

EFFECTIVENESS OF STIMULATION OF ENDORPHIN, OXYTOCIN, AND SUGGESTIVE MASSAGE METHOD ON THE BREAST MILK PRODUCTION IN POST-PARTUM MOTHERS AT GENERAL HOSPITAL, SOUTH TANGERANG, BANTEN

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ABSTRACT

Background: The rate of exclusive breastfeeding in Indonesia reduced to 50% in 2019, far from the national target of 80% in 2014. One of the contributing factors is the inadequate breastmilk production of mothers, especially in the first and second days after birth. This study aimed to examine the effectiveness of stimulation of endorphin, oxytocin, and suggestive (SPEOS) massage method on breast milk production in post-partum mothers at General Hospital, South Tangerang, Banten.

Subjects and Method: A quasi-experiment study was conducted at General Hospital, South Tangerang, Banten, from July to August 2020. A sample of 80 post-partum mothers was collected and divided into two groups: (1) Experimental group that received SPEOS massage method conducted for 10 minutes, and (2) Control group that received no intervention. The dependent variable was the production of breastmilk. The independent variable was massage with the SPEOS method. The data were collected by measuring the volume (ml) of breastmilk. The data were analyzed by Mann-Whitney test.

Results: After the intervention, mean of breastmilk production in post-partum mothers in the experimental group (Mean= 46.55) was higher than the control group (Mean= 34.45), and it was statistically significant ($p= 0.018$).

Conclusion: Breastmilk production in post-partum mothers increases with the stimulation of endorphin, oxytocin, and suggestion massage method.

Keywords: SPEOS, massage, breastmilk production, post-partum mothers

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BACKGROUND

Non-smooth production of breast milk on the first day after delivery can be caused by a lack of oxytocin hormone stimulation, which plays a very important role in the production of breast milk. Adequate breastmilk production is important for post-partum mothers. Two ways contributed the breast milk production are secreting and releasing. Breast milk secretion is influenced by the prolactin hormone, while releasing breast milk is influenced by the oxytocin hormone (Wiji, 2013).

A study conducted by Widayanti (20-

14) provided the evidence of effective and alternative way to over-come the inadequate breast milk production by using SPEOS method. The SPEOS method included stimulating the release of oxytocin hormone through oxytocin massage, providing comfort and fostering confidence in mothers that breast milk will come out and mothers can provide breastfeeding exclusively through endorphin and suggestive massage. The results showed that the SPEOS method is very effective and can be an alternative way to solve the problem of milk production in the first days of a

baby's life. (Midyawati, et al., 2018). The study conducted by Melyansari et al., 2018 showed that the average production of post-partum breast milk using the SPEOS method was 4.77 ml and without SPEOS method was 2.25 ml.

A preliminary study carried out at South Tangerang General Hospital in July 2019, 35 showed that 35 out of 100 post-partum mothers had complained about not coming out breast milk smoothly. Based on the above background, the study question was how effectiveness of stimulation of endorphin, oxytocin, and suggestive massage method on the breast milk production in post-partum mothers.

The aim of the study was to determine the effect of the endorphin, oxytocin, and suggestive massage stimulation method on increasing breast milk production in treated and untreated post-partum mothers.

SUBJECTS AND METHOD

1. Study Design

A quasi-experiment study was conducted at General Hospital, South Tangerang, Banten, from July to August 2020.

2. Population and Sample

A sample of 80 post-partum mothers was collected and divided into two groups: (1) Experimental group that received SPEOS massage method conducted for 10 minutes, and (2) Control group that received no intervention. The sampling technique was taken by consecutive sampling with the criteria for inclusion of post-partum mothers on day 1 (1-6 hours post-partum), willingness to be informed consents, and the healthy condition of the mother and baby.

3. Study Variables

The dependent variable was the production of breastmilk. The independent variable was massage with the SPEOS method.

4. Operational Definition of Variables

Production of breastmilk is the volume of milk production before and after the SPEOS intervention in unit of ml.

SPEOS method is a combination of stimulating endorphin, oxytocin suggestion massage method.

5. Study Instruments

This study used the observation checklist sheet. The volume of milk before and after given the SPEOS method intervention for 10 minutes and for the control group was measured 2 times by using pumping breast milk. Second measurement was conducted 15 minutes after the first measurement.

6. Data Analysis

Univariate analysis was used to describe age of mothers, mode of labor, and parity in frequency and percentage. Bivariate analysis was conducted with Mann Whitney test.

RESULTS

Table 1 showed the minority of study subjects were high risk pregnancy age (40%). Majority of post-partum mothers experienced normal labor (83.8%). Mothers with first time of parity were few in this study (40%).

Table 2 showed that the increase in breast milk production occurred in the post-intervention group that was given SPEOS compared to the post-control group.

In Table 3, the results of the Mann Whitney statistical test showed that breast milk production in post-partum mothers who received SPEOS was higher than control, it was statistically significant ($p=0.018$).

DISCUSSION

Based on the results of the study, it was showed that the increase in breast milk production occurred higher in post-intervention group which given SPEOS (Mean= 19.55; SD= 17.50), while the increase in

milk production in the post control group which was not given SPEOS (Mean= 14.18; SD= 17.37).

Table 1. Sample characteristics (categorical data)

Characteristics	Category	Frequency	Percentage
Age (month)	<20 and > 35	32	40%
	20 and 35	48	60%
Type of Labor	Abnormal	13	16.3%
	Normal	67	83.8%
Parity	1 child	32	40%
	> 1 child	48	60%

Table 2. Breast milk production in post-partum mothers with and without stimulation methods of endorphin, oxytocin, and suggestive massage (SPEOS)

Breastmilk production	N	Mean	SD	Min.	Max.
Pre Intervention	40	9.60	15.36	0	50
Post Intervention	40	19.55	17.50	4	80
Pre Control	40	13.35	16.77	0	50
Post Control	40	14.18	17.37	0	50

Table 3. Effect of the endorphin, oxytocin, and suggestive massage stimulation method (SPEOS) on the increase in breast milk production in post-partum mothers

Breastmilk production	N	Mean Rank	p
Intervention Group	40	46.55	0.018
Control Group	40	34.45	

From the results of the Mann Whitney statistical test showed the increased in milk production of post-partum mothers with the SPEOS intervention with a mean rank of 46.55 compared to the control group with a mean rank of 34.45, and it was statistically significant ($p= 0.018$). The results of this study were in line with the theory of performing combination of endorphin, oxytocin, and suggestive massage along the spine (the fifth-sixth rib bone) and bringing the mother to be able to relax, will stimulate the brain to release endorphin, prolactin, and oxytocin hormone. It is important to release breast milk smoothly, providing comfort to the mothers, and remove blockages so that the obstacles in the first week of breastfeeding can be resolved properly.

If in the first week of breast-feeding production runs smoothly, the subsequent

milk production will be smoother and the mother can continue the breastfeeding process properly so that an exclusive breastfeeding program can be achieved (Widhiyani, et al., 2019). SPEOS method is done by combining endorphin massage, oxytocin massage, and positive affirmations.

The concept of the "SPEOS" method is that a breastfeeding mother is not only viewed/ assisted from the physical aspect, but the psychological adaptation process is also approached, especially the oxytocin hormone is very "sensitive" to the mother's psychological condition. (Nugraheni and Heryati, 2017). Many factors contribute to the success of breastfeeding, according to Anggraresti and Syauqy (2016), were knowledge, attitudes, family and health professional support, and mother's work status.

Another factor is reduced stimulation of the hormone oxytocin, this will cause less

breast milk. The oxytocin hormone can be affected by psychological conditions. Feelings of confusion, anxiety, fear, fatigue, and feeling of pain are factors that inhibit the secretion of oxytocin hormone (Maryunani, 2009). Apart from oxytocin, an important hormone that also helps in increasing breast milk production is endorphin.

Endorphin is released from the stimulation of the oxytocin hormone, so that when oxytocin is released, it will automatically release endorphin (Widayanti, 2014). Endorphin works like a sedative that can normalize heart rate and blood pressure, thereby increasing a relaxed state in the mother's body by triggering a feeling of comfort on the surface of the skin (Mongan, 2009).

These two things cannot be separated from the psychological condition and mother's belief which are the most important things in helping the process of increasing milk production. One way that can improve the psychological state for the better and always think positively is by giving suggestions. Suggestions are made to prepare breastmilk can flow smoothly and meet the needs of babies from the first day of birth. (Widayanti, 2014).

The results of this study were also in accordance with the results of research conducted by Eka and Heryati in 2016 which used the SPEOS method. They performed the SPEOS method for post-partum mothers to see milk production and increase in baby weight. The results of this study showed that the provision of the SPEOS method increased the average milk production by 135.87 ml ($p < 0.001$) and an average increase in infant body weight by 483.30 gram ($p < 0.001$) (Eka and Heryat, 2017).

The results of other studies also showed the same results. A study conducted by Hiyana and Susiyanti showed that there is an influence of the endorphin, oxytocin massage stimulation method, and suggestive to milk production in post-partum mothers proven by the p value of breast milk production of < 0.001 , relaxation of 100%, and RR of breast milk production in post-partum mothers with the SPEOS method treatment of 7.75 and in the control group with the oxytocin massage treatment $RR = 5.05$. This research was conducted at RSUD Tjitrowardojo Purworejo from May to June 2016. (Hiyana and Susi-yanti, 2016).

Based on the study data, it can be concluded that there is a difference in the average milk production in the post-partum group who did SPEOS and did not do SPEOS. The average value of breast milk production was higher in the SPEOS intervention group than in control group. It is hoped that the SPEOS method can be a non-pharmacological alternative as a procedure to increase milk production and overcome problems in breastfeeding, especially in the first days of birth.

REFERENCES

- Nugraheni, DE, Heryati K (2017). Metode SPEOS (stimulasi pijat endorphin, oksitosin, dan sugestif) dapat meningkatkan produksi asi dan peningkatan berat badan bayi. *Jurnal Kesehatan*. 8(1):1. doi: 10.26630/jk.v8i1.384.
- Eka D, Heryat, K (2017). The SPEOS method (oxytocin endorphin massage stimulation, and suggestion) can increase ai production and increase baby weight. *Journal of Health*, Volume VIII, Number 1, pp. 1-7.
- Midyawati, Mulyaningsih M, Dyah, R (2018). Application of the endorphin, oxytocin and suggestion massage

- method (speos) against breastfeeding expenditures for post-partum mothers in independent practice midwives (BPM) Finulia Surakarta. STIKES 'Aisyiyah, Surakarta.
- Melyansari R, Sartika Y, Vitriani O (2018). Effect of the endorphin massage stimulation method, oxytocin, and suggestion on the production of post-partum mother's breast milk at the Mandiri Practice Midwife Siti Juleha. *Journal of Maternal and Child Health*. volume 6 ed.
- Sari D, Rahayu HE, Rohmayanti (2017). The effect of SPEOS method on breast milk production in post section cesarea women at the Regional General Hospital of Tidar, Magelang City in 2017. *University Research Colloquium*, p. 184.
- Wiji R (2013). *Breastfeeding and guidelines for breastfeeding mothers*. Yogyakarta: Nuha Medika.
- Yunita Widhiani, Arini Murni, Rachmawati Suseno (2019). Differences in the production of post-partum mothers in the SPEOS method and the marmet method. vol. 8th ed. Mataram: midwifery e-journal.