

Comparison of Date Milk and Oxytocin Massage on Increasing Breast Milk Production in Breastfeeding Mothers in the Jiput Health Center Working Area, Pandeglang Regency, 2022

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ARTICLE INFO	ABSTRACT
Keywords: Date milk, Oxytocin Massage, Breast Milk Production.	Based on data obtained from the Jiput Health Center in Pandeglang Regency, in the last two years, the coverage of exclusive breastfeeding for infants has continued to decline and is very far from the target expected by the government, namely 80% of babies must receive exclusive breastfeeding. In 2020 the coverage of exclusive breastfeeding decreased to 78.65% and in 2021 it continued to decrease to 66.9%. This study aims to determine the comparison between giving date milk and oxytocin massage to increasing milk production in breastfeeding mothers in the Work Area of the Jiput Health Center, Pandeglang Regency in 2022. Methods: used a quasi-experimental method with a two group pretest and posttest design approach. This research design has two groups, namely the experimental group and the control group. The effectiveness of the treatment was assessed by comparing the posttest and pretest scores. Data analysis used the Wilcoxon and Mann Whitney tests. samples taken in this study were 36 respondents. The results showed that after being given date milk from 18 respondents, some respondents (66.7%) produced breast milk smoothly, while after giving oxytocin massage, most of the respondents (88.9%) produced milk smoothly. The results of the analysis with the Wilcoxon test showed that there was an effect of giving dates on increasing milk production (P_value 0.001) and the effect of oxytocin massage on increasing milk production. It can be concluded that both date milk and oxytocin massage have good benefits for increasing milk production.
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1. INTRODUCTION

During the Covid-19 pandemic, the World Health Organization (WHO) and the United Nations International Children's Emergency Fund (UNICEF) continue to encourage the continuation of exclusive breastfeeding in infants for the first 6 months of a child's life without separating the mother from the baby, while still paying attention to appropriate transmission control measures. In 2020 UNICEF reported that the global average coverage of exclusive breastfeeding among infants aged 0-6 months was only 38%. According to UNICEF, exclusive breastfeeding in developing countries can prevent under-five deaths by 90% due to diarrhea and acute respiratory infections [1].

The Ministry of Health of the Republic of Indonesia in 2021 recorded the percentage of exclusive breastfeeding for infants aged 0-6 months at 71.58%. This figure shows an improvement from the previous year, which only reached 69.62%. It was reported that until the second quarter of 2022, the percentage of exclusive breastfeeding in infants aged 0-6 months had reached 70.9%, however, most provinces still had a percentage of exclusive breastfeeding below the national average. Gorontalo was recorded as the province with the lowest percentage at only 52.75% [2].

Data from the Banten Provincial Health Office shows that the coverage of exclusive breastfeeding in infants in the last three years has fluctuated, namely in 2019 it was 70.18%, in 2020



the coverage decreased to 68.10%, and in 2021 the coverage increased again to 71.32%. This coverage is still less than the national standard set at 80% [3].

Based on data from the Pandeglang District Health Office, it shows that the coverage of exclusive breastfeeding for infants in the last three years has increased but has not met the expected national target of 80%. In 2019 the exclusive breastfeeding coverage was 64.25%, in 2020 it was 66.59% and in 2021 it continued to increase to 70.93% [4].

The low coverage of exclusive breastfeeding can be caused by various factors, one of which is the factor of not maximizing breast milk production, so that many babies lack nutritional needs because mothers cannot provide maximum breast milk in accordance with the nutritional needs of babies. The cause is due to the mother's poor nutritional intake, unbalanced diet, and also consuming food less regularly [5]. Other causes that can affect breast milk production are improper breastfeeding techniques, too long a delay in starting breastfeeding, side effects of certain drugs, lack of breastfeeding intensity, certain conditions or diseases, history of breast surgery, premature birth, postpartum hemorrhage and psychological disorders [6].

Research by Yuviska et al. (2021) showed that there was an effect of giving dates to breast milk production of postpartum women (p=0.000). In the intervention group, the average milk production before consuming dates was 68.33 ml and the average milk production after consuming dates for 1 week increased to 105.00 ml [7]. Another study by Ramadhani & Akbar (2022) showed that date juice was effective in increasing breast milk volume in breastfeeding mothers (p=0.012). The amount of breast milk before giving date juice to breastfeeding mothers has an average of 66.33 and on the 10th day after giving date juice the average milk production increases to 96.73 [8].

Midwifery care that is often applied to breastfeeding mothers in launching breast milk is one of them by giving oxytocin massage. Oxytocin massage is done to stimulate the oxytocin reflex or let down reflex through sensory stimulation of the afferent system. Oxytocin massage is done by massaging the back area along both sides of the spine so that it is expected that the mother will feel relaxed and comfortable after giving birth. If the mother feels comfortable and relaxed, it can help stimulate the release of the hormone oxytocin and breast milk will be smooth [9].

Based on data obtained from the Jiput Health Center, in 2020 there were 342 out of the total number of registered babies, there were 269 (78.65%) babies who were exclusively breastfed and in 2021 the coverage of exclusive breastfeeding decreased, namely from the total number of registered babies of 426 people and those who received exclusive breastfeeding were 285 people (66.9%). This coverage is still very far from the target expected by the government, namely 80% of infants should be exclusively breastfed [10].

Based on the background description above, the researcher felt it was important to conduct a study on the comparison of date milk and oxytocin massage to increase breast milk production in breastfeeding mothers in the Working Area of Puskesmas Jiput, Pandeglang Regency in 2022.

2. METHOD

This research method uses a quasi experiment method with a two group pretest and posttest design approach. This research design has two groups, namely the experimental group and the control group. The effectiveness of the treatment was assessed by comparing the posttest value with the pretest. The population in this study were all mothers who breastfed 4 - 7 days postpartum in October 2022 who were in the Jiput Health Center Working Area who experienced breast milk production was not smooth as many as 36 people. The sampling method in this study used total sampling technique, which is a sampling technique where the entire population is sampled in the study. The number of samples taken in this study were 36 respondents with the distribution of samples in each group in this study were 18 respondents as the intervention group and 18 respondents as the control group. The research was conducted in the working area of the Jiput Health Center in November 2022. The data collection plan will be carried out in December 2022 in week 1 to week 2. This study aims to determine the comparison between the provision of date milk and oxytocin massage to increase breast milk production in breastfeeding mothers in the Jiput Health Center Working Area, Pandeglang Regency in 2022, with the independent variable in this study is breast milk production.



The data in this study used primary data, data that is new and collected by researchers themselves using questionnaires, interviews, and direct observation of the object to be studied.

3. **RESULTS AND DISCUSSION**

Univariate

3.1 Frequency Distribution of Breast Milk Production Level Characteristics before Date Milk Feeding

Table 1. Frequency Distribution of Breast Milk Production Level Characteristics before Date Milk

	Feeding		
No.	Milk Production Rate (Pre-test)	f	%
1	Not Current	18	100
2	Current	0	0
	Total	18	100,0

Based on table 1, it is known that of the 18 respondents after the pre-test before giving date palm milk, the frequency of breast milk production of all respondents (100%) experienced a level of breast milk production that was not smooth.

Breast milk is an emulsion of fat in a solution of protein, lactose and minerals. The first six months after delivery, the average amount of breast milk produced by the mother is 780 ml/day and decreases to 600 ml/day in the second six months. Maternal nutrition can affect the composition of breast milk. Aspects of maternal nutrition that can affect the composition of breast milk are maternal intake, nutrient reserves and the mother's ability to absorb nutrients. Nevertheless, breastmilk remains the best food for infants. There are certain nutrients that will be lower in breast milk if the mother is dehydrated or malnourished [11]. Based on the theory above, the author concludes that nutritional needs are one of the factors that influence breast milk production. The aspect of maternal nutrition, it is recommended to be able to continue to provide exclusive breastfeeding until 6 months of maternal milk production must be more. Mothers can prepare for this condition by increasing nutritional intake (both quantity and quality), one of which is by consuming date milk.

3.2 Frequency Distribution of Breast Milk Production Level Characteristics after Date Milk Feeding

Table 2. Frequency Distribution of Milk Production Level Characteristics after Date Milk Feeding

No.	Milk Production Rate (Post-Test)	f	%
1	Not Current	6	33,3
2	Current	12	66,7
	Total	18	100,0

Based on table 2, it is known that of the 18 respondents after being given date palm milk, most respondents (66.7%) experienced a smooth level of breast milk production.

The nutritional needs of breastfeeding mothers are higher than those of non-breastfeeding mothers. Postpartum mothers are recommended to increase calorie consumption by 500 calories / day with balanced nutrition, namely adequate protein, vitamin and mineral intake. Take vitamin A, 2 capsules immediately after delivery. Dates contain a lot of carbohydrates, fats, proteins, various minerals and vitamins as well as a fairly high fiber content. Dates have the function of functional food, dates as an exchange food that is included in the group of fruits whose exchange unit is 50 calories, 10 grams of protein and 10 grams of carbohydrates, the equivalent exchange unit of dates is 100 grams which is equivalent to 314 calories. Iron and calcium levels contained in ripe dates are very sufficient and very important in the process of forming breast milk. Vitamin A contained in dates is good for breast milk production, breast milk is also of high quality and rich in vitamins so it is good



for babies. The potassium substance contained in dates can block dopamine receptors and can then stimulate prolactin, so that breast milk production can increase [12].

When referring to the results of the research, it can be concluded that after being given date milk there is a difference in results with before being given date milk, respondents who consume date milk for 1 week on average experience smooth breast milk production. So this can explain that the content of date milk is very beneficial for the smooth production of breast milk. With the results of the study showing that date milk can affect the level of breast milk production, breastfeeding mothers should be able to fulfill their nutritional needs during breastfeeding by drinking date milk or other nutritious foods.

3.3 Frequency Distribution of Breast Milk Production Level Characteristics before Oxytocin Massage

Table 3. Frequency Distribution of Breast Milk Production Level Characteristics before Oxytocin

No.	Milk Production Rate (Pre-test)	f	%
1	Not Current	18	100
2	Current	0	0
	Total	18	100,0

Based on table 3, it is known that of the 18 respondents after the pre-test before giving oxytocin massage, the frequency of breast milk production of all respondents (100%) experienced a level of breast milk production that was not smooth.

Non-breastfeeding is the condition of not producing breastmilk or not producing enough breastmilk. This is caused by the influence of the hormone oxytocin which is not working properly due to the lack of stimulation from the baby's suction that activates the oxytocin hormone. The key to successful breastfeeding is a mother's strong intention to breastfeed. The psychological aspect of the mother with the support of her husband and family has a significant influence on the success of exclusive breastfeeding. The mother's confidence and intention to breastfeed her baby can increase the prolactin and oxytocin hormones that function for milk production and secretion. When breastfeeding, a mother's awareness of her superiority in producing breast milk is a process that requires spiritual strength, intelligence, and a rational mind. Unfortunately, not all mothers have a calm mind or always think positively. If the mother is stressed and thinks negatively, the work of the hormone oxytocin will be inhibited [11].

Based on the theory above, the author concludes that in addition to nutritional needs, hormones are also one of the factors that can affect breast milk production. It is known that in the first days, breast milk production is not abundant due to the prolactin hormone function not working optimally. Therefore, in the early days after giving birth, the mother only secretes a small amount of yellowish turbid breast milk. Some have not even produced colostrum on the first day. In order to regulate the hormones in the body, many methods can be used. A very simple method is stimulation, one of which is massage techniques. In this case, the author suggests the mother to do the oxytocin massage technique to increase her milk production.

3.4 Frequency Distribution of Breast Milk Production Level Characteristics after Oxytocin Massage

Table 4. Frequency Distribution of Breast Milk Production Level Characteristics after Oxytocin

Massage					
No.	Milk Production Rate (Post-Test)	f	%		
1	Not Current	2	11,1		
2	Current	16	88,9		
	Total	18	100,0		



Based on table 4, it is known that of the 18 respondents after being given oxytocin massage, the frequency of breast milk production, most respondents (88.9%) experienced a smooth level of breast milk production.

It is known that in the first days of breast milk production is not abundant due to the function of the hormone prolactin has not worked optimally. Therefore, on the first day after giving birth, the mother only secretes a small amount of yellowish turbid breast milk. Some have not even produced colostrum on the first day. So that mothers and families become panicked feeling unable to provide breast milk. With Oxytocin Massage Smooth Lactation Healthy Growing Babies the discomfort experienced by the mother will actually affect the production of a little breast milk. Therefore, lactating mothers must be relaxed and ready to breastfeed their babies. To overcome problems in the first days after childbirth such as this, oxytocin massage therapy is needed. This massage is relaxing so that it will stimulate the pituitary to produce prolactin hormone in producing breast milk [13].

If you look at the results of the research, it can be concluded that after being given oxytocin massage there is a difference in results with before being given oxytocin massage, respondents who were given date oxytocin massage for 1 week on average experienced smooth breast milk production. So this can explain that oxytocin massage is able to increase breast milk production. With the results of the study showing that oxytocin massage can affect the level of breast milk production. To overcome the problem of hormone deficiency, especially oxytocin hormone, postpartum mothers are advised to do oxytocin massage assisted by health workers. In addition to increasing the oxytocin hormone, oxytocin massage is also able to relax the mother after giving birth.

Bivariate

3.5 Comparative Analysis of Date Milk Feeding on Increased Breast Milk Production

_		Date Milk	- Total		Р		
The difference	Not Current					Current	
	f	%	f	%	f	%	
Pre-Test	18	100,0	0	0	18	100,0	0.001
Post-Test	6	33,3	12	66,7	18	100,0	
Negative Rank:0							
Positif Rank : 1	2						
Ties : 6							

Table 5. Comparative Analysis of Date Milk Feeding on Increased Breast Milk Production

Based on table 5, with the results of analysis through the Wilcoxon test in the rank table obtained Negative Rank: 0, it means that no one experienced a decrease in breast milk production, Positive Rank: 12, meaning 12 respondents who experienced changes in breast milk production became smooth, Ties: 6, meaning that there are 4 respondents whose breast milk production score has not changed. The results of statistical tests using the Wilcoxon Test obtained a ρ value of 0.001 where the ρ value <0.05, so Ho is rejected and H1 is accepted. This means that there is an effect of date milk feeding on breast milk production in the Jiput Health Center Working Area in 2022.

The results of this study are in line with the research of Ramadhani & Akbar (2022) which shows the results that giving date juice (Phoenix dactylifera L.) is effective in increasing the volume of breast milk in nursing mothers (p=0.012). The amount of breast milk before being given date juice to breastfeeding mothers in the intervention group had an average of 66.33. While the control group had an average of 45.40. On day 5, the average in the intervention group rose to 81.33, while the control group rose to 56.33. On day 10 the average in the intervention group rose to 96.73, while the control group rose to 67.67 [8].

Dates have a hormone content similar to the hormone oxytocin, namely neurohypophysis which will produce hormones. The hormone contained in dates is called the patuchin hormone which is allegedly capable of contracting the veins around the breast. The hormones contained in dates travel through the bloodstream to the breast, then these two hormones will help spur the contraction of the



veins around the mother's breast, which will then spur the mother's mammary glands to be able to produce breast milk [14].

Based on the description above, from the comparison between the results of the post-test and pre-test, the authors conclude that date milk can be used by breastfeeding mothers to increase their milk production, because many date contents are very useful for increasing milk production. From the comparison results, breastfeeding mothers are advised to consume date milk for at least 1 week.

3.6 Comparative Analysis of Oxytocin Massage on Increased Breast Milk Production

Table 6. Comp	parative.	Analysis of	Oxytocin	Massage of	n Increase	d US Produc	tion
		Date Mill	k Feeding	7	Total		
The difference	Not Current		Cı	ırrent		r	
	F	%	f	%	f	%	
Pre-Test	18	100,0	0	0	18	100,0	0.001
Post-Test	2	11,1	16	88,9	18	100,0	
Negative Rank :0							
Positif Rank : 16							
Ties : 2							

Based on table 6, with the results of analysis through the Wilcoxon test in the rank table obtained Negative Rank: 0, it means that no one experienced a decrease in breast milk production, Positive Rank: 16, meaning 16 respondents who experienced changes in breast milk production became smooth, Ties: 2, meaning that there are 2 respondents whose breast milk production score has not changed. The results of statistical tests using the Wilcoxon Test obtained a ρ value of 0.000 where the ρ value <0.05, so Ho is rejected and H1 is accepted. This means that there is an effect of date milk feeding on breast milk production in the Jiput Health Center Working Area in 2022.

Oxytocin massage is the act of massaging the spine starting from the 5th - 6th nerve to the scapula which will accelerate the work of the parasympathetic nerves to convey commands to the back of the brain so that oxytocin comes out.

This study is not in line with research conducted by Saputri et al. (2019) showed that there was a significant effect on breast milk production before and after oxytocin massage on postpartum mothers at the Pratama Nining Pelawati Clinic [15]. Supported by Susianti & Usman's research (2019) which showed the results that oxytocin massage can facilitate breast milk production [16]. Similar results were also shown by the research of Sulaeman et al (2019), that oxytocin massage has an effect on milk production in primiparous postpartum mothers [17].

Based on the description above, it can be concluded that the effect of oxytocin massage on the intervention group shows that there is a greater average increase in breastfeeding frequency compared to the control group, which shows that oxytocin massage is very influential in increasing breast milk production. In this case the author gives advice in addition to nutritional needs, breastfeeding mothers can increase the hormone oxytocin by doing oxytocin massage after giving birth for at least 1 week.

3.7 Comparative Analysis of Date Milk Feeding and Oxytocin Massage on Increased Breast Milk Production

Table 7, Comparative Analysis of Date Milk and Oxytocin Massage on Increased Breast Milk

			Pro	duction			
	Date Milk Feeding				Tatal		
The difference	Not Current		Current		Total		Asymp. Sig. (2-tailed)
-	f	%	f	%	f	%	
Date Milk Feeding	6	33,3	12	66,7	18	100,0	0,606
Oxytocin Massage	2	11,1	16	88,9	18	100,0	
Asymp. Sig.(2-taied):							



Based on table 7, from the results of the analysis through the mann whitney test, the U value is 13000, the W value is 16000 and the Z value is -0.515 while the Sig or ρ value is obtained Asymp. Sig. (2-tailed): 0.606 where the ρ value <0.05 then Ho is rejected and H1 is accepted. This means that there is no difference in the effectiveness of using date milk with oxytocin massage, in this case both date milk and oxytocin massage have benefits in increasing breast milk production in the Working Area of Puskesmas Jiput, Pandeglang Regency, Banten Province in 2022.

The results of this study are different from the results of Halimatu saidah's research (2021) Based on the results of the analysis through the mann whitney test, it shows that there is a difference in the effectiveness of using dates with oxytocin massage on breast milk production in the Semampir Village Working Area of the Balowerti Health Center in 2021. So giving dates and oxytocin massage is more effective oxytocin massage in increasing breast milk production. This can be seen from the changes in breast milk production before and after giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and after Giving dates and changes in breast milk production before and giving dates and changes in breast milk production before and giving dates and changes in breast milk production before and giving dates and chang

4. CONCLUSION

Based on the results of the research and discussion that has been presented by the researcher, it can be concluded that there is no difference in the effect of both date milk and oxytocin massage both can have an effect in increasing milk production, breastfeeding mothers can choose both methods to increase their milk production either through nutritional fulfillment or hormonal stimulation. In this case the author gives advice to breastfeeding mothers to fulfill their nutritional needs by drinking date milk and can control hormones with oxytocin massage. During the breastfeeding period, mothers are expected to understand the importance of breastfeeding and how to increase breast milk production either by nutritional intake that must be met during breastfeeding or hormonally by doing oxytocin massage which is able to increase the mother's milk production.

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REFERENCES

- [1] UNICEF. Levels & Trends in Child Mortality Report. UNICEF. 2020.
- [2] Kemenkes R.I., (2021), Strategi Nasional : Peningkatan Pemberian ASI, Kementerian Kesehatan Republik Indonesia, Jakarta. Available form: http://www.bankdata.depkes.go.id, Diakses pada 23 Oktober 2022.
- [3] Dinkes Provinsi Banten, (2021), Profil Kesehatan Provinsi Banten Tahun 2021, Dinas Kesehatan Provinsi Banten, Serang, Banten.
- [4] Dinkes Kabupaten Pandeglang, (2021), Profil Kesehatan Kabupaten Pandeglang Tahun 2021, Dinas Kesehatan Kabupaten Pandeglang, Banten.
- [5] Tjahjani, E. (2014). Pengaruh konsumsi jantung pisang terhadap kelancaran ASI pada ibu nifas. J Keb, 110, 41-6.
- [6] Kurniasih, y. (2020). Asuhan kebidanan terintegrasi dengan pemberian kombinasi (susu kedelai dan daun katuk) dalam peningkatan produksi asi pada ny. I di puskesmas solokan jeruk.
- [7] Yuviska, I. A., Agustina, M., & Evayanti, Y. (2021). Pengaruh pemberian kurma terhadap produksi asi pada ibu nifas. JOURNAL OF Community Health Issues, 1(1), 1-5.
- [8] Ramadhani, U. N., & Akbar, A. (2022). Efektivitas Sari Kurma (Phoenix Dactylifera L.) Terhadap Pengeluaran Air Susu Ibu (Asi) Pada Ibu Menyusui. JURNAL PANDU HUSADA, 2(3), 163-169.
- [9] Marliandiani, P., (2019), ASI, Menyusui dan SADARI, Muha medika, Yogyakarta.
- [10] Puskesmas Jiput, (2021), Profil Kesehatan Puskesmas Jiput Tahun 2021, Unit Pelaksana Teknis Pusat Kesehatan Masyarakat Kecamatan Jiput, Pandeglang.
- [11] Andini, O.P., (2022), Air Susu Ibu dan Upaya Keberhasilan Menyusui, Cv. Mine, Banjarbaru.



- [12] Fatmawati, D. (2020). Tingkat Kepuasan Konsumen Dalam Mengkonsumsi Produk Olahan Susu Kurma Di Kecamatan Suralaga Kabupaten Lombok Timur (Doctoral Dissertation, Universitas Gunung Rinjani).
- [13] Prasetya, L, (2021), Pijat Oksitosin Laktasi Lancar, Bayi Tumbuh Sehat, Elmatera, Yogyakarta.
- [14] Prianti, A. T., & Eryanti, R. (2020). Efektivitas Pemberian Sari Kurma Terhadap Kelancaran Produksi Asi Ibu Post Partum Di Rskdia Siti Fatimah Makassar. Jurnal Antara Kebidanan, 3(1), 11-20.
- [15] Saputri, I. N., Ginting, D. Y., & Zendato, I. C. (2019). Pengaruh Pijat Oksitosin Terhadap produksi ASI Pada Ibu Postpartum. 2(1), 68–73.
- [16] Susianti, dan Usman. (2019). Pengaruh Pijat Oksitosin Terhadap Produksi ASI Pada Ibu Post Sectio Cesarea. Vol 2, No 1. Halaman 37-45.
- [17] Sulaeman, R., Lina, P., Mas'adah, M., & Purnamawati, D. (2019). Pengaruh Pijat Oksitosin Terhadap Pengeluaran Asi Pada Ibu Postpartum Primipara. Jurnal Kesehatan Prima, 13(1), 10. https://doi.org/10.32807/jkp.v13i1.193
- [18] Saidah, H., & Sari, D. K. (2021). Perbedaan Efektifitas Pemberian Buah Kurma Dan Pijat Oksitosin Terhadap Produksi Asi Ibu Menyusui 0-6 Bulan. Judika (Jurnal Nusantara Medika), 5(2), 71-84.