test for each intervention group, which obtained a p value of 0.000 (<0.05), so it can be concluded that there is a significant difference in breast milk production before and after treatment in both intervention groups. The difference in indicator scores in table 3 for each group was obtained through the Independent Test statistical test with a p value of 0.006 (<0.05), so it can be stated that there is a significant difference between changes in breast milk production before and after the intervention in the two groups with the highest average breast milk production is the Kajauma pudding group 5.47.

To see the smoothness of the mother's own breast milk production, you can look at the indicators for the mother and baby. Indicators for babies include the frequency and characteristics of BAK (where a baby produces enough breast milk, in at least 24 hours the baby will BAK > 6 times/day (clear yellowish color), frequency, color and characteristics of defecation (the baby's elimination pattern depends on the intake the baby gets, babies who drink breast milk generally have a pattern of defecating 2-5 times per day, the stool produced is golden yellow (not too runny and not too thick and grainy), sleeps for a long time (2-4 hours) after breastfeeding and baby weight gain.

Maternal indicators include the frequency of breastfeeding the baby > 10 times a day, the breasts stiffen/feel full before breastfeeding, the breasts are empty and soften after breastfeeding the baby, the sound of the baby being heard when swallowing breast milk and the mother feeling the flow of breast milk. Breast milk production is said to be smooth if

at least 4-5 of the observed indicators are present in the baby and mother.

The results of this study in tables 4 and 5 show that there is a significant difference in the average quantity of breast milk in the two groups. The results of the Independent Test statistical test for each intervention group obtained a p value of 0.000 (<0.05), so it can be concluded that there was a significant difference between the quantity of breast milk in the green bean pudding and Kajauma pudding interventions, namely the highest mean was the Kajauma pudding group 73, 33 then H_0 is rejected, meaning there is a significant difference in the increase in breast milk production in the green bean pudding and kajauma pudding groups. This is in line with research by Aminah and Purwaningsih (2019) which states that there is effectiveness in giving dates for the smooth flow of breast milk in post partum mothers [10].

In efforts to produce breast milk, there are two things that influence it, namely production and expenditure. Breast milk production is influenced by the hormone prolactin, while production is influenced by the hormone oxytocin. Dates have various kinds of nutrients and hormones, where dates have the hormone patuchin which functions to bind the uterus and uterine muscles so that it can help reduce postpartum bleeding, this hormone will also help stimulate contractions in the veins around the mother's breasts, so that stimulates the mammary glands to produce breast milk [10,14].

Dates also contain the hormone oxytocin which is produced by the neurohypophysis. The hormone oxytocin is channeled through the blood to the breasts, this hormone will stimulate contractions in the veins around the mother's breasts, thereby encouraging the milk glands to produce breast milk [13,15].

Green beans are called a galactagogue (facilitates milk secretion) based on the nutritional content of green beans, namely the high level of carbohydrates and protein and other vitamins which are an energy source that can trigger increased breast milk secretion. The proteins in green beans, namely polyphenols and amino acids, influence the hormone prolactin which works to produce breast milk by entering the blood circulation to the breast cells and then regulating the cells in the alveoli which work actively in the formation of breast milk [2].

The results of this research are in line with research (Wulandari, 2015) showing that there is a significant effect of giving green bean juice to postpartum mothers with increasing breast milk

production and research (Irmawati and Rosdiana, 2022) showing that there is a significant effect of giving green bean juice to postpartum mothers with smooth breast milk production [1,16].

This is in line with research by Gustina Siregar (2022) which states that giving date palm juice and green beans can increase breast milk production, the date palm juice group reacted with higher breast milk production compared to green bean juice [17].

Conclusion

The group of mothers who were given kajauma pudding had higher levels of energy, protein and vitamin adequacy compared to mothers who were only given green bean pudding. This shows that giving kajauma pudding for 7 days regularly can have an influence in increasing breast milk production in postpartum mothers.

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