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### EFFECTIVENESS OF OXYTOCIN MASSAGE ON BREAST MILK PRODUCTION IN POST PARTUM MOTHERS IN THE WORKING AREA OF UPTD PUSKESMAS TELUK KUANTAN

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#### ABSTRACT

*Breast milk production in the first days after delivery becomes an obstacle in giving breast milk early. One of the non-pharmacological actions that can increase milk production is by using oxytocin massage to stimulate let down reflex. This study aims to determine the effectiveness of oxytocin massage on breast milk production in post partum mothers in the work area of the health center of the Teluk Kuantan Health Center. Pre-experimental research design with one group pretest posttest design. The sample was taken by random sampling technique as many as 24 respondents. Data were analyzed by univariate and bivariate using the dependent T test. The univariate results obtained that the average pretest breast milk volume was 32.50 ml (SD = 10.714 ml) and the average posttest breast milk volume was 103.29 ml (SD = 11.933 ml). The results of the T dependent test showed the effectiveness of oxytocin massage on milk production in post partum mothers ( $p = 0.000$ ). It was concluded that oxytocin massage is effective against milk production in post partum mothers. It is recommended to health workers, especially midwives, to provide oxytocin massage therapy to postpartum mothers, especially on the first day of postpartum and to provide education to mothers and families, especially husbands, about oxytocin massage, so that families can do oxytocin massage for postpartum mothers to increase milk production*

*Keywords: Oxytocin Massage, Breast Milk Production, Post Partum Mother*

#### INTRODUCTION

Exclusive breast milk (ASI) based on Government Regulation Number 33 of 2012 concerning the Provision of Exclusive Breast Milk is breast milk given to babies from birth for six months, without adding and/or replacing it with other food or drinks (except medicine, vitamins and minerals). Breast milk contains colostrum which is rich in antibodies because it contains protein for the body's resistance and is useful for killing germs in high quantities so that exclusive breastfeeding can reduce the risk of death in babies. Colostrum is yellowish in color which is produced from the first to the third day.

On the fourth to tenth day, breast milk contains less immunoglobulin, protein and lactose than colostrum, but the fat and calories are higher with the milk being whiter in color. Apart from containing food substances, breast milk also contains certain enzymes which function as absorbent substances that will not interfere with other enzymes in the intestine. Formula milk does not contain these enzymes so food absorption depends entirely on the enzymes found in the baby's intestines [1]

WHO recommends exclusive breastfeeding starting from one hour after the baby is born until he is 6 months old. Breastfeeding can be done until the child is around 2 years old. Data shows that

breastfeeding saves the lives of more than 800,000 children every year. Apart from that, the benefits of breastfeeding for mothers also start to reduce the mother's risk of developing breast cancer, ovarian cancer, type 2 diabetes and heart disease and can prevent 20,000 maternal deaths every year due to breast cancer [2]

Nationally, the coverage of babies receiving exclusive breastfeeding in 2018 was 68.74%. This figure has exceeded the 2018 Strategic Plan target of 47%. The highest percentage of exclusive breastfeeding coverage is in West Java Province (90.79%), while the lowest percentage is in Gorontalo Province (30.71%). A total of six provinces have not achieved the 2018 Strategic Plan target. In addition, there are nine provinces that have not collected data. Riau Province is in the 11th lowest position, namely (35.01%) where Riau Province has not reached the target [2].

The coverage of babies who are exclusively breastfed up to 6 months of age in Riau Province in 2017 and 2018 is 32% and 35%. Has not reached the target that has been set, namely 47%. The districts that have achieved the target are Siak (54%) and Pekanbaru (48%). Meanwhile, Kuantan Singingi Regency only reached (27%) (Riau Health Profile, 2018). Meanwhile, the achievement of exclusive breastfeeding at the Kuantan Bay Health Center Health UPTD in 2019 was 60.26%. This is quite concerning, considering that breast milk contains all the nutrients a baby needs in the first six months of life. Breast milk not only protects babies against infections, but also has various other benefits, such as reducing obesity and can help protect mothers against other diseases that may arise in the future [2].

Mother's milk can educate and improve the quality of the nation's young generation. Every baby who is breastfed will have natural immunity against disease because breast milk contains many antibodies, active immune substances that

will fight the entry of infection into the baby's body. Currently around 40% of under-five deaths occur in the first month of a baby's life, breastfeeding will reduce 22% of deaths of babies under 28 days of age, thus the deaths of babies and toddlers can be prevented through early exclusive breastfeeding from the time the baby is born at the start of their life [3].

Breastfeeding is not only beneficial for babies, but also for mothers, especially postpartum mothers. The baby's sucking during breastfeeding will stimulate the formation of oxytocin which helps uterine involution or uterine shrinkage and prevents the risk of postpartum bleeding [4]. In women who choose to breastfeed their babies, the baby's sucking will stimulate the release of oxytocin again and this helps the uterus return to its normal shape and produce milk. Oxytocin causes contraction and retraction of the uterine muscles, thereby pressing on the blood vessels, resulting in reduced blood supply to the uterus. This process helps to reduce the placental implantation site and reduces bleeding. The rapid decrease in uterine size is reflected by a change in the location of the uterus as it descends out of the abdomen and returns to the pelvic organs [5].

The reality in the field shows that the production and ejection of little breast milk in the first days after giving birth is an obstacle in providing breast milk early. Mothers who cannot breastfeed in the first days are caused by the mother's anxiety and fear about the lack of breast milk production and the mother's lack of knowledge about the breastfeeding process. This can cause a decrease in oxytocin so that breast milk cannot come out immediately after giving birth and finally the mother decides to give formula milk to her baby [6].

Breast milk is produced by the combined action of hormones and reflexes. During pregnancy, changes occur in hormones that will prepare the glandular tissue (alveoli) to produce breast milk. The

hormone prolactin is produced by the anterior pituitary gland at the base of the brain, stimulating the mammary glands to produce breast milk. Meanwhile, the stimulus for prolactin release is the emptying of breast milk from the breast milk store. The more milk that is removed from the breast, the more milk that is produced. Similar to the hormone prolactin, the hormone oxytocin is produced when the nerve endings around the breasts are stimulated by the baby's sucking. This event is called the breast milk ejection reflex. The breast glands will contract, thereby squeezing the milk out. Many women can feel their breasts being squeezed while breastfeeding, which indicates that breast milk is starting to flow from the alveoli to the latiferous ducts [6].

Not all postpartum mothers immediately express breast milk. Breast milk production is a very complex interaction between mechanical stimulation, nerves and various hormones that influence the release of oxytocin. Apart from being influenced by the baby's sucking, the release of the hormone oxytocin is also influenced by receptors located in the ductal system. If the ductus widens or becomes soft, oxytocin is reflexively released by the pituitary, which plays a role in squeezing milk from the alveoli.

Oxytocin massage is one solution to overcome irregularities in breast milk production. Oxytocin massage is massage along the spine (vertebrae) up to the fifth - sixth rib bones and is an attempt to stimulate the hormones prolactin and oxytocin after giving birth. This massage functions to increase the hormone oxytocin which can calm the mother, so that breast milk comes out automatically. Through massage or stimulation of the spine, neurotransmitters will stimulate the medulla oblongata directly sending a message to the hypothalamus in the posterior pituitary to release oxytocin, causing the breasts to release milk. By massaging the spinal area, it will also relax

tension and relieve stress and in this way the hormone oxytocin will be released and will help the release of breast milk, assisted by the baby sucking on the nipple immediately after the baby is born with a normal baby condition [7].

Albertina (2015) said that oxtocin massage is related to breast milk production. Neck and back massage makes a big contribution for postpartum mothers who are breastfeeding. There is a significant relationship between oxytocin massage and smooth breast milk production (calculated  $X^2$  value = 8.765 >  $X^2$  table 3.841, Pvalue = 0.003). The feeling of comfort that the mother feels will help in releasing breast milk so that the mother will not feel pain either from the baby sucking on the breast or uterine contractions because massaging the neck and back is able to release endorphins, which are calming compounds. It is in this calm state that postpartum mothers who are breastfeeding are able to maintain sufficient breast milk production for their babies [7].

A preliminary study was conducted on 10 postpartum mothers in the UPTD Health Work Area of Teluk Kuantan Health Center on June 17 2020 where results were obtained from 10 mothers, 3 postpartum mothers had done oxytocin massage while 7 postpartum mothers had not done oxytocin massage.

Based on the background above, researchers are interested in conducting research entitled "Effectiveness of Oxytocin Massage on Breast Milk Production in Post Partum Mothers in the UPTD Health Work Area of Teluk Kuantan Community Health Center".

## **RESEARCH METHODS**

The type of research used is the Pre-Experimental research method with a One Group Pretest Posttest design. The research time starts from submitting the research title to the final results seminar, namely June to December 2020. The research was conducted in the UTD Health

Work Area of the Teluk Kuantan Community Health Center. The population in the initial survey was 31 primiparous postpartum mothers. The sample size in this study was 24 people. The sampling technique in this research is Simple Random sampling. The data analysis used was univariate and bivariate using the T-test.

## RESULTS AND DISCUSSIONS

Table.1 Effectiveness of Oxytocin Massage on Breast Milk Production in Post Partum Mothers in the UPTD Health Work Area of Teluk Kuantan Community Health Center

| Breast milk production | N  | Mean      | Standard Deviation (SD) | Average Difference | P (value) |
|------------------------|----|-----------|-------------------------|--------------------|-----------|
| Pretest                | 24 | 32,50 ml  | 10,714 ml               |                    |           |
| Posttest               | 24 | 103,29 ml | 11,933 ml               | 70,792 ml          | 0,000     |

Based on table 1, it shows that the average breast milk volume of post partum mothers before being given an oxytocin massage was 32.50 ml (SD= 10.714 ml). After being given an oxytocin massage the average breast milk volume of post partum mothers was 103.29 ml (SD= 11.933 ml ) with a mean difference of 70.792 ml. The results of the dependent t test show that the p value = 0.000 <  $\alpha$  0.05, meaning that oxytocin massage is effective on breast milk production in post partum mothers in the UPTD Health Work Area of Teluk Kuantan Community Health Center.

Based on research on 24 respondents, it is known that the average breast milk volume of post-partum mothers before being given an oxytocin massage was 32.50 ml (SD= 10.714 ml). After being given an oxytocin massage every morning and evening for 3 days, the average breast milk volume of post-partum mothers was 103.29 ml (SD= 11.933 ml). Oxytocin massage is effective on breast milk production in post-partum mothers in the UPTD Health Work Area of Teluk Kuantan Health Center (p=0.000).

Measurement of breast milk volume was carried out on the first day post partum, then for 3 days starting from the second day to the fourth day post partum oxytocin massage was carried out twice a day every morning and evening with a duration of 2 to 3 minutes. The results of the research before the oxytocin massage was carried out, on the first day postpartum the volume of breast milk collected was a minimum of 18 ml and a maximum of 55 ml and after the oxytocin massage was carried out for 3 days, on the fifth day post partum the breast milk volume was a minimum of 87 ml and a maximum of 125 ml. This means that breast milk volume can be increased by doing oxytocin massage on post partum mothers.

According to Wijayanti (2014) the more breast milk is removed from the breast, the more breast milk is produced. Similar to the hormone prolactin, the hormone oxytocin is produced when the nerve endings around the breasts are stimulated by the baby's sucking. This event is called the breast milk ejection reflex. The breast glands will contract, thereby squeezing the milk out. Many women can feel their breasts squeezing while breastfeeding, indicating that milk is starting to flow from the alveoli to the latiferous ducts [8].

The hormone oxytocin will be released through stimulation of the nipple through sucking on the baby's mouth or through massage on the baby's mother's spine. By massaging the spine, the mother will feel calm, relaxed, increase the pain threshold and love her baby, so that the hormone oxytocin will come out and Breast milk comes out quickly. One way to stimulate the oxytocin reflex is with oxytocin massage [9].

Oxytocin massage is done to stimulate the oxytocin reflex or let down reflex. Apart from stimulating the let down reflex, the benefits of oxytocin massage are providing comfort to the mother, reducing swelling (engorgement),

reducing breast milk blockages, stimulating the release of the hormone oxytocin, maintaining breast milk production when the mother and baby are sick [8]. According to Kholostin (2019), oxytocin massage is carried out to stimulate the let down reflex when the baby sucks on the areola which will send a stimulus to the neurohypophysis to produce and release oxytocin intermittently. Oxytocin will enter the mother's bloodstream and stimulate the muscle cells around the alveoli so that they contract and make the milk that has collected there flow into the ducts [10].

The results of this research are also in line with research by Asih (2017) entitled the effect of oxytocin massage on breast milk production in postpartum mothers, showing that there is a significant influence between oxytocin massage on breast milk production in postpartum mothers at BPM Lia Maria Sukarame Bandar Lampung in 2017 with a p value of 0.000 ducts [11].

The researchers assume that it is important to do oxytocin massage to increase the mother's breast milk production. It has been proven from research results that mothers whose breast milk production is not smooth, after the massage the mother feels comfortable and her milk production increases and more breast milk will come out. Oxytocin massage is also easy to do with not too many movements so the family can remember to do it and doesn't take a long time.

## CONCLUSION

There is effectiveness of oxytocin massage on breast milk production in post partum mothers in the UPTD Health Work Area of Teluk Kuantan Health Center with a value of  $p = 0.000$ .

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