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THE EFFECT OF FEEDING JAPANESE VEGETABLE BOILING ON BREAST MILK PRODUCTION OF PUBLIC MOTHERS BPM, TUAH KARYA KILL, MADANI DISTRICT

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ABSTRACT

Background In order for mothers to be successful in exclusive breastfeeding, mothers must receive additional food to avoid reducing milk production. Japan has many benefits and is able to increase breast milk production. The purpose of this study was to determine the effect of giving Japanese vegetable stew on breast milk production. Quantitative research method with the type of Pre- Experiment. The design used in this study usesPre Test Post Test With Control Group. The research was carried out in the Tuah Karya Village, Tuah Madani District, April- February 2023. The population in this study were 34 postpartum mothers. The sample size in this study were 17 people who were given Japanese stew and 17 people who were not given Japanese stew. The analysis used in this research is univariate and bivariate analysis. Research results Based on test resultst- dependentvalue is obtained probabilitythe experimental group that was given Japanese vegetable stew was 0.000 or Pvalue<0.05, there is an effect of giving Japanese vegetable stew on milk production in postpartum mothers in BPM Tuah Karya Village, Tuah Madani District, Pekanbaru City before and after being given Japanese vegetable stew. There is a difference in the increase given by Japanese vegetable stew and those not given Japanese stew. It is hoped that postpartum mothers will breastfeed their babies so that they consume Japanese regularly because it has many benefits and is able to increase milk production. Japan is a type of plants and vegetables that are easy to get, cheap and affordable.

Keywords : Breast milk production, Japan

INTRODUCTION

Mother's milk or what is often abbreviated as breast milk is milk produced by the mother and contains all the nutrients needed by the baby for the baby's growth and development needs (Mufdlilah, 2017). From the time of birth until several months later, babies do not have a perfect body defense system, so by giving breast milk babies rarely get sick, because breast milk has immune substances that babies do not yet have (Rahmadani, Lubis and Edison, 2013).

According to the World Health Organization (WHO), exclusive breastfeeding lasted up to 4 months, but recently it is highly recommended that exclusive breastfeeding be given until children are 6 months old (Firmansyah, 2013). The practice of breastfeeding in developing countries has succeeded in saving around 1.5 million babies every year from death and morbidity. So WHO recommends exclusive breastfeeding for 6 months. Every year more than 25,000 babies in Indonesia and 1.3 million babies in the world can be saved from death by being given exclusive breast milk. In 2020 WHO again presented data in the form of exclusive breastfeeding rates globally,

although there has been an increase, this figure has not increased significantly, namely around 44% of babies 0-6 months throughout the world who received exclusive breastfeeding during the 2015-2020 period out of 50 % target for breastfeeding according to WHO. The low level of exclusive breastfeeding will have an impact on the quality and lifestyle of the next generation (WHO, 2020).

The operational definition of presentation indicators for babies less than 6 months who receive exclusive breast milk is babies aged 0-6 months who are given breast milk alone without food or other fluids except medicine, vitamins and minerals based on a 24 hour recall. In 2020, of the number of babies aged less than 6 months who were recalled, of the 3,196,303 target babies less than 6 months old, there were 2,113,564 babies aged less than 6 months who received exclusive breast milk or around 66.1%. The indicator achievement of the percentage of babies aged less than 6 months who receive exclusive breastfeeding has met the target for 2020, namely 40% (Ministry of Health of the Republic of Indonesia, 2021).

The benefits of exclusive breastfeeding include reducing infant mortality, infant morbidity, optimizing infant growth, helping the development of children's intelligence, and helping to extend the pregnancy interval for mothers (Isnaini & Diyanti, 2015).

The percentage of exclusive breastfeeding coverage for babies aged 0-6 months in Riau Province increased the coverage of exclusive breastfeeding from 2017 to 2020. The coverage of babies aged 0-6 months who received exclusive breastfeeding in 2020 was (43.5 %). An increase compared to 2019 (37.2 %) and on average all districts/cities showed an increase in coverage except Pelalawan, Bengkalis, Rokan Hilir and Dumai. For provincial achievements, when compared with the performance indicator target (Renstra 2020-2024) in 2020, namely (35%), the target has been achieved. The districts that have not reached the target are: Kuantan Singingi, Pelalawan, Bengkalis, Dumai. Meanwhile, the district with the lowest coverage is Dumai (28.2 %) (Riau Provincial Health Office, 2020) .

Coverage of infant health services in Riau Province in 2015-2019 shows fluctuating conditions. After experiencing a decline in 2017 (77.7 %), there was an increase in 2018 (84.4%) and an increase in 2019 (87.8%) exceeding the provincial target (78%). From the data in 2019, it can be seen that there are 2 (two) districts that have reached 100%, namely Kepulawan Meranti and Dumai City. Meanwhile, the regencies/cities that decreased the percentage of coverage of infant health services from the previous year were Indragiri Hulu Regency (94%), Indragiri Hilir Regency (70%), Siak Regency (74%) and Kampar Regency (77%) (Riau Provincial Health Office, 2019).

Data from the Sidomulyo Health Center in Pekanbaru City from July 1 - July 31 has a number of postpartum mothers of 156 people. Divided into 5 sub-districts, namely, Tuah Karya 34 people, Tuah Madani 13 people, Siang Munggu 43 people, Sidomulyo Barat 40 people, Air Putih 23 people.

Inseparable from the problems related to achieving breast milk coverage above, one of the efforts to ensure that the exclusive breastfeeding program continues is to maintain the mother's breast milk production so that the baby gets enough breast milk. Breast milk production is influenced by several factors, including breastfeeding behavior, maternal psychology, maternal physiology, social culture, and maternal nutrition. Apart from that, one of the factors that influences breast milk production is the food factor, where the daily calorie needs of post partum mothers must consist of 60-70% carbohydrates, 20% protein and 20% fat. These calories are obtained from the mother's daily nutrition (Nutrition Bangsa, 2013).

In order for mothers to be successful in providing exclusive breast milk, mothers must receive additional food to avoid reducing breast milk production. There are several things you should pay attention to in order to increase the quality and volume of breast milk you have by consuming vegetables and fruit which can increase the volume of breast milk. Vegetables that can be consumed are katuk, japan and banana blossoms. Apart from these vegetables, fruits that contain lots of water will help mothers produce abundant breast milk, such as melon, watermelon, pear and many other fruits (Mustika, et al, 2021).

Indonesia has natural wealth and enormous potential from its ancestors. Since ancient times, the Indonesian people have known about medicinal plants and used them to maintain health and treat disease. The use of medicinal plants is based on empirical experience from generation to generation. One type of natural wealth that we have is Japan.

Japan has many benefits and is able to increase breast milk production. Japan is a type of plant and vegetable that is easy to obtain, cheap and affordable, Japan can also be enjoyed by boiling, steaming and frying. Meanwhile, banana blossoms, katuk leaves and moringa leaves can also increase breast milk production, but are difficult to obtain. During breastfeeding, the mother's nutrition will also be absorbed by the baby through breast milk, and without realizing it, a decline in physical condition can occur if the breastfeeding mother does not get enough nutrition. One of them is the calcium and iron content.

Japan (Sechium edule, English chayote) is a plant from the pumpkin family (Cucurbitaceae) whose fruit and young shoots can be eaten. Japan is rich in fiber, antioxidants, iron, manganese, phosphorus, zinc, potassium, copper, vitamins B1, B2, B6, and vitamin C. Japan is also rich in folate which helps cell formation and DNA synthesis. Apart from that, these vegetables also contain small amounts of the antioxidant polyponones, aglycones, flavonoids which are very important in helping fight free radicals and reactive oxygen species (SOR) in the body, both of which play a role in aging and the development of cancer (Mustika et al, 2021).

Increased breast milk production is also influenced by the hormone oxytocin. The increase in the hormone oxytocin which is influenced by the polyphenols in Japanese content will make breast milk flow more quickly than before consuming Japanese. Oxytocin is a hormone that plays a role in encouraging milk secretion (milk let down). Japan is a type of plant that has the potential to stimulate the hormones oxytocin and prolactin such as alkaloids, polyphenols, vitamin A, potassium, flavonoids magnesium, manganese and other substances that are most effective in increasing and facilitating breast milk production (Mustika, et al, 20 21).

According to Sarwono (2017) stated that the temperature of the boiling cooking method is only 100◦C. The higher the temperature used, the more water molecules will come out of a food, including water-soluble minerals. Apart from Vitamin A and the large water content in Japan, the potassium content in Japan also plays a role in increasing breast milk production.

Based on the research results of Mu Stika, et al (20 21) statistically showed a value of r = 79.20 , which means that respondents who were given chayote using the boiled method had an average increase ASIof 79.20% with a p value = 0.02, meaning that giving chayote using the boiled method was effective in increasing production. breast milk.

Based on the research results of Mu Stika, et al (20 22) the results of statistical tests with dependent T showed a value of t = 4.123 and p=0.001 ($p<0.05$) meaning that there was a significant effect of giving chayote on breast milk production for breastfeeding mothers in the mining health center working area.

Based on a preliminary survey conducted by researchers, it was found that 4 post partum mothers experienced irregular milk production or did not produce breast milk after giving birth, and the mothers asked for advice on solutions so that their breast milk came out quickly and smoothly. Mothers have never tried Japanese vegetable stew to facilitate breast milk, so researchers are interested in conducting research on "The effect of giving Japanese vegetable stew on breast milk production in postpartum mothers in Tuah Karya Village, Tuah Madani District, Pekanbaru City " .

Based on the background described above, the problem is formulated as follows: Is there an effect of giving boiled Japanese vegetables on breast milk production?

The aim of this research is to determine the effect of giving boiled Japanese vegetables on breast milk production.

RESEARCH METHODS

This research uses a quantitative research method with a pre- *experimental research type* . The design used in this research uses *Pre Test Post Test With Control Group* . Where this research compares experimental groups whose samples were observed first before being given treatment, then after being given the treatment they were observed again to find out the comparison in each intervention group.

This research was conducted in BPM, Tuah Karya sub-district, Tuah Madani sub-district in September – February 2022. The sample for this research was 34 postpartum mothers. The sample size in this study was postpartum mothers who met the inclusion and exclusion criteria. The sample size was taken using the *total sampling technique* namely sampling based on considerations and in accordance with the criteria desired by the researcher (Masayu, R & Rifiqa, F, 2021).

The analysis in this research is univariate analysis and bivariate analysis. Univariate data analysis in this study included the frequency distribution of smooth breastfeeding in postpartum mothers before being given Japanese vegetable stew and the frequency distribution after being given Japanese vegetable stew. Bavariate analysis is an analysis to show the relationship between the dependent variable and the independent variable. To test whether there is a relationship between the independent and dependent variables using the dependent t-test. If the p value <0.05 is obtained then Ho is rejected, meaning there is a relationship between the independent variable and the dependent variable. Vice versa, if the p value ≥ 0.05 then Ho is accepted, meaning there is no relationship between the independent variable and the dependent variable.

RESULTS AND DISCUSSION

1. Univariate Analysis

Table 4.1
Age of Experimental Group and Control Group Respondents

No	Category	Control		Experiment	
		F (Person)	Percentage (%)	F (Person)	Percentage (%)
	Age				
1	17-25 Years	6	35.29	5	29.41
2	26-35 Years	9	52.94	9	52.94
3	36-45 years old	2	11.76	3	17.65
	Amount	17	100	17	100

Based on research results collected from 34 respondents from postpartum mothers in BPM, Tuah Karya Subdistrict, Tuah Madani District, Pekanbaru City, consisting of 17 people in the control group and 17 people in the experimental group, data was obtained about the characteristics of the postpartum mothers who were respondents. Based on table 4.1 above, it can be seen that the majority of respondents' ages are in the range of 26-35 years, with the majority of children having

1 child with the majority's education level being high school.

Tabel 4.2
Parity of Experimental Group and Control Group Respondents

No	Category	Control		Experiment	
		F (Person)	Percentage (%)	F (Person)	Percentage (%)
	Parity				
1	1 -2 People	11	64.7	12	70.58
2	> 2 people	6	35.29	5	29.41
	Amount	17	100.00	17	100.00

Based on table 4.2, it is known that the parity of respondents 1-2 in the Control group was 11 people with a percentage of 64.7%, while in the experimental group there were 12 people with a percentage of 70.58%, the parity of respondents >2 in the Control group was 6 people with a percentage of 35, 29% while in the experimental group there were 5 people with a percentage of 29.41%.

Table 4.3
Education of Experimental Group and Control Group Respondents

No	Category	Control		Experiment	
		F (Person)	Percentage (%)	F (Person)	Percentage (%)
	Education				
1	elementary school	0	0.00	3	17.65
2	JUNIOR HIGH SCHOOL	3	17.65	5	29.41
3	SENIOR HIGH SCHOOL	9	52.94	6	35.29
4	PT	5	29.41	3	17.65
	Total	17	100	17	100

Based on table 4.3, it is known that 5 people in the Control group had a higher education level than in the Control group with a percentage of 29.41%, while in the experimental group 3 people had a percentage of 17.65%, 9 people had graduated from high school in the Control group with a percentage of 52.94%, while in the 6 people in the experimental group with a percentage of 35.29%, 3 people in the control group finished junior high school with a percentage of 17.65% while in the experimental group 5 people with a percentage of 29.41% and 0 people finished elementary school with a percentage of 0.00% in the control group while in the experimental group 17.65%.

Normality testing was carried out using *the Kolmogrof-Smirnov test* with a level of (α) 0.05, if $p_{value} > \alpha$ then the data is normally distributed and $p_{value} < \alpha$ then the data is normally distributed or does not meet the assumption of normality. The test results are as follows.

Tabel 4.4
Normality Test Results

Normality Test Results	*P Value*	Information
(*Pre-Test*)		
Experimental group	0.105	Normal
Control group	0.077	Normal
(*Post-Test*)		
Experimental group	0.144	Normal
Control group	0.108	Normal

Based on the table above, it is known that the *probability value* for each experimental and control group has a $P_{value} > 0.05$, so the data is normally distributed.

Table 4.5
The level of breast milk production in postpartum mothers between the Experimental Group and Control Group Before and After Being Given Japanese Vegetable Stew

Breast milk production	Category	Control		Experiment	
		F	P (%)	F	P (%)
Before being given Japanese vegetable stew (*pre-test*)	Fluent	0	0	0	0
	Not smooth	17	100	17	100
	Amount	17	100	17	100
After being given Japanese vegetable stew (*post-test*)	Fluent	1	5.88	17	100
	Not smooth	16	94.12	0	0
	Amount	17	100	17	100

Based on table 4.5 above, it is known that all of the experimental group had sufficient levels of breast milk production after (*post-test*) being given 100% Japanese vegetable stew. Then the level of breast milk production was adequate from

the *post-test results* in the control group, which was only 5.88%.

Table 4.6
Distribution of Differences in Average Values of Breast Milk Production Levels between the Experimental Group and the Control Group Before and After being given Japanese vegetable stew

Age	Mean	Standard Deviation
The level of breast milk production between the experimental group and the control group before being given Japanese vegetable stew (*Pre-Test*)		
Experimental group	4.59	1,064
Control group	4.65	1,115
The level of breast milk production between the experimental group and the control group after being given Japanese vegetable stew (*Post-Test*)		
Experimental group	8.88	0.928
Control group	4.82	1,425
Difference between Pretest and Post-test		
Experiment _	4.29	
Control _	0 , 17	

Based on table 4.7 above, it is known that in the experimental group before being given Japanese stew it increased from 4.59 times to 8.88 times or 4.29 times a day.

2. Bivariate Analysis

Bivariate analysis in this study was carried out using the *dependent t* test . In the research, the level of breast milk production of respondents in the experimental group was measured before and after being given Japanese vegetable stew.

Table 4.7
Differences in the level of breast milk production in the experimental group before and after being given Japanese vegetable stew

Variable	Mean	Standard Deviation	Amount	T count	P *value*
Pre-Test	0.0	0.00	17	6,465	0 ,000
Post-Test	5,6	5.04	17		

Based on table 4.7 above, it is known that the *probability value* for the experimental group is 0.000 or P $_{value}$ < 0.05, so Ho is rejected. From the results of this research, it is known that there is a difference in breast milk production between before and after being given Japanese vegetable stew. Thus, it can be concluded that from the results of the *t-dependent test* carried out, it shows that Japanese vegetable stew is effective for breast milk production in postpartum mothers in BPM, Tuah Karya Village, Tuah Madani District, Pekanbaru City.

Univariate results show that the average value of breast milk production levels among postpartum mothers in BPM, Tuah Karya Village, Tuah Madani District, Pekanbaru City, has increased from before being given Japanese vegetable stew, namely from 4.59 times to 8.88 times or 4.29 times. in a day. Based on the results of the *t-dependent* test , it was found that the *probability* value of the experimental group being given Japanese vegetable stew was 0.000 or P $_{value}$ <0.05, so there was an effect of giving Japanese vegetable stew on breast milk production in postpartum mothers in BPM, Tuah Karya Village, Tuah Madani District, Pekanbaru City before and after being given Japanese vegetable stew.

Based on the bivariate results of breast milk production, it shows that the *probability value* for the experimental group is 0.000 or P $_{value}$ < 0.05, so Ho is rejected. From the results of this research, it is known that there is a difference in breast milk production between before and after being given Japanese vegetable stew. Thus, it can be concluded that from the results of the *t-dependent test* carried out, it shows that Japanese vegetable stew is effective for breast milk production in postpartum mothers in BPM, Tuah Karya Village, Tuah Madani District, Pekanbaru City.

According to the assumption of Japanese researchers, it is able to increase breast milk production in breastfeeding

mothers, because Japan contains folic acid and several other minerals which are able to help the formation of tissue development in the baby's body. Vitamin B6 also plays a role in nerve development because it contains pridoxine which promotes improved brain and spinal cord development. With enough vitamin B6, breast milk production will be maximized. Selenium, Riboflavin can also increase breast milk production. So that by consuming Japanese regularly, the baby's nutritional intake is met and the mother's breast milk production increases and she is able to provide exclusive breast milk to the baby for perfect growth and development of the baby and is able to prevent stunting in toddlers.

The page size is A4 (210 mm x 297 mm). The page margin is 25 mm up-down, left, and right. Two columns are displayed with a distance between columns of 0.4pt.

3.2 Manuscript Layout

An easy way to create a layout is to use this guide directly. It is advisable not to use numbering (1, 2, 3, a, b, etc.) in the discussion of manuscripts, changing them into sentence forms. Avoid using Bullet/clustered lists with symbols *, √ and more. Avoid empty sections of the page.

CONCLUSION

There was an effect of giving boiled Japanese vegetables on breast milk production in postpartum mothers in BPM Tuah Karya Village, Tuah Madani District, Pekanbaru City before and after being given boiled Japanese vegetables, with a mean difference of 4.29 . The results of statistical tests carried out using the *t-dependent test* showed that the *probability value* for the experimental group before and after being given Japanese vegetable stew was 0.000.

It is hoped that breastfeeding mothers will continue to consume Japanese vegetables and foods that are healthy and nutritionally balanced in order to increase breast milk production in order to improve nutrition for babies so they can grow and develop optimally.

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