

# The Effect Of Oxytocin Massage Method Using Lavender Essential Oils On The Smooth Production Of Breast Milk At Mother Postpartum In Rejang Lebong Regency

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**Abstract**— *Breast milk is the most important food for babies, especially in the first month of baby life. The lack of production of breast milk after childbirth can be caused by a lack of stimulation of the hormone prolactin and oxytocin. Oxytocin massage is one solution to overcome the non-smooth production of breast milk. The use of lavender essential oil can help mothers to improve relaxation and comfort to increase the production of breast milk. The study aimed to determine the effect of oxytocin massage method using lavender essential oil on the smooth production of breast milk in postpartum mothers in Rejang Lebong Regency. The research hypothesis is that there is an effect of oxytocin massage method using lavender essential oil on the smooth production of breast milk in postpartum mothers. The population in this study were postpartum mothers on day 2. The sample was 32 people of two groups. The instruments used were questionnaires and observation sheets for the action of oxytocin massage method using lavender essential oil. Quantitative research method with quasi-experimental design, with pre-test and post-test design with control group a research design that aims to test the causal relationship. In this study, the intervention of oxytocin massage method will be used using lavender essential oil for the smooth production of breast milk in postpartum mothers. The results showed that there was an effect of oxytocin massage method using lavender essential oil on the smooth production of breast milk in postpartum mothers with a  $P < 0.05$ . Conclusion: There is an effect of oxytocin massage using lavender essential oil on the smooth production of breast milk.*

**Keywords**— *Oxytocin Massage, Lavender Essential Oil, Smooth Production of breast milk, Mother Post Partum*

## I. INTRODUCTION

Breast milk is the essential baby food, especially in the first months of a baby's life. Breast milk is a fluid produced by the mother's breast gland secretion [1]. Breast milk contains colostrum which is rich in antibodies because it contains protein for the body's resistance and high amounts of germ killer so it can reduce the risk of death in infants. In Indonesia, in 2016 the percentage of breastfeeding exclusively for infants less than six months was 54.0%, while in Bengkulu province it was 42.5% [2]. One of the causes of the low coverage of exclusive breastfeeding for infants under the age of six months is because milk production in postpartum mothers is inhibited in the first

days after delivery so that most babies get formula milk at the time of birth [3]. Breastmilk release is a process of releasing the hormone oxytocin to drain milk that has been produced through channels in the breast. This problem of early breastfeeding is having a severe impact on the baby's life. The highest nutritional value of breast milk is in the first days of the baby's life, namely colostrum. The use of formula milk is an alternative that is considered most appropriate for replacing breast milk [4].

Decreasing production and expenditure of breast milk in the first days after delivery can be caused by a lack of stimulation of the prolactin and oxytocin hormones which are very instrumental in the smooth production of breast milk [5]. The hormone oxytocin affects the release of prolactin hormone as stimulation of breast milk production in the mother during breastfeeding. Therefore it is necessary to stimulate the oxytocin reflex before ASI is removed or squeezed. The form of stimulation performed on the mother is with oxytocin massage [4].

Oxytocin massage is one solution to overcome the problem of breast milk production. Oxytocin massage is carried out along the spine (vertebrae) to the fifth-sixth costae bone. The mother will feel calm, relax, increase the pain threshold and love her baby so that the oxytocin hormone comes out and the milk quickly comes out. The effect of oxytocin massage itself can be seen after 6-12 hours of massage. This oxytocin massage action can provide a relaxed sensation in the mother and expedite the flow of nerves and milk ducts in both breasts [6]. The use of lavender essential oil is generally used as aromatherapy and massage. Clinically the main benefits are in the central nervous system [7]. The lavender, the lavender essential oil is expected to help improve relaxation and comfort so that milk production is expected to increase. Lavender, is one of the essential oils that are popular and widely used in the field of clinical health, especially overcoming psychosomatic problems in gynecology [8]. One of the clinical benefits of lavender in neuropsychiatry is as a sedative, anticonvulsant, anxiolytics, and analgesic agent [9].

The purpose of this study was to determine the effect of oxytocin massage method using lavender essential oil on the smooth production of breast milk in postpartum mothers in Rejang Lebong Regency, Bengkulu.

## II. METHODS

This research is a quantitative study with an experimental quasi-design, with pre-test and post-test design with the control group which is a research design that aims to examine the causal relationship. In this study, the action of oxytocin massage method will be used using lavender essential oil to smooth milk production in postpartum mothers in Rejang Lebong Regency from May to October 2017. The smooth production of breast milk can be assessed from a baby's weight loss of no more than 10% in the first week of birth.

Research Instrument uses a questionnaire to determine the characteristics of respondents. Observation sheet for the action of oxytocin massage method using lavender essential oil for smooth milk production in postpartum mothers. The smooth data collection of breast milk production was carried out before and after the action of the oxytocin massage method using lavender essential oil to see the difference in the smoothness of breast milk production. Mother is recommended to do the oxytocin massage method using lavender essential oil two times a day for six days, and the mother will be reassessed for smooth milk production after seven days and 14 days.

The population in this study were postpartum mothers on day 2. The sampling technique was consecutive sampling. At consecutive sampling, all subjects who arrived and met the selection criteria were included in the study until the required number of subjects were met. This consecutive sampling is the best type of non-probability sampling. The sample size obtained is 32 respondents for each group.

Data analysis was performed using parametric statistical tests, namely Paired t-test. To determine the effect of oxytocin massage method using lavender essential oil on smooth milk production in postpartum mothers, the intervention was oxytocin using lavender essential oil and the smooth production of breast milk in groups that were not intervened.

## III. RESULT

TABLE I CHARACTERISTICS OF RESPONDENTS

<b>Characteristics of Respondents</b>	<b>n</b>	<b>%</b>
<b>Age (years): Intervention Group</b>		
< 26 years	14	43,8
≥ 26 years	18	56,3
<b>Age (years) : Control Group</b>		
< 26 years	15	46,9
≥ 26 years	17	53,1
<b>Parity: Intervention Group</b>		
Primipara	17	53,1
Multipara	15	46,9
<b>Parity: Control Group</b>		
Primipara	14	43,8

Junior high school	7	21,9
Senior High School	25	78,1
<b>Education: Control Group</b>		
Junior high school	4	12,5
Senior High School	28	87,5
<b>Job: Intervention Group</b>		
Unwork	18	56,2
Work	14	43,8
<b>Job: Control Group</b>		
Unwork	19	59,4
Work	13	40,6

Table 1. shows the characteristics of respondents, on the age characteristics of the majority of respondents age  $\geq 26$  years in the intervention group of 56.3% and the control group 53.1%. The parity of the respondents in the intervention group was in the primipara category, namely 53.1% and in the control group were in the multipara category, which was 56.3%. The education level of respondents was mostly in the category of senior high school, namely in the intervention group 78.1% and 87.5% in the control group. Respondents' jobs were mostly in the unwork category, namely 56.2% in the intervention group and 59.4% in the control group

TABLE II PRODUCTION OF BREAST MILK

Production of Breast Milk	n	%
<b>Production of Breast Milk Before Intervention</b>		
<b>Intervention Group</b>		
Smooth	32	100
Unsmooth	0	0
<b>Production of breast milk after intervention</b>		
<b>Intervention Group</b>		
Smooth	27	84,4
Unsmooth	5	15,6
<b>Production of Breast Milk Before Intervention</b>		
<b>Control Group</b>		
Smooth	32	100
Unsmooth	0	0
<b>Production of breast milk after intervention</b>		
<b>Control Group</b>		
Smooth	8	25,0
Unsmooth	24	75,0

Table II shows that in the intervention group the production of breast milk before the intervention was in the non-smooth category which was 100% and after the intervention was in the smooth category which was 84.4%. In the control group, it was found that before the intervention most were in the non-smooth category 100% and after the intervention was in the non-smooth category which was 75.0%

TABLE III DIFFERENCES IN THE LEVEL OF SMOOTH MILK PRODUCTION WITH OXYTOCIN MASSAGE USING LAVENDER ESSENTIAL OILS.

Variable	Mean $\pm$ SD	Z	P value
- Smooth Production of Breast milk before Intervention Groups and Control Groups	1,00 $\pm$ 0,000	0,000	1,000
- Smooth Production of Breast milk after Intervention Groups and Control Groups	1.55 $\pm$ 0,502	-4,734	0,000

Table III. Shows the difference in the smoothness of breast milk production in the intervention group and the control group before oxytocin massage using lavender essential oil obtained z value of 0,000 and p-value of 1,000, p-value  $> 0.05$  which showed no significant difference between the control group and the intervention group before the message. While the difference in the smoothness of breast milk production in the intervention group and the control group after oxytocin massage using lavender essential oil obtained -4,734 and p-value 0,000, p-value  $< 0,05$ , this result could mean that there was a difference in the smooth production of breast milk before and after oxytocin massage using lavender essential oil.

IV. DISCUSSION

The results showed that there was an effect of oxytocin massage method using lavender essential oil to smooth the production of breast milk, with a value of  $p < 0.05$ . It shows that the mother of the intervention group who carried out oxytocin massage using lavender essential oil obtained the production of breast milk more smoothly than the control group. In this study, postpartum mothers were first taught the oxytocin massage method and seen the smooth production of breast milk. Mothers are encouraged to carry out oxytocin massage twice a day for six days and will be reassessed for smooth milk production after seven days and 14 days.

Decreased production and expenditure of breast milk in the first days after delivery can be caused by a lack of stimulation of the prolactin and oxytocin hormones which are very instrumental in the smooth production of breast milk. Some factors that can affect the smooth production and expenditure of breast milk are breast care breastfeeding frequency, parity, stress, illness or maternal health, consumption of cigarettes or alcohol, contraceptive pills, nutritional intake. Breast care should be done immediately after delivery (1-2 days), and the mother must do it regularly. By providing stimulation to the muscles of the breast will help stimulate the hormone prolactin to help produce milk [5].

The results of this study are in line with the research conducted by Johan and Azizah about the effect of oxytocin massage on breast milk production in postpartum mothers at

Peterongan Jombang health center in East Java in 2017 that there was an increase in milk production in postpartum mothers after oxytocin massage [10].

Oxytocin massage research using lavender essential oil has been shown to affect breast milk production because the effect of using lavender essential oil can improve relaxation and comfort so that the production of breast milk is expected to increase. According to Matsumoto et al., 2013, the use of lavender essential oil is expected to help mothers post cesarean section to improve relaxation and comfort so that milk production is expected to increase. Lavender, is one of the essential oils that are popular and widely used in the field of clinical health, especially overcoming psychosomatic problems in gynecology. [8].

The hormone oxytocin affects the release of prolactin hormone as stimulation of breast milk production in the mother during breastfeeding. Therefore it is necessary to stimulate oxytocin reflex before breast milk is removed or squeezed. The form of stimulation performed on the mother is with oxytocin massage. Oxytocin massage is one solution to overcome the problem of breast milk production. Oxytocin massage is carried out along the spine (vertebrae) to the fifth-sixth costae bone. The mother will feel calm, relax, increase the pain threshold and love her baby so that the oxytocin hormone comes out and the milk quickly comes out. Oxytocin can be obtained in various ways either through oral, intranasal, intramuscular or by a message that stimulates the release of the hormone oxytocin. The effect of oxytocin massage itself can be seen after 6-12 hours of massage. This oxytocin massage action can provide a relaxed sensation in the mother and smooth the nerve flow and the breast milk channel both breasts smoothly [6].

Kasova et al. (2016) studies that back massage in the early postpartum period can reduce noradrenaline and increase levels of oxytocin and prolactin. Back massage that is done regularly increases the amount of breast milk, the baby does not need to be given extra food and will be healthier, and can prevent economic losses [11].

Jogdeo & Bhore (2013) study in India that there is a back massage effect on increasing let-down reflexes in women who have a cesarean section (P-value <0.05) [12]. Research by Nurdiana et al. (2016) that oxytocin massage can increase prolactin hormone and baby's body weight in post-sectio Caesarea mothers [13].

One of the clinical benefits of lavender in neuropsychiatry is as a sedative, anticonvulsant, anxiolytic, and analgesic agent. [7,9]. Lavender is aromatherapy that has an effect on the amygdala in the brain and can produce sedative effects. One of the clinical benefits of lavender in neuropsychiatry is as a sedative, anticonvulsant, anxiolytic, and analgesic agent. Lavender aromatherapy has a psychologically therapeutic effect of the aroma that is inhaled through inhalation of volatile components Lavender is one of the aromatherapy whose properties have activity through the limbic system, especially in the amygdala and hippocampus. Although cellular mechanisms are not known with certainty, lavender has properties similar to benzodiazepines and increases the effect of gamma-aminobutyric acid [9].

Apyranti et al. (2017) states that aromatherapy lavender has been shown to significantly increase beta-endorphin levels in mothers after sectio cesarean delivery [14]. Agustie

et al. (2017) study found that there was an increase in prolactin hormone levels in mothers who performed oxytocin massage using lavender oil [15].

Another study from Tugut et al. (2017) states that lavender aromatherapy can reduce anxiety levels in patients with gynecological action [16].

## V. CONCLUSION

There is an oxytocin massage effect using lavender essential oil to smooth milk production in postpartum mothers.

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