



The Effect of the Application of Oxytocin Massage and the Consumption of Morage Leaf Biscuit on Breast Milk Production in Post-Partum Mothers in Bau-Bau City

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Abstract

Based on data from the Southeast Sulawesi Provincial Health Profile in 2019, the rate of exclusive breastfeeding for infants 0-6 (zero to six) months in Southeast Sulawesi tends to fluctuate, data for each district is found in Konawe Selatan District reaching 100%, Konawe Kepulauan District 94, 92%, Central Buton 72.49%, North Buton 72.44%, East Kolaka 67.14%, Konawe 66.78%, Kendari City 62.14%, Kolaka, 62.31%, North Kolaka 59.87% , South Buton 57.37%, West Muna 53.70%, Buton 53.44%, Bombana 42.94%, Wakatobi 39.43%, Muna 28.545, North Konawe Regency 27.94% and the least achievement of exclusive breastfeeding in the city Odors 23.27%. The purpose of this study was to analyze the effect of massage application and consumption of Moringa leaf biscuits on the increase in breast milk production of postpartum mothers in Bau-Bau City. This type of research is a quasi-experimental study with a pre-and post-test design. The results of this study indicate that the summary statistics are descriptive of the pretest and posttest data. The average value of the massage treatment before and after increased from 288.86 to 603.86, for the treatment of giving kellow leaf biscuits before and after treatment was found to have increased from 348.14 to 596.86, and the average value for the treatment of giving massage plus kellow leaf biscuits has increased from 399.00 to 613.29, there is a relationship between pre-test and post-test, where the significance value for the massage treatment is 0.000, for the treatment of giving kellow leaf biscuits with a significance value of 0.039 and giving massage treatment plus giving kellow leaf biscuits with a significance value of 0.001 where all treatments have a value less than α 0.05, it is known that all variables have a significant relationship. The results of this study were briefly reviewed and concluded that there was an effect of the application of Oxytocin massage on breast milk produced by post partum mothers. Breast milk produced by post partum mothers. There are suggestions to prioritize problems in fulfilling the exclusive breastfeeding program, either by means of socialization or in other ways that are considered more effective and relevant in the hope that the highest degree of health can be achieved. For further researchers with the same or similar title, it is suggested to go deeper. In conducting research, either using different analytical methods or analyzing more specifically of all these variables.

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Introduction

One of the targets of the United Nations Sustainable Development Goals (SDGs) in 2030 is expected to be able to overcome various problems, including eradicating poverty and hunger, promoting health and education, and developing regions in a sustainable manner.

Some of the SDGs goals that are closely related to breastfeeding are: Exclusive breastfeeding can contribute around USD 302 billion annually to the world's economic income. Breastfeeding is the best source of nutrition with a bioactive composition that

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can improve the health status of mothers and children. Babies who are breastfed with the gold standard of baby food have been shown to have a higher IQ and better performance and thus have a decent job and income. Exclusive breastfeeding can help equal rights and obligations of men and women in child care. Breastfeeding can also reduce expenses for buying formula milk needs, making it more efficient and environmentally friendly (UNICEF, 2020).

Based on data from the Indonesian Ministry of Health, the rate of early initiation of breastfeeding in Indonesia increased from 51.8% in 2016 and increased in 2017 to around 57%. However, this figure is still far from 90%. The increase in exclusive breastfeeding also occurred at a rate from 29.5% in 2016 to 35.7% in 2017. This figure is also very small considering the important role of breastfeeding in children's lives (Puput Tripeni Juniman, 2018).

Percentage of Early Initiation of Breastfeeding (IMD) in Exclusive Infants in Indonesia on average, in 2017 73.06% who received IMD, and 61.33% who received Exclusive Breastfeeding, and in 2018 there was a decrease where it was found that 71.34% received BMI, and 65.16% who received exclusive breastfeeding (Oscar Primadi, dkk, 2019).

Based on data from the Health Profile of Southeast Sulawesi Province in 2019, the rate of exclusive breastfeeding for infants 0-6 (zero to six) months in Southeast Sulawesi tends to fluctuate. 92%, Central Buton 72.49%, North Buton 72.44%, East Kolaka 67.14%, Konawe 66.78%, Kendari City 62.14%, Kolaka, 62.31%, North Kolaka 59.87% , South Buton 57.37%, West Muna 53.70%, Buton 53.44%, Bombana 42.94%, Wakatobi 39.43%, Muna 28.545, North Konawe Regency 27.94% and the least achievement of exclusive breastfeeding in Bau-Odor 23.27% (Southeast Sulawesi Provincial Health Office, 2019).

In 2017, Bau-Bau City health profile data released the number of children aged 0 (zero) to 6 (six) months registered in all Health Centers in the Bau-Bau City area around 5,246, there were 3,446 or 65.69% who were exclusively breastfed (Bau-Bau City Health Office, 2017). Meanwhile, in 2018, it showed that of the 2,686 babies aged 0 to 6 months registered in all health centers in the Bau-Bau City area, there were 1,954 or 72.75% who were exclusively breastfed with a target set of 100% (Bau-Bau City Health Office, 2018).

Meanwhile, in 2019, from 3,061 data on babies aged 0-6 (zero to six) months registered in all

Puskesmas in Bau-Bau City, there were 2,356 or 76.96% who were exclusively breastfed with a target set of 100% (City Health Office). Bau-Bau, 2018), shows that of the 3,478 number of infants aged 0 to 6 months registered in all health centers in the Bau-Bau City area, there are 2,121 or 62.49% who are exclusively breastfed with a target set of 100%, and for interpretation of childbirth in Bau-Bau City with 15 working areas of health centers in September as many as 153 people (Dinas Kesehatan Kota Bau-Bau, 2019)

The reason for not achieving the Exclusive Breastfeeding program is due to the lack of breast milk production in postpartum mothers, an alternative in achieving the exclusive breastfeeding program is by seeking smooth milk output for post partum mothers, among others, by providing massage to the spine which is known as oxotocin massage and providing food supplements. made from Moringa leaf extract, namely Moringa biscuit. Oxytocin massage is an alternative to the effort to achieve the Exclusive Breastfeeding program where breastfeeding mothers experience anxiety when the milk produced for their babies is considered insufficient, sometimes with other assumptions a mother will provide additional intake of formula milk which is considered the failure of the Exclusive Breastfeeding program, by providing massage Oxytocin in addition to launching breast milk production can also be of economic value and has benefits both from the nutritional value of breast milk and the source of antibodies in the baby's body (Widia & Meihartati, 2017)

In addition to Oxytocin massage, the increase in breast milk productivity is also influenced by the nutritional status of the mother. This can be circumvented by consuming Moringa leaves (Moringa oleifera). Moringa is a potential local food as a culinary for all people, especially breastfeeding mothers. Phytosterol compounds found in Moringa plants function to increase the production (Djajanti, 2013).

Oxytocin hormone is needed in breast milk that has been produced to facilitate the flow process. Psychological conditions in each mother affect the production of Oxytocin. Breast milk will flow smoothly and abundantly if the mother's condition is calm, comfortable, and happy. Several factors that affect the productivity of the oxytocin hormone include the nutritional status of the mother, the sucking of the baby while breastfeeding and the application of oxotocin massage. The way the Oxytocin hormone works is to stimulate the smooth



muscles in the alveoli area so that contraction occurs by expelling breast milk, this is called the diversion reflex(Delima, et al., 2016).

Bau-Bau City is the 1st place with the lowest exclusive breastfeeding coverage in Southeast Sulawesi, which is the basis of this research where the island area with information centers for other archipelagic areas including sea transportation centers in Southeast Sulawesi is very far from expectations where it should be more both from regencies with other islands or in Southeast Sulawesi, From this preliminary review the author feels it is very necessary to conduct research in Southeast Sulawesi, especially Bau-Bau City about the influence of the application of oxytocin massage and the consumption of Moringa leaf biscuits (*Moringa oleifera*) on the amount of breast milk production in Indonesia. Post Partum mother in Bau-Bau

Methods

This type of research is a quasi-experimental

research with a pre-and post-test design. Quasi-experimental research was conducted to test the hypothesis about the presence or absence of a procedure when compared with other measures by controlling the variables according to current conditions(Sugiyono, 2012).

This research was carried out in Bau-Bau City in February 2021, with a sample of 105 post partum mothers by dividing 3 groups which consisted of a group with Oxytocin massage treatment, a group with Moringa leaf biscuits and a massage treatment group with a combination of Moringa leaf biscuits for each each group has the same number of respondents, namely 35 people

Results

1. Description of Respondent Characteristics

In this study, it consists of respondent characteristics including; Age Groups, Education and occupation can be outlined in the form of the following table included with its explanation

Table 1. Age Distribution

Age	Frequency (f)	Percentage (%)
<20 years	2	1,90
20-35 years	82	78,10
>35 years	21	20,00
<i>Total</i>	105	100

The table above shows that the most toddlers in the 20-35-year age group were 82 people (78.10%), and a small age group < 20 years old was 2 people (1.90%).

Table 2. Job Distribution

Work	Frequency (f)	Percentage (%)
Civil Servants/PRIVATE	9	8,57
House Wife	76	72,38
ENTREPRENEUR	20	19,05
<i>Total</i>	105	100

Based on the table, it can be explained that the most jobs in the IRT work group amounted to 76 people (72.38%) and little was found in the Civil Servants / Private employment group totaled 9 (8.57%)

Table 3. Distribution of Respondent Characteristics by Education

Education	Frequency (f)	Percentage (%)
SMA	59	56,19
Diploma	13	12,38
Bachelor	31	29,52
Master	2	1,90
<i>Total</i>	105	100



For the table of the distribution of respondents' characteristics based on education, it can be explained that the respondents with the highest frequency of education in high school education are

59 people (65.19%) with respondents with little education frequency found in S2 Education, namely 2 people (1.90%)

1. Descriptive Analysis

Table 4. Distribution of breast milk amount before treatment and after treatment in ml / day for Oxitocin Massage treatment

No.	Oxitocin Massage		Information
	Pre	Post	
1	235	600	Increase
2	300	550	Increase
3	250	700	Increase
4	250	750	Increase
5	250	680	Increase
6	250	550	Increase
7	350	700	Increase
8	275	750	Increase
9	250	680	Increase
10	400	350	Not Increasing
11	300	750	Increase
12	240	680	Increase
13	245	550	Increase
14	350	350	Not Increasing
15	230	750	Increase
16	235	500	Increase
17	450	450	Not Increasing
18	230	700	Increase
19	250	600	Increase
20	250	750	Increase
21	450	600	Increase
22	400	500	Increase
23	300	550	Increase
24	350	350	Not Increasing
25	350	600	Increase
26	230	550	Increase
27	235	700	Increase
28	235	750	Increase
29	230	500	Increase
30	250	645	Increase
31	400	400	Not Increasing
32	250	600	Increase
33	300	600	Increase
34	300	650	Increase
35	240	750	Increase

From the table above, it can be explained that it was found that 5 (14.28%), respondents did not experience an increase in the amount of breast milk during the Oxytocin massage treatment, and it was found that as many as 35 (85.72%) respondents

experienced an increase after an oxytocin massage, this treatment was given for 30 days and carried out an examination to determine the increase in the amount of breast milk production in milli liters per day



Table 5. Distribution of breast milk amount before treatment and after treatment in ml / day for the treatment of Kellor Leaf Biscuit Administration

No.	Giving Moringa Leaf Biscuits		Information
	Pre	Post	
1	350	400	Increase
2	350	600	Increase
3	230	500	Increase
4	400	400	Not Increasing
5	450	650	Increase
6	230	600	Increase
7	250	550	Increase
8	250	700	Increase
9	450	750	Increase
10	400	500	Increase
11	400	400	Not Increasing
12	350	700	Increase
13	350	750	Increase
14	450	450	Not Increasing
15	235	550	Increase
16	450	700	Increase
17	230	750	Increase
18	300	400	Increase
19	400	700	
20	450	450	90
21	300	550	91
22	350	700	92
23	240	750	93
24	350	680	94
60	500	550	95
61	350	700	96
62	500	450	97
63	300	680	98
64	240	700	99
65	245	750	100
66	350	680	101
67	350	550	102
68	235	700	103
69	450	500	104
70	450	450	105

From the table above, it can be explained that 6 (17.14%), respondents did not experience an increase in the amount of breast milk during the treatment of Giving Moringa Leaf Biscuits, and it was found that as many as 29 (82.86%) respondents experienced an increase after giving

Moringa Leaf Biscuits, this treatment was given for 30 days and carried out an examination to determine the increase in the amount of breast milk production in milli liters per day

Table 6. Distribution of breast milk amount before treatment and after treatment in ml / day for Oxytocin massage treatment and Moringa Leaf Biscuit Administration

Oxitocin Massage and Moringa leaf Biscuits	Information
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Pre	Post	
350	693	Increase
350	693	Increase
400	792	Increase
400	792	Increase
450	891	Increase
230	455	Increase
400	792	Increase
550	1089	Increase
450	891	Increase
400	792	Increase
550	1089	Increase
400	792	Increase
350	693	Increase
450	891	Increase
550	1089	Increase
450	891	Increase
400	792	Increase

From the table above, it can be explained that it was found that 8 (22.86%), respondents did not experience an increase in the amount of breast milk during the Oxytocin massage treatment and moringa leaf biscuits, it was found that as many as 27 (77.14%) respondents experienced an increase after Oxytocin massage and Moringa Leaf Biscuit

days and conducted an examination to find out the increase in the amount of breast milk production in milli liters per day

**Inferential Analysis
Data Normality Test**

Administration, this treatment was given for 30

Table 7. Distribution of Data Normality Test Results of Each Variable

No.	n	Variable Pre Test-Post Test	Asymp. Sig. (2-tailed)	Alpha (α)
1	35	Oxitocin Massage	0.200	0.05
2	35	Giving Moringa Leaf Biscuits	0.055	0.05
3	35	Oxitocin Massage + Moringa Leaf Biscuits	0.200	0.05

It is known from the results of the data normality test for pre and post oxytocin massage with the Asymp value. Sig. (2-tailed) which is 0.200 greater than 0.05 which can be concluded that having a normal sample distribution, the regression model has met the assumption of normality. It is known from the results of the data normality test for pre and post Moringa Leaf Biscuits with the Asymp value. Sig. (2-tailed) which is 0.055 greater than 0.05 which can be concluded that having a normal sample distribution, the regression model has met

the assumption of normality. And it is known from the results of the normality test of the data for Oxitocin Massage with Moringa Leaf Biscuits pre and post with the Asymp value. Sig. (2-tailed) which is 0.200 greater than 0.05 which can be concluded that having a normal sample distribution, the regression model has met the assumption of normality

**Statistical test
Paired T-Test**

Table 8 .Distribution of the Effect of Oxytocin Massage On Breast Milk Production

Responsen (n)	Average Milk Production		T Calculate	T Table	Sig.
	Before	After			
35	288.86	603.86	11.009	1.96	0.000

The results of the discriminatory statistical summary of both pretest and post-test data the



Average Value for Oxitocin Massage treatment before and after has increased from 288.86 to 603.86, where T counts Greater than T table with a significance value of $0.000 < 0.05$ which

indicates there is an influence, or it can be concluded that through treatment the treatment of treatment can provide changes in the amount of breast milk production in statistics explained that H_a is accepted and H_o in reject.

Table 9 Distribution of the Effect of Oxytocin Massage On Breast Milk Production

Responden (n)	Average Milk Production		T Calculate	T Table	Sig.
	Before	After			
35	348.14	596.86	8.508	1.96	0.000

For the treatment of giving Moringa leaf biscuits before treatment and after being known, it has increased from 348.14 to 596.86, where tcounts Greater than T table with a significance value of $0.000 < 0.05$ which shows there is an influence, or it can be concluded that through

treatment the treatment of giving treatment can provide changes in the amount of breast milk production in statistics explained that H_a is accepted and H_o is rejected

Table 10 Distribution of the Effect of Oxytocin Massage On Breast Milk Production

Respondent (n)	Average Milk Production		T Calculate	T Table	Sig.
	Before	After			
35	399.00	744.43	13.042	1.96	0.000

The average value for the treatment of oxytocin massage plus kellor leaf biscuits increased from 399.00 to 744.43. Where T counts Greater than T table with a significance value of $0.000 < 0.05$ which indicates there is an influence, or it can be

concluded that through treatment the provision of treatment can provide changes in the amount of breast milk production in statistics explained that H_a is accepted and H_o is rejected

a. Wilcoxon Test

Table 11 Distribution of Wilcoxon Test Results

	After Oxytocin Massage	Before Oxytocin Massage	After Giving Moringa Biscuit	Before Giving Moringa Biscuit	After Giving Moringa Biscuits	Before Giving Moringa Biscuits
Z	-4,842 ^b		-4,734 ^b		-5,077 ^b	
Asymp. Sig. (2-tailed)	.000		.000		.000	
a. Wilcoxon Signed Ranks Test						
b. Based on negative ranks.						

From the table above, it is explained that the Wilcoxon test results use SPSS. It can be known that the p-value of the Wilcoxon test is smaller than $\alpha 0.05$ and $Z_{counts} \geq Z_{table}$ where the Z_{table} is 1.96, so it can be concluded that there is a difference

between pre and post treatment

b. Anova Test (Analysis of Variance)

Table 12 Anova Test Description

Breast milk production								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		



Oxytocin Massage	35	432.86	79.223	13.391	405.64	460.07	279	558
Moringa Leaf Biscuits	35	441.14	72.941	12.329	416.09	466.20	279	558
Oxytocin Massage and Moringa Leaf Biscuit Administration	35	744.43	228.641	38.647	665.89	822.97	300	1188
Total	105	539.48	205.178	20.023	499.77	579.18	279	1188

From the Descriptive table, it appears that respondents given the Oxytocin Massage treatment increased by an average of 432.86, given the moringa leaf biscuit treatment on average

increased by 441.14 and respondents given the Oxytocin Massage treatment and Oxytocin Massage increased by an average of 744.43.

Table 13 Distribution of Anova Test Results

Production of Breast Milk					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2206489.048	2	1103244.524	51.817	.000
Within Groups	2171691.143	102	21291.090		
Total	4378180.190	104			

From the table above, it can be seen the difference in income from the three treatment groups. From the ANOVA table, on the Sig column. obtained P-value (P-value) = 0.000. Thus at a real level = 0.05 it can be

concluded that Ho was rejected so that there was a meaningful difference in the average milk production based on the three treatment groups. In the following table aims to see what treatments can increase breast milk production more

Table 14 Distribution of Results of differences in the increase in breast milk production of each Treatment using the Anova Test

Multiple Comparisons						
Dependent Variable: Production of Breast Milk						
Bonferroni						
(I) Treatment	(J) Treatment	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Oxytocin Massage	Moringa Leaf Biscuits	-8.286	34.880	1.000	-93.19	76.62
	Oxytocin Massage and Moringa Leaf Biscuit Administration	-311,571*	34.880	.000	-396.47	-226.67
Moringa Leaf Biscuits	Oxytocin Massage	8.286	34.880	1.000	-76.62	93.19
	Oxytocin Massage and Moringa Leaf Biscuit Administration	-303,286*	34.880	.000	-388.19	-218.38
Oxytocin Massage and Moringa Leaf Biscuit Administration	Oxytocin Massage	311,571*	34.880	.000	226.67	396.47
	Moringa Leaf Biscuits	303,286*	34.880	.000	218.38	388.19



*. The mean difference is significant at the 0.05 level.

From the table above, it can be seen that the increase in breast milk production for each treatment where the treatment with the most increase in breast milk production is in the Oxytocin massage treatment by adding the consumption of Moringa leaf biscuits and the second order in the Oxytocin Massage treatment

Discussion

The effect of oxytocin massage application on breast milk produced by post-partum mothers in Bau-Bau City.

From the results of the study, it was found that there was a significant relationship between the effect of giving oxytocin massage treatment with an increase in breast milk volume. The significance value is less than 0.05, so it can be concluded that through treatment giving Oxytocin massage treatment can provide changes to the volume of breast milk in the statistics, it is explained that H_a is accepted and H_o is rejected.

Breast milk production can be increased through oxytocin massage, namely massage or stimulation of the spine, the neurotransmitter will stimulate the medulla oblongata to the hypothalamus to release oxytocin which causes the breasts to release milk. Massage in the spinal area will also relax tension and relieve stress by releasing the oxytocin hormone, which will help release breast milk (Sutadi, et al., 2016)

In this study, oxytocin massage was performed based on Standard Operating Procedures (SOP). Oxytocin massage is a mechanical receptor directly on the skin, so that it simultaneously stimulates afferent nerve impulses in the limbic system along the vertebrae and ribs 5-6, these stimuli provide feedback to the posterior hyphose gland (neurohypophysis) so that oxytocin is secreted into the circulatory system. In accordance with the theory that oxytocin massage is one solution to overcome the uneven production of breast milk, reduce swelling, reduce blockage of breast milk, stimulate the release of the hormone oxytocin, especially in the first days of birth where breast milk will gradually be produced and released 10-100 ml (Delima, et al., 2016).

Based on this, the researcher believes that oxytocin massage can affect breast milk production in post partum mothers. This oxytocin massage is a form of

effort or support that a health worker and family can do to support exclusive breastfeeding. As health workers or midwives during pregnancy check-ups, they should teach all pregnant women, husbands/companions how to do oxytocin massage so that when the postpartum period arrives, mothers and families can do it without a midwife.

Based on the results of the T test showed an increase in milk production after oxytocin massage, the T test value was 0.000 ($p < 0.05$). This shows statistically that there is a very significant effect between oxytocin massage and increased milk production in post partum mothers.

This study is in accordance with research (Endah and Mardinarsah, 2011) which states that oxytocin massage has a more significant effect on breastfeeding in postpartum mothers (p value: 0.001). So it can be assumed that oxytocin massage should be carried out for post partum mothers in order to provide a relaxing effect so that it can stimulate the oxytocin hormone and will help the production of breast milk. And this oxytocin massage is very helpful for problems that occur in mothers when breastfeeding their babies (Endah & Masdinarsah, 2011).

Effect of Moringa Leaf Biscuits on the increase in breast milk production in post partum mothers in Bau-Bau City.

From the results of the study, it was found that there was a significant relationship between the effect of giving Moringa Leaf Biscuits and increasing the volume of breast milk. The significance value is less than 0.05, so it can be concluded that the treatment with Moringa Leaf Biscuits can change the volume of breast milk. The statistic explains that H_a is accepted and H_o is rejected.

The fiber content in Moringa leaf flour reaches 19.2%, with Moringa protein components still bound in fiber components so that it reduces protein digestibility including iron. An inhibitor factor so that the digestibility of protein and iron can be increased. Moringa leaves that have been processed (cooked by heating) will have a higher digestibility value than in their raw form, so that Moringa contains protein that is very easy to digest (Zakaria, et al., 2016).

The food intake of a nursing mother also



determines the quality of her breast milk. There are several plants that are believed to be hereditary or scientifically proven to increase the quality and quantity of breast milk, for example katuk leaf (*Sauropus androgynus*), klabet (*Trigonella graceum* L.) and Bangun-bangun leaf (*Coleus amboinicus*, Lour), and Moringa (*Moringa oleifera*). Breastfeeding mothers need adequate iron intake because during childbirth the mother bleeds a lot and 50% of the iron needs of the fetus come from the mother. In addition, iron from breast milk is absorbed 100% by the baby, in contrast to cow's milk or formula milk which is only absorbed by 50% and 40%, so mothers need to increase their iron intake to restore the volume of iron absorbed by their babies. Consuming Moringa biscuits is believed to increase milk production in nursing mothers. The natural compounds in these tiny leaves are efficacious to encourage the secretion of hormones that regulate milk production in the breast glands (Dewi, 2017).

Moringa leaf biscuits where it is believed that 100 grams of Moringa leaf biscuits contain 12.31% protein, 18.62% fat, provitamin A (β -carotene) 313.47 mg, vitamin E 1549.4 mg, vitamin C 1514.96 mg, iron (Fe) 9.72 mg, zinc (Zn) 3.7 mg and selenium 47.45 mg, which were considered sufficient to stimulate the increase in the hormone oxytocin (Djajanti, 2013).

In this case, the researcher's assumption from the results of the data obtained and comparison with journals, other people's research and supported by book reference theories, the Moringa leaf extract capsules are effective in increasing breast milk production in Post Partum mothers. Caused by the content of Moringa leaves phytosterols which function to spur breast milk production.

The effect of oxitocin massage and moringa leaf biscuit administration on increasing breast milk production in post partum mothers in Bau-Bau City

From the results of the study, it is known that a significant relationship between the influence of oxitocin massage application and Moringa Leaf Biscuit administration with an increase in breast milk volume. The significance value is smaller than 0.05, it can be concluded that through the treatment of oxitocin massage and the administration of Moringa Leaf Biscuits can provide changes in the volume of breast milk in the statistics explained that H_a is accepted and H_o is rejected.

The reality in the field shows that the small

production of breast milk in the first days after giving birth is an obstacle in giving breast milk early. mothers who can breastfeed in the first days are caused by the mother's anxiety and fear of a lack of milk production as well as the mother's lack of knowledge about the breastfeeding process. Therefore, it is necessary to make efforts to smoothen the production of breast milk for postpartum mothers. In an effort to produce breast milk, there are two things that affect, namely production and expenditure (Kiftia, 2011).

Breast milk production is influenced by the hormone prolactin while production is influenced by the hormone oxytocin. The hormone oxytocin will come out through the stimulation of milky discharge through the suction of the baby's mouth or through massage on the baby's mother's calcitising bone (Nugraheni & Heryati, 2017).

There are several ways that can be done to facilitate breast milk production, including breast care, breast massage, Early Initiation of Breastfeeding (IMD) and oxytocin vertabrae massage to mothers. Back massage is done to stimulate the oxytocin reflex or let down reflex through sensory stimulation of the afferent system. This back massage can be performed on mothers after cesarean section 24 hours after delivery when the mother is able to start mobilizing gradually (Dewi, 2017).

Moringa leaves are one part of the Moringa plant that has been widely researched for its nutritional content and uses. Moringa leaves are very rich in nutrients, including calcium, iron, protein, vitamin A, vitamin B and vitamin C. Moringa leaves contain higher iron than other vegetables, which is 17.2 mg / 100 g. Moringa leaves contain phytosterols that can increase breast milk production for women who are breastfeeding, Moringa leaves contain Fe 5.49 mg / 100 g and phytosterols namely sitosterol 1.15% / 100 g and stigmasterol 1.52% / 100 g which stimulate breast milk production, Thus researchers assume that in addition to consuming Moringa biscuits but are biased in combination to further increase breast milk production, in addition, it prevents the occurrence of stress in post-partum mothers

Differences in the Amount of Breast Milk Production with Oxytocin Massage Treatment, Moringa leaf biscuit administration, and combination of oxytocin massage treatment and Moringa leaf biscuit administration.

It is known that from all treatments there are



differences in influences for each treatment man, it is known from the table above that there is an increase in breast milk production for each treatment where the treatment with the most increase in breast milk production is in the treatment of giving Oxytocin massage by adding consumption of Moringa leaf biscuits with an average amount of 311,571 ml / day and the second order in the Oxytocin Massage treatment with an average amount of 303,286 ml / day.

It can be concluded that the oxytocin massage treatment has an effectivity and influence on increasing milk production in post-partum mothers, but if it is combined with Moringa leaf biscuits it will produce better results or increase milk production more.

Postpartum massage is known to have a number of benefits, including relaxation, stress relief, improved sleep, aids in breastfeeding, and hormonal restoration after childbirth. Oxytocin massage is one of the most popular postpartum massage techniques, this could be one reason to believe that oxytocin massage helps breastfeeding (Pilaria & Sopiatur, 2018).

According to (Sulaeman, et al., 2016) Oxytocin massage benefits are; Increase the mother's self-confidence, reduce the source of pain and fear, and help the mother's mindset and feelings towards the baby.

The benefits of Moringa leaves include anti-inflammatory, hepatitis, facilitate urination, anti-allergy and are highly recommended for breastfeeding mothers to increase milk production. Moringa leaves (*Moringa oleifera*) are widely used and believed to be medicinal for infections, anti-bacterial, urinary tract infections, external wounds, anti-hypersensitivity, anti-anemic, diabetes, colitis, diarrhea, dysentery, and rheumatism (Dewi, 2017).

Conclusion

Based on the results of research and discussion, it can be concluded as follows:

1. There is an effect of oxytocin massage application on breast milk produced by post-partum mothers and there are differences in the volume of breast milk pre and post treatment
2. There is an effect of giving kellow leaf biscuits on breast milk produced by post-partum mothers and there are differences in the volume of breast milk Pre and Post Treatment

3. There is an effect of the application of oxytocin massage and moringa leaf biscuit administration on breast milk produced by post-partum mothers and there are differences in the volume of breast milk pre and post treatment.

4. It is known that from all treatments there are differences in influences for each treatment, it is known that there are differences in the increase in breast milk production for each treatment where the treatment with the most increase in breast milk production is in the treatment of giving Oxytocin massage by adding the consumption of Moringa leaf biscuits and the second order in the Oxytocin Massage treatment.

5.

Suggestion

The results of this study after a brief review and conclusion for each variable thus there are several suggestions that the researcher conveyed from the results of this study, namely:

Bau-Bau City Government

In order to prioritize more in the problems in the fulfillment of the Exclusive Breastfeeding program, either by means of socialization or in other ways that are considered more effective and relevant to the hope of achieving a high level of health.

Bau-Bau City Health Office

Especially for the person in charge of the MCH program to be more focused on fulfilling exclusive breastfeeding by means of socialization and personally for health workers, especially those who handle post-copy mothers, both in hospitals and in other health services.

Next Researcher

For subsequent researchers with the same or similar titles, it is recommended to go deeper in conducting their research either using different analysis methods or analyzing more specific ones of all these variables

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