

## THE EFFECT OF LACTATION MASSAGE ON INCREASING BREAST MILK PRODUCTION IN BREASTFEEDING MOTHERS

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### ABSTRACT

Lactation massage is believed to stimulate increased levels of the hormones prolactin and oxytocin. The aim of this study was to determine the effect of lactation massage on breast milk production in breastfeeding mothers. This study was quantitative with a quasi-experimental design. It was conducted from October to November 2025. The sample size was 16 pregnant women. Data analysis was performed using computerized univariate and bivariate tests using the Wilcoxon test. Breast milk production was 27.19 ml with a standard deviation of 4.820. After being given lactation massage, the average breast milk production changed to 53.75 ml with a standard deviation of 6.708. There is an effect of lactation massage on breast milk production in breastfeeding mothers at the Kedaburapat Community Health Center, Rangsang Pesisir District, Meranti Islands Regency ( $p=0.000$ ). It is suggested that health workers provide additional health education about the effect of lactation massage on breast milk production among breastfeeding mothers so that breastfeeding mothers not only receive health services but also gain knowledge or health education regarding lactation massage.

**Keywords:** Lactation Massage, Breast Milk Production.

## 1. INTRODUCTION

Breast milk is the best food because it contains the nutrients needed by infants aged 0-6 months. Breast milk also contains immune substances that protect infants from various infectious diseases caused by bacteria, viruses, parasites, and fungi. The long-term impact of breastfeeding is that it can influence infant growth and development, including the development of emotional intelligence through the attachment formed during breastfeeding.

The short-term impact when infants are not given exclusive breastfeeding is a reduced vulnerability of the infant's body to disease (Juliastuti et al., 2021).

According to the World Health Organization (WHO) and UNICEF as of July 31, 2024, approximately 48% of infants aged 0-6 months worldwide received exclusive breastfeeding. This figure shows an increase of more than 10 percentage points over the last 12 years, approaching the WHO global target of achieving  $\geq 50\%$  exclusive breastfeeding by 2025 (Dalimunthe, Suhendar, et al., 2024; HASIBUAN, 2024). In Indonesia, there has been an increasing trend in the national rate of exclusive breastfeeding among infants aged 0-6 months from 2022 to 2024. In 2022, 72.04% of infants aged 0-5 months received exclusive breastfeeding (Maizuputri & Mutmainnah, 2024). This figure increased to 73.97% in 2023 and rose again to 74.73% in 2024. This increase indicates an improvement in exclusive breastfeeding practices at the national level, which may serve as an indicator of the success of various breastfeeding education and promotion programs carried out by the government and health organizations (Hernández-Cordero et al., 2022; Saraan et al., 2024).

Based on data from the Riau Provincial Health Profile, the coverage of exclusive breastfeeding in Riau Province in 2022 and 2023 was 45%, showing no change. In general, there was an increase in exclusive breastfeeding coverage in most areas, such as Rokan Hulu Regency, Kuantan Singingi Regency, Pekanbaru City, and Bengkalis Regency. However, other regions experienced a decline, one of which was Kepulauan Meranti Regency. In Kepulauan Meranti Regency, the coverage of exclusive breastfeeding in 2022 was 78%, but it decreased to 49% in 2023 (Dalimunthe et al., 2024; Putra & Muin, 2024).

Lack of self-confidence and anxiety can inhibit the release of the oxytocin hormone. Oxytocin affects the release of prolactin hormone, which stimulates breast milk production in mothers during breastfeeding. One effort that can be made to stimulate prolactin and oxytocin hormones in postpartum mothers is to provide a relaxing sensation through lactation massage. Lactation massage stimulates nerve cells in the breast, which are then transmitted to the hypothalamus and responded to by the anterior pituitary gland to release prolactin hormone. This hormone is then carried by the blood to the myoepithelial cells of the breast to produce breast milk (Ritonga et al., 2025; Wulandari et al., 2022).

There are various ways that breastfeeding mothers can increase breast milk production. One of them is ensuring that the baby breastfeeds directly as often as possible, because the more frequently the breasts are emptied, the more breast milk is produced. Consuming a balanced nutritious diet that is high in protein, as well as vegetables and fruits rich in vitamins and minerals, is also highly recommended to support breast milk production. In addition, mothers need to maintain adequate fluid intake by drinking at least eight

glasses of water per day and getting sufficient rest to keep the body fit. Managing stress properly, for example through relaxation or emotional support from partners and family, also plays an important role. As a complementary method, one effective approach to stimulate and facilitate the flow of breast milk is lactation massage. This massage is performed around the breast using certain techniques aimed at improving blood circulation and stimulating the mammary glands, thereby helping to increase the amount and smooth flow of breast milk produced (Indrianita et al., 2022; Rustandi et al., 2024).

Lactation massage is a breast massage technique that aims to help facilitate the production and release of breast milk. This massage is usually performed gently using circular movements and light pressure around the breast and areola, which can stimulate the mammary glands, improve the flow of breast milk, and reduce blockages in the milk ducts that may cause mastitis. In addition, lactation massage can also help mothers feel more relaxed and comfortable, which indirectly increases the oxytocin hormone, an important hormone in the process of breast milk release. This massage can be performed by the mother herself or with the assistance of trained health workers such as midwives or lactation counselors (Anasari et al., 2023).

A study by Muawanah & Sariyani (2021) obtained a p-value of  $0.000 < 0.05$ , indicating that there was a difference in the average results of breast milk flow between the experimental pre-test and post-test. Based on the mean results, it can be concluded that the increase in breast milk flow among breastfeeding mothers who received lactation massage was significantly higher than among breastfeeding mothers who did not receive lactation massage. A study by Lestari et al (2022) obtained a p-value of  $0.000 < 0.05$ . Based on these results, it can be concluded that lactation massage had a significant effect on increasing breast milk production among breastfeeding mothers of infants aged 0-6 months. A study by Hanubun et al (2023) concluded that lactation massage had an effect on increasing breast milk production in breastfeeding mothers.

Based on data obtained from Kedaburapat Public Health Center, Kepulauan Meranti Regency, the coverage of exclusive breastfeeding has shown an increase each year. In 2023, approximately 35% of infants received exclusive breastfeeding, with a coverage rate of 42.2%. This figure increased in 2024, when approximately 37% of infants received exclusive breastfeeding, with coverage reaching 45.26%. This positive trend continued in 2025, with the percentage of infants receiving exclusive breastfeeding remaining at 37%, while the coverage increased to 46.3%. Although there has been an increase from year to year, this achievement remains far below the target set by the Indonesian Ministry of Health, which establishes an exclusive breastfeeding coverage target of 80%. Therefore, more intensive strategies are needed to encourage the success of exclusive breastfeeding in the area.

An initial survey conducted by the researcher on July 24, 2025, at Kedaburapat Public Health Center, Kepulauan Meranti Regency, involving 10 breastfeeding mothers showed that 8 out of 10 mothers stated that their breast milk production was still very low, so they had not been able to provide breast milk to their babies. One sign that a baby receives sufficient breast milk is an increase in the baby's weight during the first month after birth. However, 7 out of 10 mothers stated that their babies' weight had increased, but not significantly.

## 2. RESEARCH METHODE

The type of research used was quantitative with a quasi-experimental research design, employing a one-group pretest-posttest design (Saleh et al., 2024). The sample consisted of 16 pregnant women selected using accidental sampling based on the inclusion criteria, with the research period conducted from October to November 2025. The intervention in the form of massage was given once a day for 15 minutes over three consecutive days. Data analysis was conducted using the Wilcoxon test.

## 3. RESULT AND DISCUSSION

### Bivariate Analysis

The effect of lactation massage on breast milk production among breastfeeding mothers can be observed from the results before and after the massage intervention was administered. The results of the data normality test using the Shapiro-Wilk test, applied because the number of respondents was less than 50, showed that in the before and after groups, the pre-test data were normally distributed with a p-value of 0.061, whereas the post-test data were not normally distributed with a p-value of 0.005. Therefore, it can be concluded that the data were not normally distributed because the p-value was  $< 0.05$ . Thus, this study used the Wilcoxon test because the variables presented consisted of numerical data and were not normally distributed.

**Table 1.** The Effect of Lactation Massage on Breast Milk Production among Breastfeeding Mothers at Kedaburapat Public Health Center, Rangsang Pesisir District, Kepulauan Meranti Regency

Anemia	Anemia			
	n	Mean	SD	P
Before giving a lactation massage	16	27,19	4,820	0,000
After being given a lactation massage		53,75	6,708	

Source: Processed research data 2025

Based on table 4.1, it is known that before being given lactation massage, the average breast milk production was 27.19 ml with a standard deviation of 4.820. After being given lactation massage, the average breast milk production changed to 53.75 ml with a standard deviation of 6.708. The results of the statistical test obtained a p value of  $0.000 < \alpha (0.05)$ , so it can be concluded that there is an effect of lactation massage on breast milk production in breastfeeding mothers at the Kedaburapat Health Center, Rangsang Pesisir District, Meranti Islands Regency.

## DISCUSSION

The results showed that before lactation massage, the average breast milk production in breastfeeding mothers was 27.19 ml with a standard deviation of 4.820. After lactation massage, the average breast milk production increased to 53.75 ml with a standard deviation of 6.708. The Wilcoxon test showed a p-value of  $0.000 < \alpha (0.05)$ , thus concluding that lactation massage has an effect on breast milk production in breastfeeding mothers.

The lactation or breastfeeding process is the process of breast milk formation involving the hormones prolactin and oxytocin. During pregnancy, prolactin levels increase; however, breast milk is not yet released because it is still inhibited by high levels of estrogen. During childbirth, estrogen and progesterone levels decrease, while prolactin becomes more dominant, resulting in breast milk secretion. Lactation massage is one method of breast care that does not cause pain. Lactation massage can stimulate the strength of the pectoralis muscle to increase breast milk production and make the breasts softer and more elastic, making it easier for the baby to suck breast milk. Lactation massage can also provide a sense of relief and comfort, improve the quality of breast milk, prevent cracked nipples and mastitis, and help overcome or reduce lactation problems caused by flat nipples and inverted nipples (Sesti & Yulita, 2026).

Massage is a health therapy widely used by the community for various purposes, ranging from relieving muscle aches and reducing fatigue to helping improve breast milk flow among breastfeeding mothers through postpartum massage. Postpartum massage is known to have several benefits, including relaxing the body, relieving stress, reducing pain, improving sleep quality, supporting the breastfeeding process, and restoring hormonal balance after childbirth (Nababan et al., 2025).

A study by Muawanah & Sariyani (2021) obtained a p-value of  $0.000 < 0.05$ , indicating that there was a difference in the average results of breast milk flow between the experimental pre-test and post-test. Based on the mean results, it can be concluded that the increase in breast milk flow among breastfeeding mothers who received lactation massage was significantly higher than among breastfeeding mothers who did not receive lactation

massage. A study by Lestari et al (2022) obtained a p-value of  $0.000 < 0.05$ . Based on these results, it can be concluded that lactation massage had a significant effect on increasing breast milk production among breastfeeding mothers with infants aged 0-6 months. A study by Hanubun et al (2023) also concluded that lactation massage affected the increase in breast milk production among breastfeeding mothers.

A study by Nurhasanah & Triwahyuningsih (2024) obtained a p-value of  $< 0.05$  (0.000), meaning that there was a significant effect of lactation massage on breast milk release among postpartum mothers at Cengkareng Regional General Hospital. Massage refers to massaging the breast area as an effort to stimulate the prolactin and oxytocin hormones after childbirth. This massage functions to increase the oxytocin hormone, which can calm the mother so that breast milk is released more easily. Massage in the breast area also helps relax tension and relieve stress; therefore, oxytocin is released and supports breast milk ejection (Kulsum, 2025; Kundarti, 2025). This process is also assisted by the baby's sucking on the nipple immediately after birth when the baby is in normal condition. Colostrum that drips or comes out is a sign of the activation of the oxytocin reflex.

The researcher assumes that, physiologically, lactation massage through neurotransmitters stimulates the medulla oblongata by sending messages to the hypothalamus in the brain, thereby stimulating the lactation reflex or let-down reflex to secrete lactation hormones into the bloodstream (Elisa & Sylvina, 2023; Osman, 2025). Providing lactation massage can help improve breast milk production in breastfeeding mothers and also provide comfort. In addition, mothers must pay attention to factors that influence the success of lactation massage and the breastfeeding environment, such as self-confidence to prevent the perception of insufficient breast milk supply, closeness to the baby, relaxation that can help restore nervous and hormonal imbalance and provide natural calmness, touch and massage during breastfeeding, and nipple stimulation by gently pulling and rotating the nipple with the fingers. Performing lactation massage provides a sense of relaxation, calmness, and comfort, thereby increasing lactation hormones and improving breast milk release. Lactation massage can also reduce swelling and relieve blocked milk ducts. Therefore, lactation massage is important for increasing maternal breast milk production. Lactation massage is an alternative method that can help stimulate the process of breast milk release because its relaxing effect makes mothers feel comfortable, thereby supporting lactation. This is proven by research findings showing that mothers whose breast milk production was not smooth experienced an increase in breast milk production after massage, resulting in a greater and smoother release of breast milk.

#### 4. CONCLUSION

This study concludes that lactation massage has an effect on increasing breast milk production among breastfeeding mothers at Kedaburapat Public Health Center, Rangsang Pesisir District, Kepulauan Meranti Regency. The findings indicate that lactation massage can be used as a simple, non-pharmacological, and applicable intervention to support breastfeeding mothers in improving breast milk production. Therefore, lactation massage may serve as an alternative complementary care practice in maternal and child health services, particularly for mothers who experience difficulties in breast milk production. Health workers, especially midwives, are expected to provide regular education, counseling, and assistance regarding proper lactation massage techniques so that breastfeeding mothers can apply them safely and effectively. In addition, breastfeeding mothers are encouraged to consult health workers when experiencing breastfeeding problems to ensure optimal lactation management and support the success of exclusive breastfeeding.

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