



## OKETANI MESSAGES AND ROLLING BACK MASSAGE COMBINATION ON BREASTMILK VOLUME ON POSTPARTUM WOMEN

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### A B S T R A C T

Exclusive breastfeeding in the world is still low. Based on data from the United Nations Children's Fund (UNICEF) in 2012 only 39% of infants under the age of 6 months were exclusively breastfed worldwide, due to complaints about lack of milk production. An effort to increase breast milk volume is by doing a combination of Oketani massage and back massage. This study aims to determine the effect of a combination of Oketani massage and back massage on the volume of breast milk in puerperal mothers in Bukittinggi City. This research used a quasi-experimental research using one group pretest-posttest design with univariate and bivariate analysis. The study population was all postpartum mothers who were in PMB "Y" Bukittinggi City, sample were 14 postpartum mothers by using purposive sampling technique. Each respondent was treated with a combination of oketani massage and rolling back massage for 3 days. The results obtained by the average volume of breast milk before being given a combination of oketani massage and rolling back massage was 67.86 and the volume of breast milk after intervention was 103.57 with an average difference of 35.71. The data analysis test used is the paired T-test, the result p value = 0,000. With the results of this study, it is expected that the administration of oketani massage and rolling back massage can be made into recommendations and applied to postpartum mothers to increase the volume of breast milk.

## I. INTRODUCTION

The puerperium is a period that starts from 1 hour after the birth of the placenta up to 6 weeks (42 days) after the mother gives birth. Post-delivery services must be provided at that time to meet the needs of mothers and babies, which includes prevention, early detection and treatment of complications, and the provision of breastfeeding services. (Sarwono, 2013)

The first thousand days of a child's life begins in the womb, Optimize the development of children by meeting their nutritional intake. Stimulation in the first 1,000 days of a child's life begins in the womb until the age of 2 years. (Andyda Meliala, 2015). At the time of the newborn baby needs to get an IMD (early breastfeeding initiation) at least 1 hour. During the 6 months after the baby is born, the mother is advised to give exclusive breastfeeding and monitor the growth of the baby and check the health of the baby to health workers regularly, the child's growth is very fast in the first two years of life and two years of life that is called the golden period (golden period) , if in the age range the child gets optimal nutritional intake such as breast milk, so that the decline in nutritional status can be prevented. When passed, the golden period cannot be repeated (Monika, 2014)

Complaints about lack of milk production are a problem with the incidence rate between 11-54%. The lack of milk production has caused many mothers to easily provide prelacteal foods such as milk, honey, coconut water, bananas and starch water. This prelacteal feeding causes the number of exclusive breastfeeding to decrease (Rikesdas, 2013).

Exclusive breastfeeding in the world is still low. Based on data from the United Nations Children's Fund (UNICEF) in 2012 only 39% of infants under the age of 6 months were exclusively breastfed worldwide, According to WHO globally, coverage of exclusive breastfeeding in infants aged 0-6 months in the world is only 36% in 2007-2013 and in 2015 showed the average rate of breastfeeding was only around 38%, compared to the WHO target of 50%, the figure was still far from the target. (WHO, 2016).

There are various causes of the low level of breastfeeding mothers exclusively, one of which is that about 35% of mothers do not exclusively breastfeed is mothers who feel less breastfeeding and their babies are not satisfied with breastfeeding so it is not enough to meet the needs of their babies (Djama, 2018)

According to Health Profile data the coverage of exclusive breastfeeding in West Sumatra Province in the last 3 years tended to increase, namely in 2016 the coverage of breastfeeding was 52.8%, in 2017 68.32% and in 2018 amounted to 77.09% but with a target of 80% . This shows that West Sumatra Province has not yet reached the program target

Coverage of infants who received exclusive breastfeeding in the city of Bukittinggi in 2017 is still low at 58.4% in boys and 56.1% in girls. This is due to several factors namely the incessant promotion of formula milk for infants aged 0-6 months, the presence of health workers who do not side with the baby's right to get exclusive breastfeeding, the abundance of formula milk marketing, the limited breastfeeding counselors, the lack of maximum educational activities, socialization, advocacy, and campaigns related to breastfeeding, and Not all houses have implemented the 10 Steps to Successful Breastfeeding (LMKM) (Profile of Gender and Children of Bukittinggi City, 2018).

The problem of not achieving exclusive breastfeeding is due to non-smooth volume of breast milk at the beginning of post-copy. On the third day after saline, through the process of lacto genesis the volume of milk should increase. This happens because in lacto genesis II an increase in the prolactin hormone occurs so that the development of the size of alveoli cells in the breast that causes the distance between alveoli cells become tight and the volume of milk increases. To release the volume of milk in the alveoli, the hormone prolactin and the hormone oxytocin are needed to excrete milk through stimulation of lethal reflexes (Riordan & Wambach, 2010).

There are several ways to increase the production of prolactin and oxytocin to increase the volume of breast milk, namely by using herbal drinks, the "SPEOS" technique, and endorphin massage. One effort that can be done to stimulate the secretion of the hormones prolactin and oxytocin in the puerperal mother is by doing oketani massage and rolling back massage, by doing oketani massage can provide comfort and relax to the mother and make the breasts become softer, areola and papillae become more tender elastic so as to make it easier for babies to breastfeed, according to Foda et al. explained that ocetani massage can increase the production of the hormone prolactin and oxytocin which are responsible for the production of breast milk in Alveoli. (Machmudah, 2017)

In stimulation to produce prolactin, the stimulus is forwarded to the hypothalamus through the spinal cord and responded by the anterior pituitary to secrete the prolactin hormone that will be flowed by blood to myoepithelial cells for breast milk production, thereby increasing the volume of breast milk and preventing breast milk damages in the breast. While back rolling massage is massage on the spine starting from the lower border of the neck to the fifth-sixth costae bone or parallel to the breast area to stimulate the release of the hormone oxytocin after delivery. (Hastuti, 2019).

This study aims to determine the effect of Oketani Massages and Rolling Back Massage Combination on Breast Milk Volume in Postpartum Women.

## II. METHODS

This type of research was a quantitative study that used Pre-Experimental Design method with the pretest-posttest control group design. The populations in this study were all postpartum women in one of Private Midwifery Practice in Bukittinggi.

The total sample was 14 respondents, sampling using non-probability techniques, purposive sampling. Each respondent were count pretest breast milk volume before intervention, and then the combination of Oketani messages and Rolling back massages were given, and last after 15 minutes of intervention, we count breast milk volume post test.

Data collection tools used in this study were observation sheet made by researchers and manual breast pump for measuring breast milk volume. The analysis was done by univariate and bivariate using SPSS for Windows applications. Data were normally distributed based on the normality test with Saphiro Wilk, so the data was processed by Paired T-Test to see the difference in the mean difference between the two paired samples.

## III. RESULT

### 3.1 Average of Breast Milk Volume before Intervention

**Table 1 Average of Breast Milk Volume Before Combination of Oketani Massages and Rolling Back Massages were Given**

Breastmilk Volume	Mean	SD	Min-Max
Pretest	67.86	21.18	35-95

Based on Table 1 we know that the average pretest breast milk volume before intervention were 67.86 ml with 21.18 deviation standard. Minimal volume was 35 ml and maximal volume was 95 ml.

### 3.2 Average of Breast Milk Volume after Intervention

**Table 2 Average of Breast Milk Volume After Combination of Oketani Massages and Rolling Back Massages were Given**

Breastmilk Volume	Mean	SD	Min-Max
Posttest	103.57	24.529	70-140

Based on Table 2 we know that the average pretest breast milk volume after intervention were 103.57 ml with 24.529 deviation standard. Minimal volume was 70 ml and maximal volume was 140 ml.

### 3.3 The effect of combination massages on breast milk volume

**Table 3**  
**The Effect of Combination Massages on Breast Milk Volume in Postpartum Women**

Based on		Paired T-Test		
		Mean	Deviation Standar	P value
Table 3, we know that p	Pretest	67.86	21.18	0,000
	Posttest	103.57	24.53	

value 0.000 (<0.05), it means that there are significant differences between pretest volume and posttest volume. This shows that breast milk volume of the postpartum women increased after intervention. This proves that there is an effect of Oketani Messages and Rolling Back Massages on Breast Milk Volume on Postpartum Women.

#### IV. DISCUSSION

Mother's Milk has many benefits for babies, seen from the content contained in breast milk, namely in the type of breast milk colostrum contains nutrients and antibodies higher than mature breast milk and anti-infectious substances, such as IgA, lysosomes, lactoferrin, and cells white blood cells in high concentrations compared with ordinary milk, other nutritional content is 8.5% protein, 2.5% fat, 3.5% carbohydrate and minerals 0.4%, water 85.1%. volume of 150-300 ml / day (Stables and Rankin, 2010).

Transitional breast milk, ie on days 4-10, low protein content, while fat, carbohydrates are getting higher, and physiologically the volume is increasing in transitional breast milk. Next is the type of mature milk that is milk that comes out on the 10th day onwards, the carbohydrate content of breast milk is relatively stable, lactose component (carbohydrates are the main content in breast milk as an energy source for the brain and the volume of milk that can be produced is 300-850 ml / day depends on the amount of stimulation at lactation (Pollard, 2015).

The volume of ASI (Breast Milk) is milk produced by the mother and contains all the nutrients needed by the baby for the needs of growth and development of the baby. This is because the baby's stomach is only about the size of a hazelnut seed, 3 days old begins to increase to 22-27 ml of breast milk once or equivalent to one glass of water in one day. 1 week of age is 45-60 ml, at the second and third weeks of age the volume of milk needed by infants is 59-89 ml. When the baby is 1 month old, the milk needs of infants as much as 80-150 ml in a

single breastfeed. Breastfeeding sessions also increase between 8 and 12 times a day. It can also be calculated based on time, ie. every 1.5 hours to 3 hours each session. Babies can also suckle well so that makes the mother more comfortable and at the age of 6 months the milk needs increase to 720-840 ml per day (Mufdlillah, 2017)

Based on the 2016 Safitri Research on Factors Affecting the Smooth Production of Asians in Breastfeeding Mothers stated that there are factors that affect milk production, namely age, parity, education, breast care, psychology, frequency of breastfeeding, family support, use of contraceptives and active or passive smokers. This is also in line with research conducted by Mitrami Widiastuti Saraung, et al. 2017 About Analysis of Factors Associated with Asi Production in Postpartum Mothers in Ranotana Weru Public Health Center.

According to the researchers' assumptions, the pretest results from 14 respondents obtained 4 respondents with a volume of breast milk that is not suitable for the needs of infants, namely the volume of milk in 3 respondents only 40 ml and in 1 respondent only 35 ml, according to researchers this is due to factors can affect the volume of breast milk.

Based on the results of the interview there were 3 respondents aged > 20 years with primipara parity, according to researchers the number of children can affect the volume of breast milk, because in mothers who for the first time gave birth their experience was lacking in breastfeeding or not ready to breastfeed physiologically and usually in primiparous women there were often problems like the mother's blisters because the mother does not know how to breastfeed properly, so the nipple nipples and mothers rarely breastfeed because the mother feels pain in her nipples while breastfeeding and also changes in shape and condition of the nipples that are not good.

In addition, mothers also do not know how to do breast care which can increase breast milk and the mother's lack of experience in caring for her baby so that mothers are not accustomed to the new activities they experience after having a baby such as often staying up late which causes the mother to lack rest and fatigue, this can also affect the volume of mother's milk. Furthermore, the respondents with the lowest volume of breast milk before the intervention that did not fit the baby's needs was only 35 ml, according to the researchers' assumptions; it was because the mother felt the lack of support from the family because the mother only lived alone with her husband. So, the mother has difficulty and fatigue in caring for her baby, other than that from the food factor, she does not always consume nutritious food and does not adjust the food according to the energy released because she is alone and has difficulty in preparing all of that and also the mother does not know how to take care of the breast (breast care) after giving birth,

in addition it also found a way for mothers to increase breast milk by shaking her breasts even though shaking the breast strongly can damage the alveoli that function to produce milk.

Mother breastfeeding babies should adjust to the needs and desires of the baby, in infants aged 0-1 days the baby needs 5-7 ml of milk once a drink, age of 3 days requires 22-27 ml, one week of age needs 45-60 ml once a drink or 400- 600 / day. And the age of 1 month requires 80-150 ml one drink.

Based on research conducted by Nia Dwi Yuliati in 2017 on the effect of a combination of rolling massage and oketani massage on breast milk volume, it was found that the average volume of breast milk before intervention was 46.06 and after intervention the average volume of breast milk was 189.12 and 339.33. Oketani massage attempts to stimulate the hormones prolactin and oxytocin can do breast care (breast care), namely massage on the breast such as oketani and rolling massage back massage. Research conducted by Tutik Rahayuningsih, et al in 2016 on the effect of breast care and oxytocin massage on the volume of breast milk to get the average volume of breast milk before treatment was 1.22 and after treatment was 8.13.

According to the researchers' assumptions from the results of the study it was found that of the 14 respondents there were 4 respondents with the highest increase in volume above > 40 ml and 1 respondent with the lowest increase in breast milk volume of 20 ml, there were differences in the increase in the volume of breast milk because there were factors that could influence the increase in breast milk . in 4 respondents with breast milk volume > 40 ml according to the researchers due to various causes, namely from the interviews it was found that viewed from the age factor of the mother > 25 years because according to researchers if the mother who is less than 20 years old is still immature and also not physically ready and social. And most of the latest education of mothers is 12 respondents, according to researchers, if someone's education is still low then the knowledge gained is also low.

Psychological factors found support and support from her husband and family that motivates the mother so that the mother's psychology is good and the mother feels comfortable so that it increases the hormone oxytocin and causes deep love for her child, moreover the oxytocin hormone plays an important role in increasing the volume of breast milk. then on the parity factor, it turns out the mother already has more than one child so she already has experience in caring for her baby and increasing her milk because in mothers who have more than one child usually already accustomed in caring for babies and already knows how to do breast care and also know the foods that are can increase the volume of her milk. Another factor according to the researchers is the use of contraception that is right, the mother uses IUD contraception, the use of an improper contraceptive can affect the volume of mother's milk.

Furthermore, mothers with the lowest increase in breast milk volume of only 20 ml according to the researchers, this is because the mother feels a lack of support from the family because she only lives alone with her husband who is not always there every day because the husband works outside the city. So, the mother has difficulty and fatigue in caring for her baby so that it affects the psychological of the mother.

Oketani massage and rolling back massage are methods of breast care that are painless and provide comfort. Oketani massage can stimulate the release of the hormones prolactin and oxytocin, stimulating the power of pectoralis to increase the volume of breast milk. and provide comfort and relief to respondents, and back massage is a way to stimulate the release of the hormone oxytocin to come out more, this massage provides comfort to the puerperal mother. Rolling back massage is massage on the spine (costae 5-6 to scapula in circular motions) which is performed on the puerperal mother to help the work of the hormone oxytocin in the process of breastfeeding, accelerating parasympathetic nerves convey signals to the back of the brain to stimulate the work of oxytocin in flowing breast milk so Exit. the combination of oketani massage and rolling back massage is given as much as 3 days a day massage is done 2 times.

Based on the results of research conducted by Machmudah, et al in 2016 about the combination of oketani massage and oxytocin on the milk production parameters showed an effect with  $p = 0,000$  ( $\alpha < 0.05$ ). And research conducted by Rahayuningsih et al. About the effects of breast care and Oxytocin massage on breast milk production: A study in Sukoharjo Provincial Hospital shows that  $H_0$  is rejected and  $H_a$  is accepted, meaning that there is a positive influence on breast massage and oxytocin massage on breast milk production in mothers, there is a significant difference in the production of breast milk before and after intervention was given, the difference was statistically significant ( $p < 0.001$ ).

According to the researchers' assumptions, from the results of the study after being given a combination of oketani massage and rolling back massage as many as 6 interventions carried out for 3 days and given 2 times a day ie morning and evening the results were obtained that the mother's milk volume increased. According to researchers increased breast milk volume due to stimulation through the administration of a combination of oketani massage and rolling back massage and baby suction, resulting in an increase in the hormone prolactin and oxytocin in which the hormone prolactin functions to produce milk and oxytocin for the release of milk, after being given a massage will stimulate the anterior pituitary to producing the hormone prolactin and posterior pituitary to produce the hormone oxytocin. After breast milk is produced the occurrence of milk expenditure and an increase in milk, when the baby is hungry and the baby is suckling when there is a baby suction on the mother's papilla, suction on the baby can stimulate



the release of the hormone oxytocin and prolactin in which this hormone reproduces milk. The more frequent breastfeeding, the emptying of milk in the alveoli and the channel the better and the faster the milk will be produced again.

From 14 respondents there was 1 person who experienced an increase in milk volume of 20 ml, according to the researchers this was due to a factor in the mother that influenced the increase in the volume of her milk ie after an interview with the mother, it was found that the mother was lacking rest and fatigue in caring for her baby and lack of support from family. mother only lives alone with her husband who is not always there every day because the husband works outside the city.

## V. CONCLUSION

Exclusive breastfeeding can be achieved by supports from health practitioner, postpartum women and family. One of many ways to increase breast milk volume is combination of Oketani and Rolling Back Massages. It is recommended for health practitioner to increase their skills by using complementary midwifery such as this massages combination.

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