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The Effect of Lactation Massage on Increasing Breast Milk Production in Breastfeeding Mothers at BPM Nurhidayah Tambusai District, Rokan Hulu

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ABSTRAT

Lactation massage for post partum mothers can be used as a non-pharmacological therapy to stimulate oxytocin to accelerate lactation turnover. If lactation occurs quickly, the baby must receive breast milk as the first nutrition. Examination of exclusive breastfeeding can help reduce the infant mortality rate which is still high in Indonesia. The low coverage of exclusive breastfeeding for babies under six months is partly caused by the hampered breast milk production of postpartum mothers in the first days after giving birth so that most babies receive formula milk. Efforts to help achieve the role of postpartum mothers include lactation massage intervention and the influence of lactation massage. The aim of this research is to find out the effect of lactation massage on breast milk production in breastfeeding mothers. This research is experimental research (two group pretest and posttest design) carried out between May-July 2024 with a purposive sampling research design. The population in this study was 30 postpartum mothers, with a sample of 30 postpartum mothers in BPM Nurhidayah, Tambusai District, with an experimental group of 15 people and a control group of 15 breastfeeding mothers. The results of the independent mean difference test T test show that the p value = 000 < 0.05, meaning there is a difference in the average increase in breast milk volume in the control group which was not given lactation massage, namely the experimental group with a mean value of 115.80 and the control group with The mean value is 73.33, meaning 115.80 > 73.33, so it can be concluded that there is an increase in breast milk production before and after lactation massage. It is hoped that postpartum mothers can understand and increase their knowledge and be able to apply it.

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Keywords: Lactation Massage, BPM Nurhidayah, Tambusai District

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INTRODUCTION

The postpartum period is the period during labor and immediately after birth which includes the following weeks when the reproductive tract returns to its normal non-pregnant state (Sari, E N, 2018). Postpartum is the period that begins after the birth of the placenta and ends when the bladder returns to its original state before pregnancy, which lasts for 6 weeks or approximately 42 days. The process of change that occurs in postpartum mothers covers the entire reproductive system, including changes and production of breast milk during the postpartum period (Sari, E, N, 2018).

Achieving a good postpartum period will have an impact on the welfare of the mother and baby. One of the impacts on the welfare of babies is achieving exclusive breastfeeding for

babies. Breast milk contains colostrum which is rich in antibodies because it contains protein for the body's resistance and is useful for killing germs in high quantities so that

Exclusive breastfeeding can reduce the risk of death in babies. Colostrum is yellowish in color which is produced from the first to the third day. On the fourth to tenth day, breast milk contains less immunoglobulin, protein and lactose than colostrum, but the fat and calories are higher with the milk being whiter in color. Apart from containing food substances, breast milk also contains certain enzymes which function as absorbent substances that will not interfere with other enzymes in the intestine (Indonesian Health Profile, 2022).

Not all postpartum mothers immediately produce breast milk because breast milk production is a very complex interaction between mechanical stimuli, nerves and various hormones that influence the release of oxytocin. The release of the hormone oxytocin, apart from being influenced by the baby's sucking, is also influenced by receptors located in the ductal system, if the ductus widens or becomes soft then oxytocin is reflexively released by the pituitary which plays the role of squeezing milk from the alveoli, therefore it is necessary to make efforts to express breast milk for some mothers. postpartum. Coverage of exclusive breastfeeding in Indonesia as a whole is very good, namely an increase of 40% from 2022. However, this figure could decrease if the community and health workers support each other's government programs. Likewise for the target of exclusive breastfeeding coverage in Riau province and Rokan Hulu Regency. To maintain this coverage, health workers must continue to provide education to mothers that exclusive breast milk is a very nutritious food for babies under 6 months of age. Also provides education about the needs of babies under 6 months old by simply giving breast milk. Many parents think that babies are fussy because they are still hungry even though they have been given breast milk. And provide additional food so that the baby is calm. The release of breast milk is influenced by the hormone oxytocin which will come out through stimulation of the nipple through sucking on the baby's mouth or massage on the spine. The mother will feel calm, relaxed, increase the pain threshold and love her baby, so that the hormone oxytocin will come out and the milk will come out quickly. So exclusive breastfeeding for 6 months is no longer achievable. (WBW, 2020).

According to the Ministry of Health, 2020, several things that hinder exclusive breastfeeding include: Insufficient breast milk production (32%), nipple problems (28%), swollen breasts (25%), the influence of advertising on formula milk (6%), working mothers (5%), the influence of other people, especially family (4%), therefore support for breastfeeding is needed from families, communities and health workers to create a healthy and high-quality generation.

There are many ways to facilitate breast milk, namely: Fiber foods, cleaning the breasts and doing massage, Drinking lots of water, Pumping breast milk, compressing the breast, Oxytocin Massage (Ministry of Health RI, 2013) Oxytocin massage is one solution to overcome breast milk irregularities. Oxytocin massage is massage along the spine (vertebrae) up to the fifth-sixth rib bones and is an attempt to stimulate the prolactive hormone and oxytocin after giving birth. This massage functions to increase the hormone oxytocin which can calm the mother, so that breast milk comes out automatically (Roesli, 2017)

By giving an oxytocin massage, the mother feels more relaxed so that breast milk production will increase. In this way, the baby's need for breast milk will be met. So mothers don't need to worry about their breast milk production.

Based on the background that has been presented and the initial survey conducted by the researcher, the researcher is interested in conducting research entitled "The Effect of Oxytocin Massage on Breast Milk Production in Breastfeeding Mothers at BPM NURHIDAYAH, Tambusai District, Rokan Hulu Regency"

METHOD

a.Types of research

This type of research is experimental research by assessing breast milk production in breastfeeding mothers before massage and after massage.

b.Research design

The research design used was quasi-experimental without a control group using a one group pretest-posttest design approach.

Pretest Treatment Posttest Group

Scheme 1. Research Plan

Group	***Pretest***	Treatmen	***Posttest***
Eksprimen	01	X	02

Source: (Notoatmodjo, 2018)

01: Before doing lactation massage
X: Treatment
02 After a lactation massage

B. Location and time of research

This research was conducted at BPM Nuridayah, Tambusai District, Rokan Hulu Regency in January 2024- December 2024.

C. Population, sample and sampling technique

a.Population

The population of all post partum mothers on day 2 to under 6 months, the population taken in this study were mothers who had babies under 6 months of age who gave birth at BPM Nurhidayah during 2024, Tambusai District, Rokan Hulu Regency.

b.Sample

The sample is a part or representative of the population studied. In this study, samples were taken of ±30 people.

c.Sampling Techniques

The sampling technique in this research was carried out by sampling, namely using a total sampling technique, namely the entire population was sampled. (Sugiono 2007)

D. Operational definition

Operational Definition of Dependent and Independent Variables

No	Variabels	Variable Definition	Tools	skale	Results measure
1.	Breast milk producti on	The amount of breast milk production of postpartum mothers is assessed by measuring the amount of breast milk	Pump breast milk and glass measuring.	Ordinal	-Production Breas milk< 100ml -Production Breas milk > 100ml
2.	Lactation Massage	massage carried out along the vertebral bones to the fifth rib bone, using coconut oil or baby oil.	Observasi	Ordinal	Peretes Postes

E. Instruments/Research Tools

The data collection tool in this study used a questionnaire (interview) with breastfeeding

mothers to determine the amount of breast milk production. Meanwhile, to measure the amount of breast milk production, a breast pump and measuring cup are used.

F. Data Collection Methods

a. Primary

Primary data is obtained directly from research subjects using direct measurement tools on the subjects as the source of information sought. The advantage of primary data is that it has higher accuracy. The data collection method uses primary data, namely by giving questionnaires (question sheets) directly to respondents containing questions about the objects being studied (Saryono and Anggraeni, 2019).

b. Secondary

Data obtained through other parties is not directly obtained by researchers from their research subjects. Usually in the form of documentation data or report data that is already available. The advantage of secondary data is high efficiency, with the disadvantage of less accuracy. Secondary data in this research was obtained from data from the Rokan Hulu Health Service (Saryono and Anggraeni, 2019).

G. Data Processing and Analysis Methods

1) Processing Method

According to Narkubo and Achmadi (2020) data processing processes include:

a.Editing

Editing is checking the list of questions that have been submitted by data collectors. The aim is to reduce errors or deficiencies in the list of questions.

b.Coding

Coding is classifying respondents' answers into categories.

c.Scoring

Scoring is providing an assessment of items that need to be assessed or scored.

d.Tabulating

Tabulating is the work of making tables. The answers that have been coded are then entered into the table. The final step of this research is conducting data analysis. Next, the data is entered into a computer and analyzed statistically. Data analysis in this research consists of:

2) Data Analysis

a.Analysis (Univariate)

Univariate analysis was carried out on each variable from the research results. This analysis only produces distributions and percentages of variables which are then presented by distributing all information material variables using a frequency distribution table.

b.Analysis (Bivariate)

Bivariate analysis is carried out on two variables that are thought to be related. In this bivariate analysis, several stages are carried out, including:

1) Analysis of proportions or percentages by comparing the cross distribution between the two variables concerned.
2) Analysis of the dependent T statistical test results. Looking at the results of this statistical test, it can be concluded whether the relationship between the two variables is meaningful or not meaningful.

correlate. In this study, the t-test was used to test the relationship between two categorical variables with a nominal data scale.

RESULT AND DISCUSSION

A. Research Results

Based on the results of research conducted at BPM Nurhidayah, Tambusai District, Hulu Regency, there were 30 subjects who met the inclusion criteria. 15 people in the experimental group, 15 people in the control group. The experimental group was given lactation massage treatment once a week for 2 massages and the control group received no treatment in the form of massage. This research used bivariate and univariate analysis to

obtain the results in the table below:

1. Univariate Data
a. General

Table 4.1 Frequency Distribution of Respondents Based on Age in BPM Nurhidayah, Tambusai District, Rokan Hulu Regency.

Age	Frekuensi	Persentase
< 20 years old	8 People	26,7 %
20-35 years old	10 People	33,3 %
>35 years old	12 People	40 %
Total	**30**	**100 %**

Based on table 4.1 above, it shows that the age of postpartum mothers in BPM Nurhidayah, Tambusai District, Rokan Hulu Regency. In the age group < 20 there were 8 people (40%), aged 20-35 people, 10 people (40%) aged > 35 years (40%).

b.Parity

Table 4.2 Frequency Distribution of Respondents Based on Parity in BPM Nurhidayah, Tambusai District, Rokan Hulu Regency.

Parity	**Frekuensi**	**Persentase**
1st child	8 people	26,66%
2nd child	5 people	16,67 %
3rd child	6 people	20 %
4th child	6 people	20 %
5th child	5 people	16,67 %
Total	**30**	**100 %**

Based on table 4.2 above, it shows that there is parity among postpartum mothers in BPM Nurhidayah, Tambusai District, Rokan Hulu Regency. In the 1st child group there were 8 people (26.66%), the 2nd child parity was 5 people (16.67%). The 3rd child was 6 people (20%). The 4th child was 6 people (20%), and the 5th child was 5 people (16.67%).

c.Education

Table 4.3 Frequency Distribution of Respondents Based on Education in BPM Nurhidayah Tambusai District, Rokan Hulu Regency.

Education	**Frekuensi**	**Persentase**
Elementary School	8	26,67 %
Junior High School	8	26,67 %
High School	11	36,66 %
College	3	10 %
Total	**30**	**100%**

Based on table 4.3 above, it shows that the education of postpartum mothers in BPM Nurhidayah, Tambusai District, Rokan Hulu Regency. In the elementary school group there were 8 people (26.67%). There were 8 people in junior high school (26.67%). There were 11 people from SMA (36.66%) and 3 people from PT (10%).

b.Work

Table 4.4 Frequency Distribution of Respondents Based on Occupation at BPM Mas Rolan and BPM Nurhidayah, North Tambusai District, Rokan Hulu Regency.

Work	Frekuensi	Persentase
Housewife	20	66,7 %
TRADER	6	20 %
HONOR	3	10 %
civil servants	1	3,4 %
Total	**30**	**100 %**

Based on table 4.4 above, it shows that the work of postpartum mothers is in BPM Nurhidayah, Tambusai District, Rokan Hulu Regency. In the Household Group there were 20 people (66.67%), 6 people were traders (20%), 3 people were honorary (10%), 1 civil servant (3.33%).

2. Bivariate Analysis

a.Average Increase in Breast Milk Volume in the Experimental Group Before and After Being Given Lactation Massage

In the experimental group, initial measurements of breast milk volume were carried out. Next, lactation massage is given twice a week. On the first day and day 7, breast milk measurements were taken to see the increase in breast milk volume before and after the lactation massage.

Table 4.5 Average increase in breast milk volume in the experimental group before and after lactation massage.

Information	Mean	N	Std.Deviation	Std,Eror Mean
Before	46,00	15	10,556	2,726
After	115,80	15	7,043	1,818

Based on table 4.6, it is known that there is an increase in the volume of breast milk in postpartum mothers, which before being given lactation massage had an average of 46.00 (minimum score 10.556 and maximum 2.726). After one week of lactation massage, the average was found to be 115.80 (minimum score 7.043 and maximum 1.818).

b.Average Increase in Breast Milk Volume in the Control Group Before and After Lactation Massage.

Table 4.6 Average increase in breast milk volume in the control group before and after

lactation massage

Information	Mean	N	Std.Deviation	Std,Eror mean
After	46,00	15	10,556	2,726
Before	73,33	15	11,127	2,873

Based on table 4.6, it is known that the breast milk volume in the group of mothers who did not receive lactation massage had an average of 46.00 (minimum score 10.556 and maximum 11.127) after 14 days the breast milk volume had an average of 73.33 (minimum score 10.556 and maximum 2.726).

c.Analysis of increasing breast milk volume in the experimental group and control group

Table 4.7 Analysis of Increase in Breast Milk Volume in the Experimental Group and Control Group

Group	N	Mean	P value
Eksprimen	15	115,80	0.0001
Control	15	73,33	

From the results of the independent mean difference T test, it can be seen that the p value = 0.001 < 0.05, meaning that there is an average average breast milk volume in the experimental group that received lactation massage and the control group that did not receive lactation massage in the experimental group that received lactation massage, namely the experimental group with a mean value of 115.80 and the control group with a mean value of 73.33, meaning 115.80 > 73.33. Based on the explanation above, lactation massage can influence an increase in the volume of breast milk in postpartum mothers at BPM Nurhidayah, Tambusai District, Rokan Hulu Regency.

B. Discussion

1. Knowing the increase in breast milk volume in the experimental group and control group before and after lactation massage.

This research was conducted in early to mid-May 2024. The number of samples used was 30 people divided into two groups with 15 people in the experimental group and 15 people in the control group. This research was carried out and the results of increasing the volume of breast milk before and after lactation massage were obtained from table 4.1. The research shows that the results before lactation massage had a mean value of 46.00 and after lactation massage had a mean value of 115.80 with a mean difference of 69. .8. Frequency of breastfeeding baby.

These results are in accordance with research conducted by Sri Mukhodim Farida Hanum, et al (2012) which stated that the effect on breast milk production, breast milk production was greater and breast milk came out smoothly earlier, namely on the 2nd day, while respondents who did not receive lactation massage had Although milk production is small, breast milk comes out longer, namely on days 3-4. According to Biancuzzo, et al (2003), lactation massage is one solution to overcome insufficient breast milk.

Oxytocin is a hormone that can relax, reduce blood pressure and cortisol levels (a hormone that influences stress). Oxytocin can increase the pain threshold, has the effect of reducing anxiety, and can stimulate various social interactions positive. Oxytocin is released by various types of sensory stimulation such as touch and warmth as well as psychological mechanisms. This means that positive social interactions such as involving touch and psychological support can help the secretion of the hormone oxytocin. According to theory, oxytocin also plays an important role in facilitating various physiological functions such as inducing pain in labor and lactation In the lactation process, the secretion of the hormone oxytocin can be stimulated by involving touch such as massage. Massages that can be

attempted to improve the lactation process are lactation massage and oxytocin massage. Lactation massage is a massage movement on certain body parts such as the head, neck, shoulders, back and breasts to facilitate the breastfeeding process. In certain circumstances, lactation massage can be done to stimulate breast milk production, for example to help with the breastfeeding induction process (for adopted mothers/adopted mothers/who have never breastfed).

Oxytocin massage is a spinal massage in the back area starting from the 5-6th costae (ribs) extending both sides of the spine to the scapula (shoulder blade) which will speed up the work of the parasympathetic nerves, nerves that originate in the medulla oblongata and in the sacrum area of spinal cord, stimulates the posterior pituitary to release oxytocin, oxytocin stimulates contraction of the smooth muscle cells that surround the lactiferous ducts of the mammary glands causing contractility of the breast myoepithelium so that it can increase the emission of breast milk from the mammary glands.

The subjects of this research were 30 postpartum mothers with normal deliveries who were willing to have massage and observed until the onset of lactation. There is a significant relationship with the onset of lactation, in this case it could be because lactation massage is done at more points on the body, such as the head, neck, shoulders, back and breasts, and the duration of the massage is longer, namely ±30 minutes. Meanwhile, oxytocin massage is carried out only on the back area with a massage duration of ± 15 minutes. Then, by massaging the breast area, it can also further increase the production and release of breast milk, because breast tissue contains many lymph vessels and blood vessels, blocked vessels are the cause of poor production and flow.

This lactation massage produces increased breast milk. Breast milk production can be influenced by two factors, namely production and expenditure. Breast milk production is influenced by the hormone prolactin and production is influenced by the hormone oxytocin. The hormone oxytocin will be released through stimulation of the nipple through sucking on the baby's mouth or through massage on the baby's mother's spine. By doing this massage, the mother will feel calm, relaxed, increase the pain threshold and love her baby, so that the hormone oxytocin will come out and breast milk will flow. get out quickly. The hormone oxytocin plays a very important role in the process of producing breast milk. Some postpartum mothers often experience irregular milk production. Several factors influence breast milk production, namely breastfeeding behavior, mother's psychology, mother's physiology, socio-cultural mother and baby, baby's birth weight. One way to increase breast milk production is by doing lactation massage.

This research is also in line with Malta, 2019. Where he explains that lactation massage is one way to reduce tension and provide a sense of relaxation which can have a positive impact on the smooth production of breast milk because the let down reflex works well. A research study conducted by Agustina Catur Setyaningrum with a total of 30 respondents. From the results of the research conducted, the researchers assumed that lactation massage is one way to facilitate breast milk production and facilitate breast milk excretion. Of the 30 respondents, the 30 respondents were divided into two groups, namely 15 respondents for the intervention group and 15 respondents for the control group. In the intervention group there was 1 respondent whose increase in breast milk was still insufficient with a breast milk volume of 105 cc, this is where the mother was the primary respondent who was still lazy about breastfeeding her baby and

CONCLUSION

1. Independent T results show that the result value is p=0.001 <0.05, meaning that there is a significant effect on increasing breast milk in mothers who receive massage and those who do not receive massage.
2. The average increase in breast milk volume in the experimental group before lactation massage was carried out with a mean value of 46.00 and after with a mean value of 115.80 with a difference in mean value of 69.8.
3. The average increase in breast milk volume in the control group before with a mean value of 73.33 increased to 11.127 with a difference of 62.203.
4. From the results of the independent mean difference T test, it can be seen that the p value

= 0.000 < 0.05, meaning that there is a difference in the average increase in breast milk volume in the experimental group that underwent lactation massage.

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