



The Effect of Warm Compresses on the Breasts on the Smoothness of Breast Milk Production in Postpartum Mothers at PMB Lismarini Palembang

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Abstract. Breast milk contains nutritional components and antibodies that are important for the development, immunity and long-term health of babies. However, not all babies get breast milk from their mothers. This can be caused by low breast milk production and irregular breast milk release. Warm compresses are one method of stimulating breast muscles that can increase breast milk production. The type of research used is a quasi-experimental one group pretest posttest. The study population was all postpartum mothers in the PMB Lismarini area with low breast milk production problems. The sampling technique in this study used purposive sampling. Warm compresses were carried out for 7 days with a duration of 10-15 minutes before breastfeeding. The statistical test used was Wilcoxon. The results of the Wilcoxon test showed a p value of $0.003 \leq 0.05$, which means that there is an effect of warm breast compresses on the smoothness of breast milk release. It is expected that health workers will increase educational activities related to the management of irregular breast milk release, one of which is the warm compress method.

Key words: Breast Milk, Warm Compress, Postpartum Mother

1. BACKGROUND

Breast milk is the best source of nutrition for babies, especially during the first six months of life. Breast milk contains nutritional components and antibodies that are important for the development, immunity, and long-term health of babies . WHO and UNICEF recommend exclusive breastfeeding for six months because of its wide benefits, not only for babies but also for maternal health, including helping postpartum recovery and reducing the risk of breast and ovarian cancer (Handayani et al, 2016).

The World Health Organization (WHO) has reviewed more than 3000 studies showing that exclusive breastfeeding for 6 months is the most optimal period for exclusive breastfeeding. This is based on scientific evidence that exclusive breastfeeding covers the nutritional needs of babies and better baby growth. Breast milk is the most important food for babies so it is very important for baby health, but not all babies get breast milk from their mothers (Manna et al, 2016).

The main key to increasing breast milk production is to increase the frequency and emptying of the breasts. Controlling breast milk production is closely related to the level of breast fullness. The faster the breast is emptied, the more breast milk will be produced. There are several efforts that can be made to empty the breasts, including pumping and massaging techniques, hypnobreastfeeding, breast care and warm breast compresses (Lulus et al, 2016).

Warm compresses on the breasts are the most practical efforts that postpartum mothers can do independently, the tools and materials needed are also easy to find and do not require expensive costs. Warm compresses are one method of stimulating breast muscles that can increase breast milk production. Warm compresses are very good at helping the process of releasing breast milk because vasodilation and the vessels that affect the breasts due to the warm sensation given during the compress can carry large amounts of prolactin in the blood for the breast milk production process (Fitriani et al, 2020).

Compresses to facilitate breast milk (ASI) are based on the need to support breastfeeding mothers in maintaining a smooth lactation process and overcoming challenges such as blocked breast milk and mastitis. Many breastfeeding mothers experience problems with breast milk production, especially in the early weeks after giving birth, so additional therapeutic support such as warm compresses is considered to help improve breast milk flow and reduce discomfort (Suprapti, 2017).

The results of Fitriani et al's (2020) study stated that warm compresses on the breasts have an effect on breast milk sufficiency. This study is in line with the studies of Nurhanifah (2013) and Suprapti (2017) which prove that warm compresses contribute to increasing breast milk sufficiency. Warm compress interventions can overcome problems in mothers who experience complaints of insufficient breast milk by increasing the let down reflex mechanism (Sriraman.NK, 2017).

2. THEORETICAL STUDY

Breast milk is an ideal source of nutrition with a balanced composition and adjusted to the needs of infant growth. Breast milk is a perfect food both in quality and quantity with proper breastfeeding management. Breast milk as a single ingredient will be sufficient to meet the growth needs of normal infants up to 6 months and when given solid food continued until 2 years or more (Astutik, 2014).

The breastfeeding process is called lactation. Lactation involves the process of producing and releasing breast milk, the formation of breast milk begins at 6 months of pregnancy where hormonal changes occur that cause the breasts to start producing breast milk. Hormonal changes function to prepare the mammary gland tissues to produce breast milk and the hormones that play a role are prolactin and oxytocin, but breast milk secretion has not occurred because estrogen and progesterone are still high. Breast milk release is a very complex interaction between mechanical stimulation, nerves and various hormones. Hormonal regulation of breast milk release consists of breast milk production (prolactin) and breast milk

release (oxytocin). The process of breast milk production and release must be equally good (Dewi and Sunarsih, 2016).

The problem of breast milk not flowing smoothly, also known as *insufficient milk ejection*, is a common problem experienced by breastfeeding mothers, especially in the early postpartum period. This condition can hinder the breastfeeding process and be a source of frustration for the mother and has the potential to impact the baby's nutritional intake (Bahiyatun, 2014).

Warm compress is one of the non-pharmacological methods that is considered very effective in overcoming breastfeeding problems related to the irregularity of breast milk production. Warm compresses on the breasts for 10-15 minutes before breastfeeding can increase the flow of breast milk from the pituitary gland which functions to produce breast milk. Other benefits of warm compresses on the breasts include stimulation of the let-down reflex, preventing breast congestion that can cause breast swelling, and improving blood circulation in the breast area. Giving warm compresses to the breasts can increase the smoothness of breast milk production. Some physiological effects of warm compresses include vasodilation, increasing capillary permeability, increasing cellular metabolism, relaxing muscles, increasing blood flow to an area. Increased blood circulation in the breast area results in more oxytocin flowing to the breasts and making breast milk production smoother (Lulus et al, 2016).

3. RESEARCH METHODS

This study is a quantitative study with a *quasi-experimental one group pretest posttest research design*. The study was conducted at PMB Lismarini Palembang. Breast milk production was measured before and after warm compresses for 7 days. The population in this study were all *postpartum mothers* in the PMB Lismarini area with low breast milk production problems. The *sampling technique* in this study used *purposive sampling*. Warm compresses were given for 7 days with a duration of 10-15 minutes before breastfeeding. Breast milk production was assessed by observing the frequency of breastfeeding in a day, whether breast milk leaked or not, whether the breasts were tense or not before breastfeeding, whether the breasts were empty or soft after breastfeeding, the duration of the baby's sleep, the frequency of the baby's urination and whether the baby was fussy or not. The statistical test used was *Wilcoxon* because the data was not normally distributed.

4. RESULTS AND DISCUSSION

Wilcoxon test on the effect of warm compresses on the breasts on the smooth flow of breast milk can be seen in table 1.

Table 1. Breast Milk Release Before and After Warm Compress

	Mean	SD	p value
Pretest	5.4575	0.420	
Posttest	7.1245	0.456	0.003

The results of the study obtained an average of breast milk output before warm compresses of 5.4575 and after warm compresses increased to 7.1245. In this study, breast milk output measurements used a questionnaire with 10 questions containing indicators of smooth breast milk production. The results of statistical tests using *Wilcoxon* showed a p value of $0.003 \leq 0.05$, which means that there is an effect of warm breast compresses on smooth breast milk output.

Warm compresses can also improve blood circulation in the breast area, warm compresses can prevent congestion in swollen breasts, and can also improve blood circulation. blood circulation in the breast area. In addition, warm compresses can widen blood vessels in the breast so that blood flow and oxygen supply can more easily reach the painful area caused by breast swelling, the muscles around the breast will relax and breast pain can be reduced, this process will facilitate the process of releasing breast milk quickly in breastfeeding mothers.

The main key to increasing breast milk production is to increase the frequency and emptying of the breasts (Afriani, 2018). Controlling breast milk production is closely related to the level of breast fullness. The faster the breast is emptied, the more breast milk will be produced (Arifah, 2020). There are several efforts that can be made to empty the breasts, including pumping and massaging techniques, hypnobreastfeeding, breast care, and warm breast compresses. Of these efforts, warm compresses on the breasts are the most practical efforts to be carried out by postpartum mothers independently, the tools and materials needed are also easy to find and do not require expensive costs. Warm compresses are one method of stimulating the breast muscles that can increase breast milk production. Warm compresses are very good at helping the process of releasing breast milk because vasodilation and the vessels that affect the breasts due to the warm sensation given during the compress can carry large amounts of prolactin in the blood for the breast milk production process.

Warm compresses can overcome the problem of irregular breast milk production such as breast milk engorgement which triggers pain, thus reducing the intensity of breastfeeding due to fear of the pain caused. The results of Shintami's (2019) study showed that there was an effect of warm compresses on breast pain in postpartum mothers at Waled Regional Hospital,

Cirebon Regency. The number of mild pain before being compressed was 46.7%, moderate pain 40.0% and severe pain 13.3% with an average pain score of 4.5. After the warm compress, the results obtained were 6.7% no pain, 80.0% mild pain, 6.7% moderate pain and 6.7% severe pain with an average pain score of 2.6.

Warm compresses given every 3 hours for 2 days provide analgesic effects and reduce breast pain. Hydrotherapy (warm water therapy) has been shown to reduce aches, pain and can relax muscles and increase blood flow. Warm compresses are one method that can stimulate breast muscles, widen blood vessels blood from the lactiferous ducts, making it easier to release breast milk. Vasodilation of blood vessels due to the warm sensation can carry large amounts of prolactin needed for breast milk production (Saleha, 2019).

Warm compresses are one of the effective ways to facilitate the release of breast milk (ASI). Warm temperatures help widen the blood vessels around the breasts and facilitate the flow of breast milk, and help relax the muscles in the area so that it can help relieve tension and reduce pain.

5. CONCLUSION AND SUGGESTIONS

Based on the results of the study, it was concluded that there was an increase in the average breast milk output before and after warm compresses and there was an effect of warm compresses on the smoothness of breast milk output with a p value of 0.003. It is expected that health workers will increase educational activities related to the management of irregular breast milk output, one of which is the warm compress method.

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