

Original Article

***Application of Rolling and Areola Massage Using Jitu Oil with Murottal Al Qur'an Relaxation for Smooth Exclusive Breastfeeding***

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**ABSTRACT**

*Lack of activation of the hormones prolactin and oxytocin can result in irregular milk production after delivery. Areola and rolling massage is a strategy to deal with erratic milk production. Jitu Oil and murottal Al-Quran can help mothers feel more comfortable and comfortable thereby encouraging more milk production. The aim of the research is to explain and examine how the effect of rolling and areola massage using precise oil and murottal Al-Qur'an relaxation on the smooth release of exclusive breastfeeding. Questionnaires and observation notes were the tools used. Instrument validity test out of 19 questions, 2 were invalid, so there were 17 questions used by researchers to measure the smoothness of breastfeeding. The results of the Wilcoxon Pretest and Posttest on the Smooth Expulsion of Exclusive Breast Milk have increased. The results of the Wilcoxon test on days 1 to 7 showed an increase in the baby's weight between the pretest and posttest which was significantly different with all respondents experiencing an increase in the baby's weight. In conclusion, rolling and areola massage using sniper oil and relaxing Al-Qur'an murottal can help expedite the smoothness of breast milk.*

**Keywords:** *Rolling, Areola, Jitu Oil, Al-Qur'an, Breast Milk.*

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**INTRODUCTION**

The best way to provide nutrition to babies is through breastfeeding in the early stages. Apart from that, there are reports that the incidence of insufficient breast milk production, which ranges from 11 to 54 percent, is also a problem. Many mothers easily offer prelactal foods including milk, honey, coconut water, bananas, and starch water because breast milk production is low. As a result of the newborn's digestive system not being ready to consume pre-treat food, prelactal feeding has an impact on reducing the number of babies who are exclusively breastfed, allergies and infant mortality<sup>1</sup>. Preparation for breastfeeding can be

started since pregnancy so that apart from getting information about maternal and infant health, you can also find out about preventing maternal and infant deaths<sup>2</sup>.

By 2030, the neonatal mortality rate must fall by at least 12 per 1,000 live births, and the child mortality rate must fall by at least 25 per 1,000 live births, in accordance with the 2030 Sustainable Development Agenda. One way to achieve this is by practicing effective breastfeeding. Exclusive<sup>3</sup>. According to WHO 2021, Neonatal deaths reached 17 per 1000 live births (90% UI 17 to 19) in 2019, which is a 52% decrease from 37 in 1990 (90% UI 36 to

38) <sup>4</sup>. However, only a small percentage of babies aged less than six months are exclusively breastfed, and only 44% of newborns worldwide receive breast milk in the first hour of life. The percentage of developing countries that provide exclusive breastfeeding is 46%. Less than half of babies less than six months are exclusively breastfed nationwide <sup>5</sup>. The WHO goal, which calls for increasing the percentage of babies exclusively breastfed for at least six months, has not been achieved. This is WHO's fifth goal by 2025 <sup>3</sup>. 29.5% of babies in Indonesia receive exclusive breast milk until the age of six months <sup>6</sup>. This does not meet the target of the Ministry of Health's Strategic Plan, namely that 50% of babies less than 6 months old receive only breast milk, which is the target for the period 2015 to 2019. Breastfeeding early and exclusively for six months helps protect children from digestive conditions that can shorten their growth <sup>7</sup>. Based on the profile of Situbondo Regency, 758 of 1022 babies evaluated, or 74.2% of them, were exclusively breastfed in Situbondo Regency in 2020, according to monthly data <sup>8</sup>. Newborn deaths will occur at the Arjasa Community Health Center in 2021 in as many as four cases. The neonatal mortality rate for newborns 0–6 days was 2 cases and for newborns 7–28 days was 2 cases <sup>9</sup>.

After giving birth (within 1-2 days), the mother should start caring for her breasts and continue to do so regularly. By stimulating the breast muscles, you can encourage the release of the breast milk-producing hormone prolactin <sup>10</sup>. Rolling and areola massage is a breast care technique that is useful for encouraging the pituitary gland to release the chemicals oxytocin and prolactin <sup>11</sup>. In addition, using oil can make mothers feel peaceful and relaxed, which is thought to increase breast milk production.

Jitu Oil is an abbreviation of PiJat terapi komplementer, Untuk pelancar ASI Ibu which is the result of research based on VCO, lavender essential oil and lime essential oil. The rolling and areola massage technique combines two methods that can increase oxytocin levels in postpartum women, but little is known about postpartum women, both those who give birth

naturally and those who undergo caesarean section. The additional advantage of murottal Al-Qur'an relaxation has many benefits; they have not been fully utilized by nursing mothers. Based on the results of a preliminary study conducted by researchers of 10 breastfeeding mother respondents. 8 of them had never heard of or knew about rolling massage and areola massage and 3 said they had heard of it but forgot how to apply it. Based on this phenomenon, researchers want to describe and analyze the application of rolling massage using Jitu Oil with murottal Al-Qur'an relaxation on the smooth release of exclusive breast milk.

## METHOD

This research methodology uses a quasi-experimental approach with only a single test. The operational area of the Arjasa Health Center was used as a research site. During the research, March-May 2023, the population was 64 breastfeeding mothers, the sampling technique used total sampling. The data collection process began by obtaining approval from the relevant department, consulting with the coordinating midwife regarding the research sample, discussing perceptions with the enumerator on duty, and obtaining informed consent from respondents who met the criteria. Giving souvenirs to respondents, the researcher recapitulated the observation sheet in the final stage. Data analysis used Person Product Moment and Cronbach's Alpha for the smooth breastfeeding questionnaire and the Wilcoxon Pretest and Posttest test to test the smoothness of breast milk, the Spearman Rank Test for the Smooth Excretion of Exclusive Breast Milk with Weight Gain and Observation of Defecation and Baby Tanks. Data presentation. Research using SOP Areola massage, Rolling Massage and Android cellphones that have MP3 Murottal Al-Qur'an installed. Breastfeeding fluency questionnaire, baby defecation and urination observation sheet. The ingredients used by Jitu Oil are the oil used for massage. This research has passed the ethical requirements issued by Faletehan University with number 77/KEPK.UF/IV/2023.

## RESULTS

### A. Pearson Product Moments

The basis for making decisions on the Person Product Moment Validity Test is by looking at the significance value (Sig.) where:

1. If the significance value  $\leq 0.05$  = valid
2. If the significance value is  $> 0.05$  = not valid

**Table 1. Results of the Pearson product moment and Cronbach's alpha tests for the smooth production of exclusive breast milk**

Question Items	Sig value.	Information
Items 1	0,050	Valid
Items 2	0,034	Valid
Items 3	0,000	Valid
Items 4	0,027	Valid
Items 5	0,000	Valid
Items 6	0,046	Valid
Items 7	0,000	Valid
Items 8	0,001	Valid
Items 9	0,002	Valid
Items 10	0,002	Valid
Items 11	0,758	Invalid
Items 12	0,000	Valid
Items 13	0,001	Valid
Items 14	0,793	Invalid
Items 15	0,018	Valid
Items 16	0,009	Valid
Items 17	0,002	Valid
Items 18	0,024	Valid
Items 19	0,010	Valid

Source: Primary data, 2023

**Table 3. Normality Test**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Smooth breastfeeding Pre	0,190	64	0,000	0,935	64	0,002
Smooth breastfeeding Post	0,282	64	0,000	0,757	64	0,000

Source: Primary data, 2023

The results of the Kolmogorov Smirnov test on both pretest and posttest data produced a significance value of 0.000 ( $< 0.05$ ), this indicates that the data is not normally distributed. This results in the data not being able to undergo parametric testing.

### Interpretation of Pretest and Posttest Wilcoxon Test Results for Smooth Expression of Exclusive Breast Milk

The basis for making decisions for the Wilcoxon Difference Test is by looking at the significance value (Sig.) where:

1. If the significance value is  $< 0.05$ , then there

### B. Cronbach's Alpha

The basis for decision making is the Cronbach's Alpha Reliability Test where the questionnaire is said to be reliable if the Cronbach Alpha value is  $\geq 0.6$ .

**Table 2. Reliability Statistics**

Cronbach's Alpha	N of Items
0,034	17

Source: Primary data, 2023

The test results on the 17 items of the questionnaire on the smooth delivery of exclusive breast milk which were distributed to 64 respondents obtained a Cronbach's Alpha value of 0.034 ( $< 0.6$ ), which means that the questionnaire was declared reliable or consistent in repeated measurements.

### Interpretation of Kolmogorov Smirnov Pretest and Posttest Test Results for Smooth Expression of Exclusive Breast Milk

The basis for making decisions on the Kolmogorov Smirnov Normality Test is by looking at the significance value (Sig.) where:

1. If the Sig.  $< 0.05$ , then the data is not normally distributed.
2. If the Sig.  $\geq 0.05$ , then the data is normally distributed

is a difference between the smoothness of exclusive breast milk production before and after the Areola and Rolling Massage intervention using Jitu Oil with Murottal Al-Qur'an Relaxation. If the significance value is  $> 0.05$ , then there is no difference between the smoothness of exclusive breast milk production before and after the Areola and Rolling Massage intervention using Jitu Oil with Murottal Al-Qur'an Relaxation

2. With additional interpretations including :
  - 1) Negative Ranks, which shows a decrease from the pretest score to the posttest score

2) Positive Ranks, which shows an increase from the pretest score to the posttest score

Ties, which shows the same value between the pretest and posttest

**Table 4. Pretest and Posttest Wilcoxon Test Results for Smooth Exclusion of Exclusive Breast Milk**

Negative Ranks	Positive Ranks	Ties	Nilai Sig.	Information
0	64	0	0,000	The smoothness of Exclusive Breast Milk Expenditure between pretest and posttest was significantly different with all respondents experiencing an increase in Independent Breastfeeding Success

Source: Primary data, 2023

The basis for making decisions on the Kolmogorov Smirnov Normality Test is by looking at the significance value (Sig.) where:

1. 1. If the Sig. < 0.05, then the data is not normally distributed.
2. 2. If the Sig. ≥ 0.05, then the data is normally distributed.

**Table 5. Normality Test**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Day 1 weight	0,114	64	0,037	0,951	64	0,013
Day 7 weight	0,432	64	0,000	0,207	64	0,000

Source: Primary data, 2023

The results of the Kolmogorov Smirnov test were good on day 1 data producing a significance value of 0.037 (<0.05) while day 2 produced a significance value of 0.000 (<0.05), this indicates that the data was not normally distributed. This results in the data not being able to undergo parametric testing.

intervention using Jitu Oil with Murottal Al-Qur'an Relaxation

2. If the significance value is > 0.05, then there is no difference between the smoothness of exclusive breast milk production before and after the Areola and Rolling Massage intervention. Using Jitu Oil with Murottal Al-Qur'an Relaxation With additional interpretations including:

**Interpretation of Wilcoxon Test Results on Day 1 and Day 7 of Baby's Weight Gain**

The basis for making decisions for the Wilcoxon Difference Test is by looking at the significance value (Sig.) where:

1. If the significance value is <0.05, then there is a difference between the smoothness of exclusive breast milk production before and after the Areola and Rolling Massage

- 1) Negative Ranks, which shows a decrease from the pretest score to the posttest score
- 2) Positive Ranks, which shows an increase from the pretest score to the posttest score
- 3) Ties, which shows the same value between the pretest and posttest

**Table 6. Results of the Wilcoxon Test on Day 1 and Day 7 of Baby's Weight Gain**

	Minimum body weight	Maximum body weight	Average	Negative Ranks	Positive Ranks	Ties	Sig value.	Information
Day 1 weight	2,6 Kg	3,3 Kg	3,1 Kg					
Day 7 weight	2,7 Kg	3,45 Kg	3,3 Kg	0	64	0	0,000	The increase in baby weight between pretest and posttest was significantly different with all respondents experiencing an increase in baby weight

Source: Primary data, 2023

### Interpretation of Kolmogorov Smirnov Test Results Day 1 to Day 7 Observation of BABIES and BABIES

The observation assessment is assessed with each category that meets the normal limits being given 1 point, while those that do not meet it are given 0 points. The categories for normal limits for defecating and urinating for babies include:

1. Normal newborn urination: 4-12 times
2. Characteristics of BAK: Clear yellow
3. Number of bowel movements in 24 hours: 3–12 times a day
4. Characteristics of defecation: babies will have green-brown feces when they are just born. Furthermore, after the third day the

color of the meconium gradually becomes green-brown. Then, it will turn yellow or dark yellow

5. Average baby sleep after breastfeeding: 2-3 hours
6. Frequency of breastfeeding babies: 8–12 times

The basis for making decisions on the Kolmogorov Smirnov Normality Test is by looking at the significance value (Sig.) where:

1. If the significance value is  $> 0.05$ , then the data is declared to be normally distributed
2. If the significance value is  $< 0.05$ , then the data is declared not normally distributed

**Table 7. Kolmogorov Smirnov Test Results Day 1 to Day 7 Observation of Baby's Defecation and Urination**

Data	Sig value.	Information
Baby's defecation and urination Day 1	0,000	Not Normally Distributed
Baby's defecation and urination Day 2	0,000	Not Normally Distributed
Baby's defecation and urination Day 3	0,000	Not Normally Distributed
Baby's defecation and urination Day 4	0,000	Not Normally Distributed
Baby's defecation and urination Day 5	0,000	Not Normally Distributed
Baby's defecation and urination Day 6	0,000	Not Normally Distributed
Baby's defecation and urination Day 7	0,000	Not Normally Distributed

Source: Primary data, 2023

The results of the Kolmogorov Smirnov test for all days of observation produced a significance of 0.000 ( $< 0.05$ ), this indicates that the data is not normally distributed. So this results in the data not being able to undergo parametric testing.

### Interpretation of Friedman Test Results Day 1 to Day 7 Observation of Babies and Baby Tanks

The basis for making the Kruskal Wallis Difference Test decision is by looking at the significance value (Sig.) where:

1. If the Sig.  $< 0.05$ , then shows
2. that there is at least one significant difference in the results of observing the baby's bowel movements and urination.
3. If the Sig.  $> 0.05$ , then there is not enough statistical evidence of significant differences that can be concluded from the data.

**Table 8. Friedman test results from day 1 to day 7. Observation of baby's defecation and urination**

Ranks	
	Mean Rank
Day 1	5.01
Day 2	3.73
Day 3	4.03
Day 4	3.94
Day 5	3.86
Day 6	3.82
Day 7	3.61
Test Statistics <sup>a</sup>	
N	64
Chi-Square	25.244
df	6
Asymp. Sig.	.000

a. Friedman Test

Source: Primary data, 2023

The test results show that day 1 is the day when the baby has the best average normal defecation and urination, but this does not consistently decrease as seen from day 3, it is better than day 2. As for the Sig results. 0.000 (< 0.050) which indicates a difference in the normal level of defecation and urination of the baby on each day.

### Interpretation of Spearman's Rank Test Results Smoothness of Exclusive Breast Milk

**Table 9. Results of the Spearman Rank Test for Smooth Expression of Exclusive Breast Milk, Weight Increase and Observation of Baby's Defecation and Urination**

Connection	Sig value.	Information
The relationship between exclusive breast milk production and weight gain	0,155	Positive Monotonic Relationship Is Not Significant
The relationship between exclusive breast milk production and defecation and urination baby	0,916	Positive Monotonic Relationship Is Not Significant

### DISCUSSION

The respondents of this research are all Muslims who like murottal Al-Qur'an. So that the relaxation of the murottal Al'Qur'an can be listened to when doing massage to facilitate breast milk. Based on the observations of researchers and enumerators, the majority of massages on the back (Rolling massage) are assisted by the baby's grandmother rather than the husband. The husband thinks he is not confident in doing this massage. Breastfeeding mothers can massage the areola area independently. Al-Qur'an verses that are played by Surah Ar-Rahman and Al-Wa'qiah. Nursing mothers have downloaded music via YouTube so they can play it offline. The breastfeeding mothers selected as respondents all had babies aged 0-30 days, the babies were only given exclusive breast milk.

Kasova et al. Research shows that back massage in the early postpartum period can reduce noradrenaline and increase oxytocin and prolactin levels. Back massage done regularly increases the amount of breast milk, the baby does not need to be given additional food and will be healthier, and can prevent economic losses <sup>16</sup>. Research by Jogdeo & Bhore (2013) in India found that there was an effect of back massage on increasing the let-down reflex in women undergoing caesarean section (P-value <0.05) <sup>17</sup>. According to research by Safitri et al., women experience muscle tension between the shoulder blades, therefore massage therapy is used to relax or reduce stress in this area. A

### Expenditure with Increase in Weight and Observation

The basis for decision making in the Spearman Rank Relationship Test is by looking at the significance value (Sig.) where:

1. If the Sig. < 0.05, then there is a significant relationship between the two variables.
2. If the Sig. ≥ 0.05 then there is not enough statistical evidence of a significant relationship between the two variables.

neurogenic response occurs when the spine is massaged, thereby speeding up the ability of the parasympathetic nerves to send commands to the back of the brain. The posterior pituitary responds to stimulation signals by releasing oxytocin into the systemic circulation. The myoepithelial cells surrounding the alveoli receive a blood flow of oxytocin, which stimulates these cells causing the alveolar sacs to narrow, pressure to increase, and the ducts to shorten and widen. Therefore, breast milk comes out faster than saliva when the nipple is sucked <sup>18</sup>. One explanation for labor is that the hormones prolactin and oxytocin replace the hormones estrogen and progesterone when their levels drop drastically. For the lactation process to be successful, the hormones prolactin and oxytocin are very important. Milk production is sufficient, but milk production is limited because of limited oxytocin secretion, not because breast milk production is insufficient <sup>19</sup>. This supports the theory that stimulation of the hormone prolactin produced by the anterior pituitary and oxytocin produced by the posterior pituitary will cause breast milk to flow more naturally if oxytocin massage is carried out along the spine to the fifth and sixth costal bones. Oxytocin massage supports breastfeeding, calms the mother, reduces swelling, smoothes the breasts, encourages the release of the hormone oxytocin, and keeps breast milk production going when the mother and baby are sick. The mother's comfort during the massage is a requirement for oxytocin

massage to be effective<sup>20</sup>.

Lavender aromatherapy has a psychological therapeutic effect from the aroma that is inhaled through inhalation of volatile components. Lavender is one type of aromatherapy whose properties have activity through the limbic system, especially in the amygdala and hippocampus. Although the cellular mechanisms are not yet known, lavender has properties similar to benzodiazepines and enhances the effects of gamma aminobutyric acid<sup>21</sup>. Apriyanti et al. states that lavender aromatherapy has been shown to significantly increase betaendorphin levels in mothers after cesarean delivery<sup>22</sup>. Agustina et al. found an increase in prolactin hormone levels in mothers who had oxytocin massage using lavender oil<sup>23</sup>. Another study from Tugut et al. stated that lavender aromatherapy can reduce anxiety levels in patients undergoing gynecological procedures<sup>24</sup>. The use of lavender essential oil is generally used as aromatherapy and massage. Clinically, the main benefits are in the central nervous system. The content of lavender essential oil is expected to help increase relaxation and comfort so that breast milk production is expected to increase. One of the clinical benefits of lavender in neuropsychiatry is as a sedative, anticonvulsant, anxiolytic and analgesic. According to Matsumoto et al., 2013, the use of lavender essential oil is expected to help post-cesarean section mothers to increase relaxation and comfort so that breast milk production is expected to increase. Lavender is a popular essential oil and is widely used in the clinical health sector, especially in treating psychosomatic problems in gynecology<sup>25</sup>.

Whatever the cause of insufficient breast milk, breast massage can play an important role in increasing milk production. Since breast massage does not require any additional equipment or costs, all postpartum mothers should be demonstrated breast massage techniques that will facilitate milk flow and also help reduce breast engorgement. Lactation counselors must be sufficiently trained to perform and teach breast massage techniques. Delivery room, postpartum ward, and NICU nurses should be trained in breast massage techniques<sup>26</sup>. In the process of lactogenesis, when the placenta comes out, the hormones progesterone and estrogen which were initially high become reduced. However, there is still residual blood circulation so that minimal

suppressive activity on prolactin remains. As soon as the baby is breastfed, a signal will be sent to the hypothalamus gland in the brain (anterior pituitary) to produce the hormone prolactin. Prolactin will circulate in the blood and enter the breast, causing the development of alveoli cells until the distance between the alveoli cells becomes tight and breast milk production increases. This is where the hormone oxytocin is needed which can release breast milk through the letdown reflex. Causes of oxytocin's work being hampered include post-natal stress, post-natal fatigue, not getting full support from those closest to you, and fear because there is not enough breast milk<sup>12</sup>.

Lactation massage is a massage performed on several parts of the body, namely the head, neck, shoulders, back and breasts<sup>13</sup>. Nursing mothers who perform lactation massage will stimulate the blood vessels and muscles of their breasts, thereby increasing breast milk production through the hormone prolactin. Apart from that, lactation massage will produce cleaner, softer and more elastic breasts, making the baby more comfortable when breastfeeding<sup>14</sup>. For example, lactation massage can help with the breastfeeding induction process for mothers who have never breastfed, were adopted, or grew up in an orphanage<sup>15</sup>.

## CONCLUSIONS

The results of the Instrument Validity Test of 19 questions contained 2 that were invalid so they were used by researchers to measure the smooth flow of breast milk. The results of the Wilcoxon Pretest and Posttest Test on the Smoothness of Exclusive Breast Milk Expenditure have increased. The results of the Wilcoxon test on days 1 to 7 showed that the increase in baby's weight between pretest and posttest was significantly different with all respondents experiencing an increase in baby's weight. Further research needs to be carried out regarding the role of biological mothers or close family members other than husbands in making exclusive breastfeeding a success

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## CONFLICT OF INTEREST

There was no conflict of interest.

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