http://ijnms.net/index.php/ijnms
e- ISSN: 2686-2123
p- ISSN: 2686-0538
ORIGINAL RESEARCH

IMPROVEMENT OF BREAST MILK PRODUCTION IN POSTPARTUM MULTIPARA MOTHERS THROUGH WOOLWICH MASSAGE

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ABSTRACT

Several factors influence the achievement of Exclusive Breastfeeding, including the presence of mothers experiencing nipple soreness, which consequently leads to discontinuation of breastfeeding; insufficient breast milk flow resulting in a switch to formula milk. One alternative to improve breast milk flow is through the application of Woolwich massage. Woolwich massage therapy is a technique that stimulates breast milk production in nursing mothers. To determine the effect of Woolwich massage on the improvement of breast milk production in postpartum multipara mothers in the postpartum room of Kudungga General Hospital. This study employed a quasi-experimental design, specifically a non-equivalent control group design. The results of this study revealed a significant effect of Woolwich massage on the improvement of breast milk production (p-values of 0.008 and 0.005) with α value of 0.05. The increase in breast milk production can be attributed to the process of milk formation that occurs after stimulation through massage. Contraction of these specialized cells then propels breast milk from the alveoli through the lactiferous ducts to the lactiferous sinuses, where milk is stored. In the first week after childbirth, around 6 out of 10 postpartum mothers commonly experience insufficient breast milk production. Woolwich massage intervention is necessary, with the expectation of enhancing breast milk production in postpartum mothers.

Keywords

Woolwich Massage, Breast Milk Production, Post partum, Multipara

INTRODUCTION

Exclusive breastfeeding begins within one hour of birth and continues until the baby is six months old (Horwood et al., 2018). Early breastfeeding initiation and exclusive breastfeeding can help infants survive and acquire the necessary antibodies for protection against common illnesses like diarrhea and pneumonia. The World Health Organization (WHO) recommends exclusive breastfeeding from birth to six months, followed by continued breastfeeding alongside complementary foods for two years and beyond (Lumbiganon P, 2016). In Indonesia, as a developing country, the percentage of infants under 6 months who received exclusive breastfeeding in 2020 was 40% (Ministry of Health of the Republic of Indonesia, 2021). According to the 2021 Basic Health Research (RISKESDAS) data, 52.5 percent - or only half of the 2.3 million infants under six months old - received exclusive breastfeeding in Indonesia, a 12 percent decrease from the 2019 figure. According to the Central Statistics Agency, the percentage of infants under 6 months who received exclusive breastfeeding in East Kalimantan Province was 71.08% in 2019, 71.13% in 2020, and 75.87% in 2021.

In Kutai Timur, the achievement of exclusive breastfeeding showed fluctuation from 2016 (56.34%) to 2020 (56.8%). However, the achievement dropped to 51.9% in 2021 due to several reasons. These include a high percentage of low birth weight infants (4.6%), mothers experiencing nipple soreness leading to discontinuation of breastfeeding, insufficient milk production leading to formula milk replacement, introduction of other fluids or liquids by breastfeeding mothers, and limited availability of breastfeeding counselors. In RSUD Kudungga, out of 10 postpartum mothers, around 6 of them complained about insufficient milk production in the first week after delivery. This is often attributed to maternal lack of confidence in breastfeeding. According to Dewi's research (2016), factors influencing milk production include peace of mind, nutrition, rest, baby's sucking, contraceptive use, and breast care. Saranung et al.'s study (2017) identified factors related to milk production such as nipple condition, anxiety, and family support. Various alternatives exist to boost milk production and stimulate prolactin and oxytocin hormones, including breast pumping, breast care, Early Initiation of Breastfeeding (IMD), nutrition, and various massage techniques like Woolwich massage and oxytocin massage.

Woolwich massage is one such alternative to enhance milk production. This therapy stimulates milk production in nursing mothers. Woolwich massage triggers stimulation of myoepithelial cells around the mammary glands. This stimulation travels to the hypothalamus, triggering the anterior pituitary gland to produce more prolactin and, consequently, more breast milk. Given the aforementioned background, the researcher is interested in investigating the influence of Woolwich massage on the improvement of breast milk production in postpartum multipara mothers in the postpartum room of RSUD Kudungga.

METHOD

The type of research utilized in this study is a quasi-experimental design. The research was conducted using a non-equivalent control group design. The study was conducted in the postpartum room of RSUD Kudungga, East Kutai Regency. The population of the study comprised postpartum multipara mothers from January to February 2023. The sample was selected using purposive sampling, consisting of 22 individuals who met the inclusion criteria, namely postpartum multipara mothers who underwent both cesarean section and normal delivery, had infants receiving combined care, were physically and mentally healthy, willing to participate as respondents, and excluding those with psychological disorders, inability to breastfeed, and infants not receiving combined care. The obtained samples were then divided into a control group and an intervention group.

Data were collected through breastfeeding smoothness indicators observed by both mothers and infants, according to Budiati et al., 2011. In this research, the dependent variable was breast milk production, and the independent variable was Woolwich massage. Univariate data analysis was conducted to explain or describe the characteristics of each research variable. Bivariate data analysis was performed to determine the influence of the two variables. Univariate data analysis in this study employed frequency and percentage, while bivariate data analysis used the Wilcoxon signed-rank test.

RESULTS

Table 1. Frequency Distribution of Postpartum Mother Respondents at RSUD Kudungga in the Year 2023

Variable	Category	Experimental Group		Control Group	
		Frequency	Percent (%)	Frequency	Percent (%)
Age	22 - 28 years	4	36.4	5	45.5
	29 - 34 years	5	45.5	2	18.2
	35 - 40 years	2	18.2	4	36.4
Education	Elementary School (SD)	0	0	1	9.1
	Junior High School (SMP)	3	27.3	2	18.2
	Senior High School (SMA)	8	72.7	8	72.7
Occupation	Housewife	11	100	10	90.9
	Private Employee	0	0	1	9.1

Diploma III (D3) Bachelor's Degree (S1) Civil Servant (PNS) Contract Worker (Honorer) Private Sector Employee (Swasta) Housewife (IRT)		2 7 5 4 . 5 4 9 . 0 9 9 . 0 9 9 . 0 9 9 . 0 9 0 8 1 . 8 1		18 .1 8 27 .2 7 18 .1 8 9. 09 45 .4 5
Total	**11**	**1 0 0**	**11**	**10 0**

Source: Primary Data

Based on the above Table 1, it can be seen that out of 22 respondents, nearly the majority fall in the age group of 29-34 years with a total of 10 (45.5%) respondents, have completed high school education with a total of 10 (45.5%), and work as housewives, totaling 14 (63.6%) respondents.

Table 2. Assessment of Breast Milk Production Smoothness through Mother and Infant Observation Sheets Before Conducting Woolwich Massage on Postpartum Multipara Mothers in the Postpartum Room of RSUD Kudungga in 2023

Respondents		**Not Smooth**	**Percentage**	**Smooth**	**Percentage**	**Total (Percentage)**
Intervention Group	Baby Pretest	8	72,7	3	27,3	11 (100)
	Mother Pretest	9	72,7	3	27,3	11 (100)
Control Group	Baby Pretest	9	81,8	2	18,2	11 (100)
	Mother Pretest	9	81,8	2	18,2	11 (100)

Source: Primary Data

Based on the above Table 2, a total of 22 individuals underwent assessment of breast milk production smoothness through mother and infant observation sheets before conducting Woolwich Massage. From the results, it is observed that out of 11 respondents who belong to the intervention group, during the pretest, 8 (72.7%) respondents were identified as having not smooth breast milk production. Meanwhile, for the control group, during the pretest, 9 (81.8%) respondents were identified as having not smooth breast milk production.

Table 3. Assessment of Breast Milk Production Smoothness through Mother and Infant Observation Sheets after Woolwich Massage on Postpartum Multipara Mothers in the Postpartum Room of RSUD Kudungga in 2023

Respondents		**Not Smooth**	**Percentage**	**Smooth**	**Percentage**	**Total (Percentage)**
Intervention Group	Baby Pretest	1	9,09	10	90,9	11 (100)
	Mother Pretest	0	0	11	100	11 (100)
Control Group	Baby Pretest	3	27,3	8	72,7	11 (100)
	Mother Pretest	2	18,2	9	81,8	11 (100)

Source: Independent T-Test Statistical Test

Based on the above Table 4.3, a total of 22 individuals underwent assessment of breast milk production smoothness through mother and infant observation sheets, and data was obtained. From the results, it was found that out of 11 respondents in the intervention group, following the intervention, 10 (90.9%) respondents were identified as having smooth breast milk production based on the infant observation sheet, and 11 (100%) respondents were identified as having smooth breast milk production based on the mother observation sheet.

On the other hand, for the control group, the results showed that 8 (72.7%) respondents had smooth breast milk production based on the infant observation sheet, and 9 (81.8%) were identified as having smooth breast milk production based on the mother observation sheet.

From these results, it can be concluded that there is a significant improvement in breast milk production smoothness in the intervention group, with a difference of 2 (18.2%) respondents compared to the control group identified as having smooth breast milk production based on the mother observation sheet. Based on these results, it can be inferred that the improvement in breast milk production smoothness is more significant in the group that received Woolwich Massage intervention compared to the control group that only received breastfeeding counseling.

Table 4. The Influence of Woolwich Massage on Breast Milk Production Smoothness as Assessed through Infant Observation Sheets.

Breast Milk Production		N	Mean	Rank Sum of Ranks	Z-score	p-value
Post-Intervention Pre-Intervention	Negative Ranks Positive Ranks Ties	0 8 3 0 7 4	0.00 4.50 0.00 4.00	0.00 36.00 0.00 28.00	2.828 2.646	0.005 0.008
Post-Kontrol Pre-Kontrol	Negative Ranks Positive Ranks Ties					

Source: Independent T-Test Statistical Test

Based on Table 4, it can be observed that the Asymp.Sig (2-tailed) value is 0.005 in the intervention group. Since the value of 0.005 is less than 0.05, H0 is rejected and Ha is accepted, which means that there is an influence of Woolwich massage on the improvement of breast milk production smoothness in postpartum multipara mothers in the postpartum room of RSUD Kudungga.

DISCUSSION

Based on the results of the observation sheets, a total of 22 individuals underwent assessment of breast milk production smoothness through mother and infant observation sheets before Woolwich Massage. From the results, it was found that out of 11 respondents in the intervention group, during the pretest, 8 (72.7%) respondents were identified as having not smooth breast milk production. Meanwhile, for the control group, during the pretest, 9 (81.8%) respondents were identified as having not smooth breast milk production. Dewey's research, cited by Dina in 2017, stated that 24% of mothers who experienced stress during pregnancy and childbirth experienced delayed colostrum secretion (>72 hours after childbirth). Other factors influencing delayed colostrum secretion include the delivery method, duration of labor, pain experienced during labor, and postpartum fatigue. Other factors affecting colostrum production are maternal nutritional status, breast care, immediate newborn suckling after birth, and maternal obesity. The researcher assumed that colostrum secretion in the early postpartum period can be influenced by factors such as the childbirth process and nutritional status. Hence, not all postpartum mothers can provide colostrum to their infants in the early postpartum period.

Based on the research results from mother and infant observation sheets involving a total of 22 individuals, it was found that out of 11 respondents in the intervention group, following the intervention, 10 (90.9%) respondents were identified as having smooth breast milk production based on the infant observation sheet, and 11 (100%) respondents were identified as having smooth breast milk production based on the mother observation sheet. On the other hand, for the control group, the results showed that 8 (72.7%) respondents had smooth breast milk production based on the infant observation sheet, and 9 (81.8%) were identified as having smooth breast milk production based on the mother observation sheet.

From these results, it can be concluded that there is a significant improvement in breast milk production smoothness in the intervention group, with a difference of 2 (18.2%) respondents compared to the control group identified as having smooth breast milk production based on the mother observation sheet. Based on these results, it can be inferred that the improvement in breast milk production smoothness is more significant in the group that received Woolwich Massage intervention compared to the control group that only received breastfeeding counseling. In this context, Woolwich Massage can influence breast milk production smoothness in postpartum mothers. Due to the stimulation provided by the massage in the area of the mammary areola, it triggers breast milk secretion in postpartum mothers. Furthermore, breastfeeding counseling can also influence breast milk production, as correct attachment and breastfeeding positions can stimulate breast milk secretion. The researcher assumed that the improvement in breast milk production smoothness can be more effective through Woolwich Massage intervention compared to just providing breastfeeding counseling to postpartum mothers.

Based on the infant observation sheet and the mother observation sheet, it can be observed that the Asymp.Sig (2-tailed) values are 0.008 and 0.005 in the intervention group. Since the values of 0.008 and 0.005 are less than 0.05, H0 is rejected and Ha is accepted, indicating that there is an influence of Woolwich Massage on the improvement of breast milk production smoothness in postpartum multipara mothers in the postpartum room of RSUD Kudungga. This aligns with the research conducted by Nurlia Isti Malatuzzulfa et al. (2022), where the Wilcoxon test yielded a p-value of 0.000, indicating a significant influence between the Woolwich massage and massage rolling methods on increasing breast milk production. The combination of Woolwich Massage and massage rolling is more effective in increasing breast milk production. Woolwich Massage was administered to postpartum mothers twice a day in the morning and evening for a minimum of 3 days. The procedure involved circular massaging using both thumbs on the lactiferous sinus area, about 1-1.5 cm outside the mammary areola, for 15 minutes (Kusumastuti, 2017).

The increase in breast milk production can be attributed to the process of milk formation that occurs after stimulation through massage. The researcher assumes that one of the massage stimuli that can enhance breast milk production smoothness is Woolwich Massage, performed regularly twice a day for three days with a duration of 15 minutes.

CONCLUSIONS

The study conducted an investigation on the influence of Woolwich Massage on breast milk production smoothness among postpartum multipara mothers in the postpartum room of RSUD Kudungga. The research involved a total of 22 respondents, divided into intervention and control groups. The assessment was carried out through mother and infant observation sheets before and after the intervention. The results revealed that before the intervention, a significant percentage of both intervention and control groups experienced not smooth breast milk production. After the intervention, a remarkable improvement was observed in both groups. The intervention group showed a substantial increase in smooth breast milk production, with a difference of 18.2% compared to the control group. These findings suggest that Woolwich Massage has a notable impact on enhancing breast milk production smoothness among postpartum multipara mothers.

Further analysis using the Asymp.Sig values confirmed the significant influence of Woolwich Massage on breast milk production smoothness, as the p-values were lower than 0.05. This corresponds with previous research indicating that massage techniques, such as Woolwich Massage, can effectively stimulate breast milk production. In conclusion, this study highlights the positive effect of Woolwich Massage as an intervention to enhance breast milk production smoothness in postpartum multipara mothers. This technique, when

applied in combination with appropriate breastfeeding counseling, can contribute to improved breastfeeding outcomes. These findings underscore the potential of massage interventions in supporting postpartum mothers to overcome challenges related to breast milk production and promote successful breastfeeding practices.

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