

The Effect of Breast Treatment Towards Mother's Breast Milk Volume on Post Partum in Midwifery Practice at Primary Health Care of Andalas, Padang West Sumatera Province Indonesia

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ABSTRACT

Background: Breast milk production can be stimulated with breast treatment. Breast treatment could stimulate prolactin and oxytocin glands and hormones for increasing the production of breast milk. The aim of the study was determine the effect of breast treatment towards mother's breast milk volume on post partum in midwifery practice at Primary Health Care of Andalas, Padang West Sumatera Province Indonesia.

Methods: The study was conducted using an experimental study with post test and control only group design, in the midwifery practice at Primary Health Care of Andalas, Padang West Sumatera Province Indonesia from September 2018-September 2019. The populations in this study were all pregnant women with gestational aged 30-34 weeks until the pregnant women undergo childbirth and post partum, sample size 24 respondents in intervention and control group. Sampling technique was done with simple random sampling. Hypothesis test used mann-whitney test. A two-tailed *P*-value of <0.05 was considered statistically significant.

Results: The results of the study known the average breast milk volume was higher in the intervention group than in the control group were 56.91 ± 10.90 ml and 14.16 ± 3.19 ml. There was an effect of breast treatment towards mother's breast milk volume on post partum ($p < 0.05$).

Conclusion: This analysis confirmed an effect of breast treatment towards mother's breast milk volume on post partum.

Keywords: Breast Treatment, Breast Milk, Volume, Post Partum

INTRODUCTION

The World Health Organization (WHO) estimates that more than 1.4 million people do not understand breast care. The American Society estimates that 241,240 women in the United States experience problems due to breast lack of cleanliness. While in Canada the number of women experiencing problems with breast hygiene is 24,600 and in Australia as many as

14,791. In Indonesia there are an estimated 876,665 people who do not know about breast care. [1] Coverage of exclusive breastfeeding in infants aged 0-6 months in the world was only 36% in 2007-2013. [2]

Breast milk is the best food and the only food for baby needed (0-6 months). [3] Breast milk is the food source for baby, therefore every mother is expected do not have any issues for breast-feeding for the

baby right after birth until 6 months old. Breast treatment is necessary to be done in pregnancy period and breast-feeding period. This is because breast is the only human's organ that could produce milk, which is the staple food for newborn babies until they are 6 month old. [4,5]

Breast milk production affected by two hormones, which are prolactin and oxytocin. Prolactin affects the amount of breast milk produced, whereas oxytocin affects the process of breast milk secretion. Breast treatment and in particular, the cleanliness of nipples in order to prevent infection, to soften and enhance the form of the nipples to make the child can easily, to boost the prolactin and oxytocin cells and hormones to boost milk output and to detect premature malformances is very essential. [6]

Physiologically breast treatment during pregnancy, by stimulating the breasts will affect the pituitary to release the hormones estrogen and progesterone and the hormone oxytocin by stimulating the milk glands through massage. Breast milk contains a lot of nutrition within them. It is high in *whey* protein. This protein content is higher compared to *casein* with a ratio of 65:35, the ratio of protein and *casein* content in breast milk is not found in formula milk sold on the market. [7,8]

The aim of the study determine the effect of breast treatment towards mother's breast milk volume on post partum in midwifery practice at Primary Health Care of Andalas, Padang West Sumatera Province Indonesia.

MATERIALS & METHODS

Study Design and Research Sample

The study was conducted using an experimental study with post test and control only group design, in the midwifery practice at Primary Health Care of Andalas, Padang West Sumatera Province Indonesia from September 2018-September 2019. The populations in this study were all pregnant women with gestational aged 30-34 weeks until the pregnant women undergo childbirth and post partum, sample size 24

respondents in intervention and control group. Sampling technique was done with simple random sampling.

Operational Definitions

The variables of this study included independent variable are breast treatment and dependent variable is breast milk volume.

Data Collection Technique

This study was approved by the Ethical Committee of Medical Faculty, Universitas Andalas with registration number 131/KEP/FK/2019. Breast care techniques measured were nipple treatment, breast massage or compressing and compressing the breast with warm and cold water 3 times a week. The volume of breast milk collected through a measuring line on the tube.

Data Analysis

The quantitative variables were recorded as frequency and percentage. Hypothesis test used mann-whitney test. A two-tailed *P*-value of <0.05 was considered statistically significant. Data were analyzed using the SPSS version 21.0.

RESULT

Table 1: Characteristics of respondents

Variables	Group	
	Intervention (n=24)	Control (n=24)
Aged (years), mean ±SD	27.75±3.28	28.37±3.84
Level of education		
Junior high school	0(0%)	3 (12.5%)
Senior high school	15 (62.5%)	16 (66.7%)
University	9 (37.5%)	5 (20.8%)
Working status		
Working	12 (50.0%)	8 (33.3%)
Not working	12 (50.0%)	16 (66.7%)

Table 1 known that the average age in the control group was higher than the intervention group (27.37 ± 3.84 years and 27.75 ± 3.28 years). The highest percentage of education in both intervention and control were high school graduate. From the work of respondents who work higher in the intervention group than the control.

Table 2: Description of breast milk volume on post partum mothers day 3 who do breast care and do not breast care during pregnancy

	f	n	%	Mean of breast milk volume (ml)
Not breast care	0 x	24	100	14
Breast care	1 x	1	4.2	54
	2 x	7	29.2	59
	3 x	16	66.6	55

Table 2 known the average of breast milk volume from those who do breast care and not breast care the highest percentage of breast milk volume is those who treat 2 x a week that is equal to 59 ml.

Table 3: The effect of breast treatment towards mother's breast milk volume on post partum

Group	n	Breast milk volume (ml)	p-value
		Mean ±SD	
Intervention	24	56.91±10.90	<0.001
Control	24	14.16±3.19	

Table 3 known the average breast milk volume was higher in the intervention group than in the control group were 56.91 ± 10.90 ml and 14.16 ± 3.19 ml. There was an effect of breast treatment towards mother's breast milk volume on post partum ($p < 0.05$).

DISCUSSION

The results of this study known the average breast milk volume was higher in the intervention group than in the control group. There was an effect of breast treatment towards mother's breast milk volume on post partum.

Previous study known the volume of breast milk in the pre test was 7.33 ml, the volume of breast milk in the post test was 15.56 ml, the results of this study indicate that breast massage is an effective in increasing the volume of breast milk. [9]

The volume of breast milk produced by our body organs, namely the breasts, can vary from individual to individual due to influencing factors such as mental calm, food consumed, child suction factors, contraceptive use factors, physiological factors, resting patterns, frequency of breastfeeding, gestational age at the time of delivery, consumption of cigarettes and alcohol. [10]

Breast care is highly recommended to be done during pregnancy which starts at

6-9 months until lactation. This treatment is recommended because considering the breast is the only organ in the human body that is able to produce breast milk naturally, this breast milk is the best food for infants, only breast milk is suitable for the intestine until the baby is 6 months old so breast care should be done as early as possible to increase volume more optimal breast milk. [10]

The benefits of breast care are to maintain the cleanliness of the nipples, flex and strengthen the nipples, stimulate the glands of the milk glands so that milk production is plenty and smooth, can detect breast abnormalities early and make efforts to overcome them, and prepare the mental mother to breastfeeding. [10]

Mothers who stop breastfeeding in the first months after giving birth are due to nipples, wrong attachment and the inability to satisfy the baby due to low milk production. Not doing breast care is a major factor for decreased milk production because there is no stimulation given to produce the hormones prolactin and oxytocin which are important things that affect the smoothness of breast milk. [11] Previous research which explains that the reason mothers do not breastfeed is due to swelling (36%), blocked ducts (67%), and mastitis (29%). [12]

Based on the analysis of the researchers according to the purpose of breast care is to prevent the dams of breast milk, launch blocked ducts, it is highly recommended for pregnant women last trimester to do breast care from pregnancy to breastfeeding, because if there has been a dam on breast milk, mastitis and ducts of blocked milk the mother becomes lazy for breastfeeding the baby due to discomfort in the breast caused by pain, the mother who is not comfortable breastfeeding her baby will affect the hypothalamus to produce breast milk, causing a little milk volume.

CONCLUSION

The conclusion of this study confirmed the average breast milk volume was higher in

the intervention group than in the control group. There was an effect of breast treatment towards mother's breast milk volume on post partum.

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