

COMPARISON OF PAPAYA AND MUNG BEANS (*VIGNA RADIATA*) ON BREAST MILK PRODUCTION IN TELAGASARI PUSKESMAS, KARAWANG REGENCY IN 2022

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Abstract

Background : Breast Milk is the most perfect single food for babies in the first 6 months of growth, without any additional drinks or drinks. any food. Lactagogum is a substance that can increase milk production, which laktagogum is found in papaya and green bean juice. **The purpose of the study:** to determine the effect of giving papaya fruit and green bean juice to the smoothness of breast milk in nursing mothers at the Telagasari Health Center 2022. **The type of research** used in this study was an experimental study. The research design is quasi-experimental and one group pre-test and post-test design using a comparison group. The sample of this study was post partum mothers at PKM Telagasari, totaling 40 people. The technique uses a sample using purposive sampling. Data analysis was carried out, namely bivariate analysis using paired t test (paired sample t test). **The results of the study:** The amount of breast milk before giving papaya fruit in the intervention group was 588.95 on average. While the average green bean juice is 606.88. There is an effect of giving papaya fruit and green bean juice to the smoothness of breast milk in nursing mothers at PKM Telagasari (p value 0.000 <0.05). **The conclusion of the study:** There is an effect of giving papaya fruit to the smoothness of breast milk in breastfeeding mothers in the Independent Midwife Practice.

Keywords: papaya fruit, mug beans juice smooth breast milk.

ABSTRAK

Latar Belakang : ASI merupakan makanan tunggal yang paling sempurna bagi bayi pada masa pertumbuhan 6 bulan pertama, tanpa tambahan minuman atau minuman apapun. makanan apa saja. Laktagogum merupakan zat yang dapat meningkatkan produksi ASI, dimana laktagogum terdapat pada jus pepaya dan kacang hijau. **Tujuan penelitian:** untuk mengetahui pengaruh pemberian sari buah pepaya dan kacang hijau terhadap kelancaran ASI pada ibu menyusui di Puskesmas Telagasari Tahun 2022. **Metode:** Jenis penelitian yang digunakan dalam penelitian ini adalah penelitian eksperimen. Rancangan penelitian ini adalah quasi eksperimen dan one group pretest and posttest design using a comparison group. Sampel penelitian ini adalah ibu nifas di PKM Telagasari yang berjumlah 40 orang. Teknik pengambilan sampel menggunakan purposive sampling. Analisis data yang dilakukan yaitu analisis bivariat dengan menggunakan uji t berpasangan (paired sample t

test). Hasil penelitian: Jumlah ASI sebelum pemberian buah pepaya pada kelompok intervensi rata-rata 588,95. Sedangkan rata-rata sari kacang hijau adalah 606,88. Ada pengaruh pemberian jus buah pepaya dan kacang hijau terhadap kelancaran ASI pada ibu menyusui di PKM Telagasari (p value $0,000 < 0,05$). Kesimpulan penelitian: Terdapat pengaruh pemberian buah pepaya terhadap kelancaran ASI pada ibu menyusui di Praktek Bidan Mandiri.

Kata kunci: buah pepaya, sari kacang hijau, ASI.

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1. Introduction

Breast milk is the best source of nutrients that can improve the health of mothers and children. Breastfeeding is very important, especially in the early period of life, therefore it is enough for babies to be exclusively breastfed for the first 6 months without adding and/or replacing with other foods or drinks. Breastfeeding immediately after delivery also helps uterine contractions thereby reducing maternal blood loss during the puerperium^[1].

Based on data from the World Health Organization (WHO) in 2019, around 41% of infants are exclusively breastfed, while WHO targets at least 50% of infants to be exclusively breastfed by 2025 (WHO, 2019). The Ministry of Health targets to increase the Exclusive Breastfeeding program as one of the government's efforts to achieve the Sustainable Development Goals (SDGS) in 2016-2030. Regarding the prevalence of malnutrition and malnutrition. Based on the results of the Indonesian Health Demographic Survey (IDHS), the coverage of exclusive breastfeeding for infants 0-6 months is 74.5%. By 2025, which requires exclusive breastfeeding coverage to reach 80%^[2].

In Indonesia, 29.5% of infants who have received exclusive breastfeeding until the

age of six months (Indonesian Health Profile, 2017). This is not in accordance with the target of the Strategic Plan of the Ministry of Health for 2015-2019, namely the percentage of infants aged less than 6 months who are exclusively breastfed by 50%. The Ministry of Health is targeting an increase in the target of exclusive breastfeeding to 80%. However, exclusive breastfeeding in Indonesia is in fact still low at only 74.5% (Balitbangkes, 2019). Indonesia's health profile data, the coverage of infants receiving exclusive breastfeeding in 2018 was 68.74^[1].

By province, the coverage of exclusive breastfeeding for infants up to the age of 6 months is lowest in North Sumatra at 12.4%, Gorontalo at 12.5% and the highest in DI Yogyakarta at 55.4%. Meanwhile, in West Sumatra, 37.6% of exclusive breastfeeding was found for exclusive breastfeeding up to the age of 6 months^[3].

According to data in West Java, in 2018 the coverage of exclusive breastfeeding for infants aged 0-6 months was only 53.0 % of all 54 Regencies in West Java. One of the districts in the province of Answerarat is Karawang Regency. Based on data reports from the Karawang Regency Health Office in 2018, only about 18.5 % of babies or 13871 were exclusively breastfed for the first 6 months^[4].

Based on the description above, in addition to conducting research, the author will also document in the form of a report. So that it is arranged in the report "Comparison of Papaya Fruit and Green Bean Extract on breast milk production that will be carried out by the Telagasari Health Center. The reason for the interest in taking this case is due to the lack of milk production, which causes the baby to be given formula milk. Based on the above background, to provide evidence of the efficacy of mung bean seeds and papaya fruit as laktagogs (smooth milk secretion).

2. Method

This research is a type of quantitative research. The design used in this study was a quasi-experimental design (quasy experiment) using a non equivalent control group pre-test and post-test approach. The experimental method can be interpreted as the most comprehensive quantitative research approach, in the sense that it fulfills all the requirements for testing cause-and-effect relationships. The research design is quasi-experimental and one group pre-test and post-test design using a comparison group. The sample of this study was post partum mothers at PKM Telagasari, totaling 40 people. The technique uses a sample using purposive sampling. Data analysis was carried out, namely bivariate analysis using paired t test (paired sample t test).

Table 1. Descriptive Statistics

	N	Minimum	Maximum
	Mean	Std. Deviation	
pretest mung bean	40	100	250
	184.25	37,065	
posttest mung bean	40	450	800
	606.88	93,354	
papaya pretest	40	100	250
	35,402		183.25
posttest papaya	40	390	785
	588.95		
	96.610		
Valid N (listwise)	40		

Based on the table, it shows that in the experimental group (given mung bean juice)

during the pretest, the average milk production was 184.25 with a minimum of 100, a maximum of 250 and a standard deviation of 37,065. Meanwhile, the posttest for green beans was 606.88 with a minimum of 450 and a maximum of 800 and a standard deviation of 93,354.

Based on the papaya pretest, the average milk production was 183.25, with a minimum of 100, a maximum of 250 and a standard deviation of 35,402. While the papaya posttest was 588.95 with a minimum of 390 and a maximum of 785 and a standard deviation of 96 .

Table 2. Normality Test

Results				
Kolmogorov-Smirnova		Shapiro-Wilk		
	Statistics	Df	Sig.	
production	Statistics	Df	Sig.	
40	.011	.918	40	.160
mung				.007
bean post test	.129	40	.094	
.949	40	.070		
papaya pretest	.116	40	.186	
.949	40	.071		
papaya post test	.093	40	.200*	
.954	40	.102		

The significance value for the amount of breast milk before and after being given papaya and mung bean juice to breastfeeding mothers in the Independent Midwife Practice in the Telagasari Health Center working area is greater than 0.05 so that the data is normally distributed, which means the paired sample t test is required. fulfilled.

Paired Differences		t	Df
Sig. (2-tailed)			
Mean	Std. Deviation	Std. Error	Mean
95% Confidence Interval of the Difference			
		Lower	Upper
Pair 1	posttest green peas	--422.625	9.439
	-441.718-403.532-44.772	.000	39
	-380.500		

Pair 2	pre papaya - post papaya	87.573	13.846
	-408.507-352.493-000	-27,480	39

Based on the table above, the statistics are descriptive statistics from 2 data from the pretest and posttest. In which the pre-mung bean has an average value of 184.25 while the post-test is 606.88. for the papaya pretest there were 173.38, while the post-test was 553.88.

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pre green beans	184.25	40	37,065
	5,860			
	posttest green beans	606.88	40	
	93,354	14,761		
Pair 2	pre papaya	173.38	40	42.688
	6750	553.88		
	papaya post	40	128.020	20.242
	N	Correlation	Sig.	
Pair 1	pre mung bean & posttest mungbean			
	40	.943,000000		
Pair 2	pre papaya & post papaya	40	.965	
	Based			

on the table above, the requirements for making decisions which show that there is a relationship because $\text{sig} < 0.05$ or the result of mung bean 0.00 and papaya fruit 0.00 then there is a significant effect on the difference in the treatment given to each variable.

Based on the table shows there is a significant difference between the initial variable and the final variable. This shows that there is a significant effect on the difference between the amount of breast milk before giving papaya fruit and mung bean juice and after giving papaya fruit and green beans. $p \text{ value } 0.000 < 0.05$, which means H_a is accepted, that is, there is an effect of giving papaya and green bean juice to the smoothness of breast milk in nursing mothers at the Telagasari Health Center.

3. Results and Discussion

1. The effect of giving papaya fruit to the smoothness of breast milk in nursing mothers in the working area of the Telagasari Health Center.

Based on the results of research on the effect of giving papaya fruit to breastfeeding mothers in the working area of Telagasari Health Center, it is known that the difference in the mean of the intervention group between the amount of breast milk before giving papaya fruit, posttest papaya fruit is 588.95 with a minimum of 390 and a maximum of 785 and a standard deviation of 96.610 and after giving fruit. papaya 588.95 with a minimum of 390 and a maximum of 785 and a standard deviation of 96.610 and a $p \text{ value of } 0.000 < 0.05$, which means H_a is accepted, that is, there is an effect of giving papaya fruit to breastfeeding mothers. While the difference in the mean of the control group between the amount of breast milk there was no difference. Meanwhile, on the fifth day to the seventh day, both the intervention group and the control group obtained $p \text{ value } < 0.05$, which means H_a is accepted, that is, there is an effect of giving papaya fruit to breastfeeding mothers at the Telagasari Health Center. However, the mean difference was higher in the intervention group, compared to the control group.

The results of this study are in accordance with Muhartono's research (2018) which shows that the average milk production before consuming papaya fruit is 5.7 times with a standard deviation of 0.8131 and the average after consuming papaya fruit is 9.75 times with a standard deviation of 0.78640. Because the difference in the average value is 4.05000 with $\text{sig } 0.000$ so $\text{sig} < 0.05^{[5]}$.

According to the assumption of the papaya fruit writer, it can be concluded

that the average milk production before and after consuming papaya fruit is different. In conclusion, papaya can increase the secretion and amount of breast milk production. Papaya is a plant from the Caricaceae family originating from Central America, the West Indies, and even the area around Costa Rica and Mexico. Caricaceae family is a plant that is widely studied today. Papaya is one of the fruits that contain lactagogum which is a substance that can help increase and facilitate the production of breast milk. Lactagogums have the effect of stimulating the release of the hormones oxytocin and prolactin such as alkaloids, polyphenols, steroids, flavonoids which are effective in increasing the secretion and expenditure of breast milk (Hegar, 2018). The role of oxytocin in the mammary glands is to encourage the contraction of the myopic cells that surround the alveolus to be pushed out into the milk ducts, so that the alveolus becomes empty and spurs the next milk synthesis ^[6].

2. The Effect of Giving Green Bean Extract to Postpartum Mothers on Breast Milk Production at the Telagasari Health Center, Karawang 2022.

The statistical test results show that there is a difference in breast milk production between postpartum mothers who consume mung bean juice and postpartum mothers who do not consume mung bean juice, this is indicated by the difference the average milk production in the experimental group and the control group. Postpartum mothers who were given mung bean juice showed an average milk production of 606.88 with a minimum of 450 and a maximum of 800 and a standard deviation of 93,354. while in the group of mothers who were not given mung bean juice, the average milk production was 184.25 with a minimum of 100 and a maximum of 250 and a standard deviation of 37.065. The analysis results obtained p value = 0.000 p value 0.000 <0.05, which

means H_0 is accepted, that is there is the effect of giving papaya fruit to the smoothness of breast milk in nursing mothers. While the difference in the mean of the control group between the amount of breast milk there was no difference. Meanwhile, on the first and third days, both the intervention group and the control group obtained p value <0.05, which means that H_0 is accepted, that is, there is an effect. Various factors that can affect breast milk production include psychological conditions such as anxiety that trigger stress. When postpartum mothers experience stress, the hormone cortisol will increase. The increase in the hormone cortisol will damage all the functions of the body's organs including inhibiting the production of oxytocin (a hormone that functions to produce breast milk). This inhibition of oxytocin production is the cause of reduced milk production. After being given mung bean juice for 3 days with a dose of 2x a day as much as 220 ml/glass, it was found that the difference in the average milk production in the experimental and control groups was 2.60. The nutritional content of green beans is quite high and the composition is complete. Based on the amount, protein is the second main constituent after carbohydrates. Green beans contain 20-25% protein. High protein is needed by mothers during lactation, especially the protein contains amino acids so that it can stimulate milk secretion. Green beans also contain active compounds, namely polyphenols and flavonoids which function to increase the hormone prolactin. When the prolactin hormone increases, milk secretion will be maximized so that the quantity of breast milk will increase and the nutritional content contained in mung bean juice will increase the nutritional content in breast milk^{[7][8]}.

According to the author's assumption, breastfeeding mothers who consume mung bean juice directly will increase their daily nutritional and nutritional needs. This means that the more

consumption of green bean juice, the more milk production will be and the more smoothly the milk production will be. So for breastfeeding mothers it is recommended to consume additional foods such as mung bean juice to be able to meet nutritional and nutritional needs every day.

3. Limitations of the Research

In this study, the authors face several limitations that may affect the conditions of the research conducted. The limitations include:

- 1) Respondents are breastfeeding mothers, so they lack specifications in the accuracy of filling out the questionnaire.
- 2) The activities and needs of postpartum mothers are different.
- 3) There is no difference in parity of postpartum mothers between primigravida and multigravida
- 4) The funds that can be provided by this researcher are limited
- 5) Some postpartum mothers who are quite sensitive are not willing to be respondents. Due to the covid-19 pandemic.

4. Conclusion

Based on the results of research and data analysis that has been carried out, it can be concluded that the effect of the comparison of papaya fruit and mung bean juice as breast milk production in postpartum mothers at PKM Telagasari in 2022 are:

1. In the experimental group the average milk production of postpartum mothers given mung bean juice was 606.88
2. In the control group the average milk production of postpartum mothers who were given papaya fruit was 96.610
3. There a difference in breast milk production between postpartum mothers who were given mung bean juice and papaya fruit for postpartum mothers, which was 510.27.

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