

DOI: <http://dx.doi.org/10.33846/hn60104>  
<http://heanoti.com/index.php/hn>



## RESEARCH ARTICLE

URL of this article: <http://heanoti.com/index.php/hn/article/view/hn60104>

# Effectivity of the Oketani Massage and the Back Massage Combination towards Breastmilk Production and to Prevent Breast Engorgement of Postpartum Mothers

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## ABSTRACT

Breast milk is the most important baby food, especially during the first weeks of a baby's life. To help postpartum mothers with breastfeeding problems and breast engorgement, the researchers developed a combination of Oketani massage and back massage to increase breastmilk production and to prevent breast engorgement. This was quasi-experimental research designed with a pretest-posttest and with a control group. The research population consisted of post-partum mothers in the Lembeyan Community Health Center area, Magetan Regency, East Java with a consecutive sampling technique. The respondents consisted of 50 people. The independent variable was the combination of the Oketani Massage and the Back Massage, meanwhile, the dependent variables were breastmilk production and prevention of breast engorgement in postpartum mothers. The combination of the Oketani Massage and Back Massage was effective in increasing breastmilk production. This could be seen from the results of the independent t-test with a significance value of 0.00 (less than 0.05). To determine the effectiveness of massage combinations to prevent breast engorgement, the researcher used the Chi-square test, which resulted in a significant value of 0.011 (less than 0.05). The combination of the Oketani massage and back massage is effective in increasing breast milk production as well as preventing breast engorgement.

**Keywords:** combination; oketani massage; back massage; breastmilk production; breast engorgement

## INTRODUCTION

Breastmilk is a baby's most important food, especially during its first six months of life. The data from Basic Health Research states that in 2018, the scope of breastmilk in Indonesia was only 68,74%.<sup>(1)</sup> Then, the data from the Magetan Health Service show that the exclusive breastmilk achievement is only 67,27% in 2017. Next, the data from the Lembeyan Community Health Center, Magetan Regency, East Java, Indonesia in 2019 showed that the exclusive breastmilk achievement is 61.73%. This percentage is still under the target of 95%.

According to UNICEF, children who obtained exclusive breastmilk are 14 times more likely to survive their first six months of life compared to those who are not breastfed. When neonates start to consume breastmilk on the first day of birth, the risk of post-neonatal death decreases by 45%. A research in Kilimanjaro Tanzania shows that exclusive breastfeeding is effective in preventing infant mortality by 13 % - 15 %.<sup>(2)</sup>

The failure in the breastfeeding process is often caused by some factors, namely the maternal factor, the baby factor, the psychological factor, the health worker factor, and the socio-cultural factor. Regarding the maternal factor, mothers often have problems in expressing breastmilk on the first day of giving birth. The failure to give breastmilk in the first days may result in the failure in achieving exclusive breastfeeding.

Some methods that may be developed to decrease problems related to breastmilk expression and breast engorgement in the first weeks of giving birth include employing the Oketani massage and the back massage. The combination method is carried out by combining these two massages. Its aim is to stimulate the power of the pectoralis muscle to increase breastmilk production.<sup>(3)</sup>

To solve the postpartum mothers' problems on breastmilk expression and breast engorgement during the first week, the researchers are interested in developing a research on the effectiveness of the combination of the Oketani massage and the back massage in accelerating breastmilk expression and in preventing breast engorgement of postpartum mothers in Lembeyan District. From the description above, the research problem of

this paper is, “How is the effectivity of the combination of Oketani massage and the back massage in accelerating breastmilk expression and in preventing breast engorgement of postpartum mothers?”

**METHODS**

This research employed the quasi-experiment research method with a pretest-posttest design with a control group. The intervention group was intervened with the combination of the Oketani massage and the back massage.

Group	Pretest	Treatment	Post-test
K.A (The group that obtains the intervention in the form of the combination of Oketani massage and back massage)	O	X1	O <sub>1</sub>
K.B (Control group)	O		O <sub>2</sub>

Legend:

K.C: The intervention group that employs the Oketani and the back massages

X1: Intervention in the form of the combination of Oketani massage and back massage

O1: Breastmilk expression and breast engorgement at the intervention group

O2: Breastmilk expression and breast engorgement at the control group

Figure 1. Research design

The research population was all postpartum mothers at the Basic Emergency Neonatal Obstetric Services and at the Midwife Independent Practice at the Lembeyan Health Center area, Magetan Regency, East Java, Indonesia from May to November 2020. The samples were the experiment group and the control group, where each group consisted of 25 people. The inclusion criteria were postpartum mothers from day one to day seven, without postpartum complication nor psychological disorders, the baby was not given formula milk, and with a weight of ≥2500 grams. The exclusion criteria were postpartum mothers who rejected becoming respondents, postpartum mothers who smoke, and unhealthy babies in emergency cases.

The data used in this research were primary data, directly collected from the respondents (postpartum mothers) at the Basic Emergency Neonatal Obstetric Services and at the Midwife Independent Practice at the Lembeyan Health Center Area. The combination of the Oketani massage and the back massage was carried out from the first day to the third day postpartum for 30-60 minutes each day. The breastmilk expression was measured using an instrument in the form of observation sheets that contain checklists.

The analysis employed in this research aimed to know whether there were any differences in terms of the breastmilk expression between the postpartum mothers who were intervened with the Oketani massage and the back massage compared to those who were unmassaged. It was carried out using the independent t-test. Then, the effect of the Oketani massage and the back massage in preventing breast engorgement was carried out using the Chi-Square test.

**RESULTS**

The research was carried out at the Lembeyan Community Health Center area from April to November 2020. The respondents consisted of 50 postpartum mothers, 25 were part of the intervention group and the rest were part of the control group. The respondents participated in all series of this research activity.

The respondents’ characteristics included parity, age, and education level. The temporary data of the 50 respondents were as follows:

Table 2. Characteristics of Respondents

No	Characteristics of respondents	Intervention group		Control group		Total		p
		f	%	f	%	n	%	
1	Age							0.460
	years	15	60	12	48	27	54	
	>30 years	10	40	13	52	23	46	
3	Education							0.329
	Junior High School	1	4	5	20	6	12	
	Senior High School	20	80	15	60	35	70	
	College	4	16	5	20	9	18	
4	Parity							0.061
	P1	8	32	8	32	16	32	
	P2	12	48	7	28	19	38	
	P3	4	16	7	28	11	22	
	P4	1	4	3	12	4	8	

The respondents' age was mostly 20 to 30 years old, consisting of 27 people (54%), the majority's education level was Senior High School, with 35 respondents (70%), and parity 2 was most common (38%). The second respondent was of a homogeneous group ( $p > 0.05$ ).

Table 3. Breastmilk production and breast engorgement at the intervention group and at the control group

Variable	Group	(Mean±SD)	Min-max
Breastmilk production	Intervention	7.360±3.4506	1-12
	Control	3.160±2.794	1-10

Table 4. Cross-tabulation of the combination of the Oketani massage and the back massage in preventing breast engorgement

Group	None	%	Breast engorgement	%	Total
Intervention	18	72	7	28	25
Control	9	36	16	64	25

The influence of the combination of the Oketani massage and the back massage towards breastmilk expression was tested using the independent t-test as the data was distributed normally. The results were presented in the table 5:

Table 5. The influence of the combination of the Oketani massage and the back massage towards breastmilk production

Variable	Group	(Mean±SD)	Min-Max	p
Breastmilk production	Intervention	7.360±3.4506	1-12	0.000
	Control	3.160±2.794	1-10	

From the table 5, it is shown that the p value was 0.000 ( $< 0.05$ ). Thus, it could be concluded that the combination of the Oketani massage and the back massage influences breastmilk expression.

Then, the table 6 shows the influence of the combination of the Oketani massage and the back massage in preventing breast engorgement.

Table 6. The influence of the combination of the Oketani massage and the back massage in preventing breast engorgement using Chi-square

Group	None	%	Breast engorgement	%	Total	p
Intervention	18	72	7	28	25	0.011
Control	9	36	16	64	25	

The Chi-square test obtains the p value of 0.011 ( $< 0.05$ ). This shows that the combination of the Oketani massage and the back massage may prevent the occurrence of breast engorgement.

## DISCUSSION

### The Influence of the Combination of Oketani Massage and the Back Massage towards Breastmilk Expression

The results show that the combination of the Oketani massage and the Back Massage influences breastmilk expression. The Oketani massage is a breast treatment technique that minimizes pain. This may help mothers in treating breastfeeding difficulties as it may increase breastmilk production. This massage increases the protein and carbohydrate compositions in the breastmilk.<sup>(4)</sup> Research results at the Lhok Bengkuang Health Center in 2019 show that postpartum mothers who are treated with the Oketani massage may improve breastmilk production. Apart from that, there are changes in the breast nipple.<sup>(5)</sup>

During the back massage treatment, mothers experience the flowing of the breastmilk, as the massage stimulates the endorphin and oxytocin hormones.<sup>(6)</sup> The endorphin hormone makes the mothers relax, making them more comfortable in breastfeeding, thus improving breastmilk production.<sup>(7)</sup> The research of Rosyidah and Azizah at DKT Hospital Sidoarjo dan Kirana Hospital showed similar results. The back massage and the clary sage essential oil treatment influence post-sectio caesaria breastmilk production.<sup>(8)</sup>

This research combines the two massages, namely the Oketani massage and the back massage. The former increase breastmilk production without causing breast pain. Meanwhile, the latter makes postpartum mothers more

relaxed, thus improving breastmilk production. The combination of these two techniques may optimally increase breastmilk production.

### **The Effect of the Combination of the Oketani Massage and the Back Massage in Preventing Breast Engorgement**

The results show that the combination of the Oketani and the back massages influence the prevention of breast engorgement. These research results are in line with the research results of Kusumastuti, Qomar, and Pratiwi<sup>(5)</sup> that were carried out at the area of Kebumen II Community Health Center, Kebumen Regency from June to August 2017. The research subject consisted of 22 people in each group (intervention group and control group). The results show that the 22 postpartum mothers (100%) who were treated with Oketani massage did not experience breast engorgement. Meanwhile, 17 people from the control group (77,3%) suffered from breast engorgement.

Then, the research of Fatma Jeni and Suhermi was carried out on 15 post partum women as respondents. These subjects experienced significant changes between before and after obtaining the Oketani massage treatment (before treatment, the mean was 7.73, and post-treatment, it was 2.93).<sup>(9)</sup>

The combination of these two techniques (the Oketani massage and the back massage) is effective in preventing breast engorgement. The former is a direct massage to the breast with minimum pain, meanwhile the latter eases the blood circulation, thus increasing the endorphin and oxytocin hormones.

### **CONCLUSION**

The combination of the Oketani massage and the back massage are effective in improving breastmilk production. The latter stimulates the mammae gland to become more mature and more spacious, thus increasing breastmilk production. Meanwhile, the latter stimulates the oxytocin hormone and eases blood circulation, thus resulting in the increase of breastmilk production.

The combination of these two techniques is effective in preventing breast engorgement. The Oketani massage stimulates the mammae gland to become more mature and more spacious, thus increasing breastmilk production and prevents breast engorgement. Meanwhile, the back massage stimulates the oxytocin hormone and eases the blood flow, thus resulting in the increase of breastmilk production and prevents breast engorgement.

The combination of the Oketani massage and the back massage is hoped to become an alternative massage in improving breastmilk production and in preventing breast engorgement. But it is hoped that there is support from the husband or other family members, to achieve exclusive breastfeeding for 6 months, and extended to 2 years. The support of the husband and the family is a support system that may ease the achievement of breastfeeding success.<sup>(10)</sup>

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