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EFFECT OF HUSBAND'S SUPPORT IN THE IMPLEMENTATION OF OXYTOCIN MASSAGE BY MIDWIFE ON THE PRODUCTION AND TIME OF COLOSTRUM SECRETION AMONG POST C-SECTION DELIVERY WOMEN

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ABSTRACT

Objective: To determine the effect of husband's support in the implementation of oxytocin massage by midwife on the production and time of colostrum secretion among post C-Section delivery women.

Methods: A quasi-experimental study with a post-test only group design at hospital in DIY in April-June 2020. The samples consisted of 32 respondents, 16 post C-Section delivery women with oxytocin massage who received husband's support and 16 respondents with oxytocin massage without husband's support. The preparation of husband's support was conducted through training by midwife to the husbands using a booklet for 80 minutes. Data analysis in this study used univariate, Independent t-test, and MANOVA with a significance level of 95%.

Results: Evaluation showed that 68.75% of post C-Section delivery women received good husband's support. The mean colostrum production in the oxytocin massage group by midwife with husband's support was 3.61 cc and the mean time of colostrum secretion was 4.13 hours better than oxytocin massage without husband's support.

Conclusion: Husband's support in the implementation of oxytocin massage by midwife had an effect on the production and time of colostrum secretion among post C-Section delivery women with p-value <0.0001.

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1. INTRODUCTION

The standard of caesarean delivery in a country is around 5-15% per 1000 births, in a government hospital the standard of caesarean delivery is ≤25%, while in private hospitals it can be more than 30%. The number of C-Section delivery in several developing countries increases rapidly each year. In general the number of C-Section deliveries in Indonesia is around 30-80% of the total deliveries[1]. Post C-Section delivery women often experience difficulties in the secretion of breast milk or colostrum within 24-48 hours postpartum. The delay in the time of colostrum secretion among post C-Section delivery women is due to postpartum pain which can inhibit the production of the oxytocin and prolactin hormones[2] .

Colostrum contains antibodies to protect babies from various infectious diseases, especially diarrhea [3]. Based on Indonesia's health profile, the infant mortality rate in Indonesia was 22.23 per 1,000 live births, the neonatal mortality rate (0-28 days) is the focus of attention since it contributes to 59% of infant deaths[4]. The main causes of infant death in Indonesia are diarrhea and infection with one of the risk factors of not performing early breastfeeding [5].

Early breastfeeding is an effort to support the first 1000 days of life. Meanwhile, the target Sustainable Development Goals (SDGs) program in 2030 is to achieve the IMR is 12 per 1,000 live births [6]. IMD real coverage in

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Indonesia was 58.2% [7] while the target of IMD coverage is 90% [8]. The percentage of success of IMD was still low, so that it influenced the colostrum secretion which resulted in delayed breastfeeding on the first day of birth. The results of Basic Health Research showed the mean of exclusive breastfeeding aged 0-5 months was 37.3%[7], this coverage still did not reach the national target expected by the government at 80% [6].

Government efforts to conduct IMD have been listed in the Normal Childbirth Care Reference Book (APN) [9], Regulation of the Government of the Republic of Indonesia No. 33 of 2012 concerning exclusive breastfeeding and Law No. 36 of 2009 concerning health. Based on the description above it can be concluded that various government efforts have been made so that babies may get breast milk early, even though the target coverage according to government target has not been achieved.

There was a study regarding efforts to speed up the time of colostrum secretion by doing oxytocin massage combined with marmet technique. The results showed that there was no effect of a combination of marmet technique and oxytocin massage on the time of colostrum secretion among post C-Section delivery women [10]. An effect of back massage therapy on colostrum production was evidenced by a study which showed that there was a significant increase in colostrum production in the experimental group, namely 36.7% had breast milk secretion in 24 hours after back massage [11]. Based on the description regarding study on the production and time of colostrum secretion among post C-Section delivery women, it was revealed that a mean time of colostrum secretion was 24-48 hours so that efforts are still needed to overcome the problem of colostrum secretion among post C-Section delivery women.

Based on the results of Basic Health research, the mean EIB coverage in DIY was 67% with exclusive breastfeeding coverage among babies aged 0-5 months of 22.3% [7]. The results of a preliminary study showed that the number of C-Section deliveries at Yogyakarta Regional General Hospital was 33% and the number of SC deliveries at Bantul District Regional General Hospital was 28.5%. Based on interviews conducted to midwives in the maternity ward, it was revealed that there were still problems with colostrum secretion among post C-Section delivery women.

Social support for postpartum mothers can contribute to improving the welfare of mothers and babies. Mothers who perceived stronger social support from their partners would have lower emotional pressure and felt that things were easier [12]. Therefore, the researcher is interested to observe the effect of husband's support in the implementation of oxytocin massage by midwife on the production and time of colostrum secretion among post C-Section delivery women.

2. METHODS

This was a quasi-experimental study with a post-test only group design. This study was conducted in April-June 2020 and the study sites were at Bantul District Regional General Hospital. The sampling technique in this study was random sampling with the inclusion criteria of married couple with a post C-Section delivery wife with a term pregnancy (37-40 weeks), post C-Section delivery women more than 24 hours without the colostrum secretion, and post C-Section delivery women with good general condition and there were no labor complications. The randomized group determination assigned 16 respondents to the oxytocin massage group by midwife who received husband's support and 16 respondents to the oxytocin massage group without husband's support. Colostrum production was measured by using a syringe/measuring cup with cc units and the time of colostrum secretion was observed and measured after an intervention using a watch in hours. The statistical analysis tests used independent t-test and Manova with a significance level of 95%.

3. RESULTS AND ANALYSIS

Table 1. Characteristics of Respondents Based on Maternal Age, Parity, and Tendency of Postpartum blues

Characteristics of respondents		Group		*P-value*
		X1	X2	
Mother's age	Mean ± SD	26.3 ± 3.17	29.1 ± 3.64	0.69 *
Parity		2.4 ± 1.03	2.1 ± 0.88	0.30 *
Postpartum blues tendency		7.12 ± 1.70	8.75 ± 1.84	0.78 *

X1 = oxytocin massage group by midwife who received husband's support. X2 = oxytocin massage group without husband's support.
**) Independent t-test is Significant at the .05 level*

Table 2. Differences in Colostrum Production

Group	Mean ± SD	95% CI of the Difference	*p-value*

		Mean difference	Lower	Upper	
X1	3.61 ± 0.76	1.32	.83	1.81	<0.0001 *
X2	2.28 ± 0.57				

**) Independent t-test is significant <0.05*

Table 3. Time Differences in Colostrum Expenditure

Group	Mean ± SD	Mean difference	95% CI of the Difference		p-value
			Lower	Upper	
X1	4.13 ± 0.81	3.794	3.05	4.53	<0.0001 *
X2	7.93 ± 1.19				

**) Independent t-test is significant <0.05*

Table 4. Difference in Average Production and Time Spent Colostrum in Post SC Mothers

Intervention	Average observations		*P-value*	
	Colostrum Production	Time of colostrum release		
X2	3.61	4.13	<0.0001 *	<0.0001 *
X1	2.29	7.93		

**) GLM manova is significant at <0.05*

DISCUSSION

Characteristics of respondents including maternal age, parity and tendency of postpartum blues could be interpreted to be homogeneous between the two groups. In the group of oxytocin massage by midwife who received husband's support, it was shown that the mean value of age was 26.3, the mean value of parity was 2.4 and the mean value of tendency of postpartum blues was 7.12. In the oxytocin massage group by midwife without husband's support, it was shown that the mean value was 29.1, the mean value of parity was 2.1 and the mean value of postpartum blues tendency was 8.75.

Women with young age or under 35 produced more breast milk than older mothers [13]. Parity was related to the amount of breast milk production with a p-value of 0.001 <0.05[14]. The tendency of postpartum blues is a symptom of a mild effects disorder syndrome that often appears within 1 week after delivery.

The mean colostrum production in the oxytocin massage group by midwife with husband's support after intervention was 3.61 cc and in the group of oxytocin massage by midwife without husband's support it was 2.28 cc. Based on the results of the analysis it was interpreted that the significance value in colostrum production was <0.001 so it can be concluded that there was a difference in colostrum production between the oxytocin massage group by midwife with husband's support compared to oxytocin massage group by midwife without husband's support.

C-Section delivery can inhibit the formation of colostrum production. General anesthesia during C-Section surgery paralyzes the central nervous system as a whole. Therefore, women who undergo anesthesia procedures experienced difficulty in breastfeeding since the nervous system did not stimulate the posterior pituitary which would delay the production of the hormone prolactin[15].

Oxytocin massage is a massage on the spine to the 5th to 6th rib bones towards the scapula. Efforts to increase the hormone oxytocin can be done through the involvement of the husband in providing support to post C-Section delivery women. The role of the husband is needed by post C-Section delivery women as an effort to provide comfort and calm so as to increase the secretion of the hormone oxytocin. Husband's support mechanism had a positive effect on physical, mental, and social health of each individual in an effort to improve the health and well-being of individuals[16].

Husband's support in the form of emotional support, physical support, instrumental support and appreciation support given to mothers before and after the implementation of oxytocin massage would help mothers to feel calm and relaxed during the post C-Section physiological adaptation process. A stimulus in the parenteral cortex and temporal cortex in the form of husband's support in the form of touch, sound and color to the PFC will affect individual perceptions that will support the emotional processing. Through the social support, the emotional of the individual will be well controlled so that it will produce a good or happy inhibition or expression of the individual. Individual perceptions about acceptance must be strengthened through husband's support in the form of emotional support, instrumental support, physical support and appreciation support so that the woman's emotional condition will improve.[17]

Oxytocin massage stimulates the hypothalamus and stimulates the anterior pituitary to secrete the prolactin hormone and the posterior pituitary to secrete oxytocin hormone into the blood. The prolactin hormone stimulates milk

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production, but other hormones are needed in the process of removing milk to the nipple surface. The stimulation of the areola mechanoreceptors activates nerve pathways that ascend to the hypothalamic paraventricular nucleus and supraoptic nucleus, through the lateral cervical nerve of the brain stem. This nerve pathway excites magnocellular neurons to perform pulsatile oxytocin excretion into the blood at intervals of 10-20 minutes [18].

Anatomically, massage on the spine will deliver stimulus to the hypothalamus through the lateral cervical nerve of the brain stem. Through a combination of social support in the implementation of oxytocin massage by midwife, the women will feel more relaxed and happy which will stimulate the hypothalamus to produce endorphin, prolactin and oxytocin. Endorphin is a happy hormone, thus oxytocin will be secreted which leads to alveoli contraction to secrete colostrum. Through the work of these three hormones, the production of colostrum among post C-Section delivery women will increase and the baby's needs can be met.

The time of colostrum secretion in the oxytocin massage group by midwife who received husband's support in the implementation was 4.13 and in the oxytocin massage group by midwife was 7.93. Secretion of breast milk was optimal within 72 hours after the mother gives birth. At delivery, after the placenta is born, progesterone levels will fall and the levels of hormone prolactin remain high so that the production of milk increases. This is different from mothers who undergo C-Section surgery who does not produce breast milk within 24-48 hours postpartum. Physiological delay in the colostrum secretion among post C-Section delivery women was due to surgical pain. When the anesthetic effect disappeared then the mother felt pain and it inhibited early mobilization. Physiological adaptation of post C-Section delivery women with surgical wound pain and early mobilization that had not been active would inhibit the time of colostrum secretion.

The p-value on the time of colostrum secretion was <0.0001 so it can be concluded that there was a difference in the time of colostrum secretion among post C-Section delivery women with oxytocin massage who received husband's support compared to the group of oxytocin massage by midwife without husband’s support.

Some of the factors that influenced the time of colostrum secretion among postpartum women were lack of knowledge about the importance of colostrum, maternal occupation, maternal education, parity and lactation onset [19]. Factors that influenced the delay in onset of lactation were first birth, large amounts of IV fluids and painkillers during labor, bleeding> 500 ml per day, poor maternal health and hormonal problems [20].

Among post C-Section delivery women there was a delay in colostrum secretion due to the women did not perform EIB. Through EIB the baby's sucking will stimulate the production of oxytocin by the posterior pituitary, the release of oxytocin triggers a letdown reflect (breast milk secretion) in the breast. In addition, postpartum woman after surgery with general anesthesia is relatively unconscious to take care of her baby in the first hour after birth. The condition of the surgical wound causes the breastfeeding process to be slightly inhibited. Besides the baby is sleepy and unresponsive to breastfeeding, especially if the mother gets a painkiller before surgery. Efforts that can be made by midwife to overcome the delay in colostrum secretion are through oxytocin massage and family involvement. Family involvement in providing support to post C-Section delivery women can be done by meeting physical and psychological needs.

Husband's support can foster feelings of pleasure, safety and comfort so that the mother will feel relaxed and able to make successful physiological adaptation within the postpartum process. The success of the process of physiological adaptation among postpartum women had an effect on the process of breast milk secretion which is a major requirement for infants. Husband's support had a significant relationship with the implementation of early breastfeeding. A woman who was supported by her husband would practice early breastfeeding better [21].

The mechanism of social support can have a positive effect on the physical, mental and social health of each individual in an effort to improve the health and well-being of individuals. A stimulus in the parenteral cortex and temporal cortex in the form of husband’s support in the form of touch, sound and color to the PFC will affect individual perceptions that will support the emotional processing. Through the social support, the emotional of the individual will be well controlled so that it will produce a good or happy inhibition or expression of the individual. Individual perceptions about acceptance must be strengthened through husband's support in the form of emotional support, instrumental support, physical support and appreciation support so that the woman's emotional condition will improve[22].

Oxytocin massage is a massage performed on the spine to the scapula which aims to stimulate the peripheral nervous system and accelerate the parasympathetic nerves originating from the medulla oblongata and in the spinal cord region and further stimulate the hypothalamus so that the posterior pituitary releases oxytocin. Through a combination of social support in the implementation of oxytocin massage by midwife, the women will feel more relaxed and happy which will stimulate the hypothalamus to produce endorphin, prolactin and oxytocin. Endorphin is a happy hormone, thus oxytocin will be secreted which leads to alveoli contraction to secrete colostrum.

4. CONCLUSION

From the study results it can be concluded that the husband's support in the implementation of oxytocin massage by midwife had an effect on the production and time of colostrum secretion with p-value of <0.0001. There was a significant difference in Colostrum production among post C-Section delivery women between the group of oxytocin massage by midwife who received husband's support and the group of oxytocin massage by midwife without husband's support with a p-value of <0.0001. Colostrum production among women in the group of oxytocin massage by midwife who received husband's support was 3.61 cc and in the group of oxytocin massage by midwife without husband's support was 2.28 cc. There was a significant difference in the time of colostrum secretion among post C-Section delivery women between the group of oxytocin massage by midwife who received husband's support and the group of oxytocin massage by midwife without husband's support with a p-value of <0.0001. The time of colostrum secretion among women in the group of oxytocin massage by midwife who received husband's support was 4.13 hours and in the group of oxytocin massage by midwife without husband's support was 7.93 hours.

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