

ORIGINAL ARTICLE

The Correlation Between Parity and Age to Colostrum Extraction in Postpartum Mothers With Oxytocin Massage and Breast Acupressure Treatment at Mitra Sejati Hospital Medan

Srilina Br Pinem¹, Lasria Simamora¹, Herna Rinayanti Manurung², Rosmani Sinaga³, Zulkarnain Batubara⁴, Ruma Poddar⁵

¹ Education Study Program of Professional Program Midwife, Sekolah Tinggi Ilmu Kesehatan Mitra Husada Medan, Indonesia

² Midwifery Study Program of Undergraduate Program, Sekolah Tinggi Ilmu Kesehatan Mitra Husada Medan, Indonesia

³ Midwifery Study Program of Diploma Three Program, Sekolah Tinggi Ilmu Kesehatan Mitra Husada Medan, Indonesia

⁴ Nursing Study Program of Diploma Three Program, Sekolah Tinggi Ilmu Kesehatan Mitra Husada Medan, Indonesia

⁵ Research Fellow, Lincoln University College, No. 12-18, SS6/12, Off Jalan Perbandaran, 47301 Petaling Jaya, Selangor D E., Malaysia.

ABSTRACT

Introduction: The intervention of Oxytocin Massage and Breast Acupressure in postpartum mothers is an effort to facilitate the early extraction of breast milk, which is expected to support the early breastfeeding program. The purpose of this study was to relate parity and age to colostrum extraction in postpartum mothers with oxytocin massage and breast acupressure care in Mitra Sejati Hospital Medan. **Methods:** The plan of this research is Quasi-Experimental with posttest plan only. The sample in this research consisted of 30 postpartum mothers at Mitra Sejati Hospital Medan, which were divided into 2 groups, 15 postpartum mothers who were given oxytocin massage and 15 postpartum mothers in the control group who were given breast acupressure care. Bivariate data analysis used chi-square. **Results:** The results of the study showed that there was a correlation between parity and colostrum extraction with a value of $p < 0.05$ and there was no connection with age and colostrum extraction with a value of $p > 0.05$ in both the oxytocin massage and breast acupressure groups. **Conclusion:** So, it is concluded that there was a correlation between parity and colostrum extraction and there was no correlation between age and colostrum extraction in both the oxytocin massage and breast acupressure.

Keywords: Breast Acupressure, Oxytocin Massage, Colostrums

Corresponding Author:

Srilina Br Pinem, MPH

Email: srilina46@gmail.com

Tel: +6281263747809

INTRODUCTION

Dominant factors cause child mortality in Indonesia due to nutritional factors, namely malnutrition. About 51% of infant deaths resulted from malaria and apart from that diarrhea, pneumonia, measles, and nutrition constitute 70% of toddlers' diseases. These deaths can be reduced, both morbidity and mortality associated with the disease (1). Infants should be given colostrum as early as possible and breastfeeding until the child is 6 months old can prevent those diseases (2). According to WHO's recommendation breastfeeding should be compulsory for babies for the first 6 months (exclusive breastfeeding) and complementary feeding after the age of 6 months, continuing until the child is at least one year old (3).

The first breast milk is the Colostrum is high in nutrient substances that help the newborns to fight against susceptible infectious diseases. Breastfeeding is very important to the babies which can protect them from various diseases to certain period after birth. So, we have to think very sensitively and encourage the young mothers about this matter because it is vital for a baby's lifelong health which will have an impact on the progress of the family and finally the nation (4). Breast milk is a very good food for babies because it contains antibodies and vitamins that are helping to increase the child's immune system and can maintain children's growth and development (5).

Breastmilk can upgrade and improve the quality of the nation's future generations because breast milk has natural immunity with lots of antibodies and active immune substances that will prevent the Childs from causing infection. Currently, around 40% of under-five deaths occur in the first month of life but it is hoped that breastfeeding will reduce 22% of infant deaths within

28 days of age, thus it can be said that breastfeeding prevents infant and under-five mortality rate (6).

Data from the World Health Organization (WHO, 2016) showed that the rate of exclusive breastfeeding in the new world was around 38% (7). In Indonesia, 96% of women are breastfeeding their baby but only 42% of babies below 6 months have properly breastfed (8). Based on data in North Sumatra, the achievement of exclusive breastfeeding is less than the national target. The acceleration of colostrum extraction has an average of 2 days after delivery (9).

The problem discussed in this study is the insufficiency of breastfeeding that means the initial breastfeeding or what is called colostrum. The factors that caused difficulty in the expression of breast milk as a result the parents and families give formula milk to their baby which will have a definite impact on the failure of target of exclusive breastfeeding (9).

Oxytocin is the key molecule produced from hypothalamus that mainly controls the immediate secretion of milk of the all postpartum mothers (10). Apart from being influenced by the baby's suction, the oxytocin hormone is released and also influences the receptors located in the duct system. If the duct is widened or becomes soft, then oxytocin is released by the pituitary which plays a role in squeezing milk from the alveoli (11).

Therefore, it is necessary to express breast milk for some postpartum mothers. In the effort to release breast milk, two things are affected namely production and extraction. The production of breast milk is influenced by the hormone prolactin, while production is regulated by the hormone oxytocin. The hormone oxytocin is secreted through stimulation of the nipple by the suction of the baby or through a massage on the spine of the baby's mother. Massage applied on the spine of the mother will feel calm, relaxed, increase the pain threshold, and love her baby, so that Breast milk comes out quickly (11).

Through massage or stimulation of the spine, neurotransmitters will stimulate the medulla oblongata to send messages directly to the hypothalamus in the posterior hypophyseal to release oxytocin, causing the breasts to release milk (12). Releasing of oxytocin hormone together with baby's suction on nipple will allow the release of breast milk also influenced by the massage of spinal area of the mother (13).

The results of research conducted by Sulaeman et al (2016) using a quasi-experimental design with a one group pre and post-test design with P-value = 0.000, or $P < 0.05$, which means that release of oxytocin is effected by massage in primiparous postpartum mothers for breast milk output (14). So from the above research, we found

that there is a significant result on oxytocin massage and breast acupressure care in postpartum mothers for the improvement of the speed of colostrum extraction.

MATERIALS AND METHODS

This research is a quantitative study using a quasi-experimental post-test design method. The data in this study are primary data taken directly from respondents by observing the acceleration of colostrum extraction. The samples in this study were all postpartum mothers at Mitra Sejai Medan General Hospital who did not produce colostrum. The sample in this study amounted to 30 respondents who were divided into 2 groups. About 15 respondents were selected in the oxytocin massage group and 15 others in the breast acupressure group. The correlation between age and parity on colostrum extraction in both groups was analyzed, both in the oxytocin massage group and the breast acupressure treatment group using the CQI-square test.

The research was carried out in Medan's true partner public hospital, located at Jl. Jenderal Abdul Haris Nasution No.7, Pangkalan Masyhur, Medan Johor, Medan City, North Sumatra 20219 with the average number of deliveries of 1420 per year. This study was approved by Research Ethics Committee, STIKes Mitra Husada Medan, Indonesia No. 560/STIKes-MHM/I/VI/2020 dated 01 June 2020.

RESULTS

After analysis of the data collected from the management, the authors found the correlation between parity and age towards colostrum extraction in postpartum mothers with oxytocin massage and breast acupressure treatment at Mitra Sejai General Hospital Medan. The research was carried out with the 30 respondents, among which 15 people in the oxytocin massage group, and the other 15 in the breast acupressure group.

According to the table I, the characteristic of respondents based on age and parity in the oxytocin massage it can be seen that the age at risk for pregnant women and giving birth, namely < 20 years, > 35 years, and the non-risk category of 20- 35 years. The results of the study found that 46.7% of mothers are at risk in pregnancy by age and childbirth. But based on parity we found that 6.7% of mothers are at risk where 93.3% were normal.

Table II shows the characteristics of respondents based on age and parity in the breast acupressure treatment, it can be seen that the age of the mother is classified based on the age at risk for pregnancy and childbirth women, namely < 20 years, > 35 years, and the non-risk category of 20- 35 years. From the results of the study it was found 46.7% of the mother were at risk. Based on parity, it was found that 6.6% of women with parity were classified as risky and 93.4% were normal.

Table I: Characteristic of Respondents Based on Age and Parity in the Oxytocin Massage Group

Variable	F	%
Maternal age in the postpartum period		
1. < 20 Years old	3	20
2. 20– 35 Years old	8	53.3
3. >35 Years old	4	26.7
Total	15	100
Mother's Parity		
1. Primi Para	8	53.3
2. Scundi Para	4	26.7
3. Multipara	2	13.3
4. Grande Multipara	1	6.7
Total	15	100

Table II: Characteristics of Respondents based on Age and Parity in the Breast acupressure Treatment Group

Variable	F	%
Maternal age in the post partum period		
1. < 20 Years old	3	20
2. 20– 35 Years old	8	53.3
3. >35 Years old	4	26.7
Total	15	100
Mother's Parity		
1. Primi Para	6	40
2. Scundi Para	4	26.7
3. Multipara	4	26.7
4. Grande Multipara	1	6.6
Total	15	100

The results of statistical tests using chi-square in the breast acupressure group based on age, the P-value was obtained = 0.272 (>0.05), while based on parity the value of P=0.012 (<0.05) (Table III). So, there is no relationship between age between age and parity on the duration expenditure of colostrum in case of breast acupressure.

Table III: The Correlation of Age and Parity on the Duration Expenditure of Colostrum in the Oxytocin Massage and Breast Acupressure Groups

Variable	Treatment	N	Value
Parity	Oxytocin Massage	15	0.272
Age		15	0.020
Parity	Breast Acupressure Treatment	15	0.272
Age		15	0.012

DISCUSSION

According to the age, the results showed that the frequency age distributions of 15 respondents were mostly 20-35 years with a total percentage of 53.3% in both the oxytocin massage group and the breast acupressure group. Frequency distribution based on

majority parity in the oxytocin massage group and also the breast acupressure group with primiparous parity with the percentage in the oxytocin massage group of 53.3% and 40% in the breast acupressure group. Age 20 - 35 years is the most appropriate age of healthy reproduction in women and in this age the woman is ready physically, emotionally, psychologically, socially, and economically to face pregnancy, childbirth, and postpartum (15). Mothers who are younger or less than 35 years of age produce more milk than older mothers.

From the analysis and calculation of the data using chi-square on 30 respondents, the value of P = 0.272 (> 0.05) was obtained and based on parity, the value of P = 0.020 (<0.05) was obtained. It means that there is no correlation between age and the acceleration of colostrum extraction in the Oxytocin Massage group. Based on parity, there is a correlation between parity and the acceleration of colostrum extraction in the Oxytocin Massage group.

The results of statistical tests using chi-square in the breast acupressure group based on age, the P-value was obtained = 0.272 (> 0.05), while based on parity the value of P =0.012 (<0.05). So, it can be concluded that there is no relationship between age. In the acceleration of colostrum extraction in the breast acupressure group based on parity, there is a relationship between parity and the acceleration of colostrum extraction in the breast acupressure group.

Based on the results of the above research, it can be concluded that there is no correlation between age and colostrum extraction for both the oxytocin massage group and the breast acupressure group, while there is a correlation between parity and colostrums extraction in the oxytocin massage group and breast acupressure group.

The theory which states that the age of 20-35 years is productive is not supported by this research result (16). The age of 20-35 years is a sufficiently mature and responsible age so that mothers who give birth at that age will actively strive to be able to increase milk production so that the newborn can breastfeed exclusively (17).

There is a correlation between parity and colostrum extraction, it shows that those respondent with more than 1 child, having experience have more information about breast milk production efforts. So more the experience of the mother the better is the breastfeeding method as milk production is better. For mothers who have given birth for more than once, milk production on the fourth day after giving birth was higher than for mothers who gave birth for the first time (18).

Based on another research it is proved that multi-gravida parity has a greater risk of experiencing health problems for both mother and baby (19). Mothers with high parity

are more likely to suffer complications during pregnancy, childbirth, or during the puerperium or postpartum. If the health condition of postpartum mothers is not excellent then that will impact the outflow of colostrum and breast milk (20).

It is expected that after 4 hours of childbirth there will be enough time for the mothers to rest. Feelings of fatigue, stress, and discomfort are not felt so that it supports the intervention that will be carried out; one of the interventions is hypnobreastfeeding or oxytocin massage which affects colostrum extraction. Studies proved that the main factor that influenced colostrum release was multi-gravid parity by hypnobreastfeeding and oxytocin massage (21, 22).

Providing stimulation to areas that can directly stimulate the release of breastmilk not only stimulates milk production but also the timing of breastfeeding. Giving a stimulus to the breast area including the nipple and areola provides the same stimulation as the baby's suction so that the hormones prolactin and oxytocin can be produced properly. Also, massage that is done on the breasts can help to expedite breastfeeding (23).

Another Research showed that the physical and psychological factors of the mother greatly influenced colostrum extraction. Colostrum discharge will take place smoothly when the mother feels comfortable and relaxed. Mothers who are stressed after childbirth will experience a letdown reflex blockade which in turn will cause the release of adrenaline (epinephrine) so that there will be alveolar vasoconstriction and the resulting oxytocin is less (24).

Oxytocin can be produced in the skin by activating the sensory nerves of the skin in response to touch, gentle pressure, warm temperatures, and can be stimulated by massage (25). Another research states that there is a correlation between oxytocin massage and breastfeeding in postpartum mothers, where mothers who are given oxytocin massage on an average 60% of mothers who express breastmilk faster and mothers who are not given any intervention, which is 80% of mothers who express breastmilk more slowly (26).

According to Kosovaet al. in 2016, providing regular back massage can increase the amount of breast milk production, so that additional food is not needed to support infant growth (27). The effects of papaya leaf juice in addition to food during breastfeeding increases prolactin hormone levels and infant's weight (28). Besides, the nerves in the breast are supplied by dorsal or dorsal nerves that spread along the spine. So that when the oxytocin massage was carried out, the oxytocin will flow through the blood to the breast which will stimulate the muscles around the alveoli and squeeze the milk out of the alveolus into the lactiferous sinuses. The milk contained in the lactiferous sinuses can be easily

extracted by the mother or the baby (29).

CONCLUSION

It is expected that every caregiver in the hospital will teach breast acupressure and oxytocin massage to postpartum mothers, especially mothers who experience problems in the smoothness of breastfeeding. It is recommended that further research is necessary on a broader scale. More variables must be added to other characteristics that affect breast milk production.

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