

22. The effect of oxytocin massage on changing

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The Effect of Oxytocin Massage on Changing of Symphysis-Fundal Height (SFH) in Post Normal and Post Caesarean Birth Delivery

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ABSTRACT

Background: Maternal Mortality Rate (MMR) in Indonesia is 81% due to complications during pregnancy and childbirth and 25% during delivery where one of the causes of bleeding is the occurrence of sub uterine involution. This can be prevented by giving oxytocin massage when providing care to normal postpartum mothers and post-caesarean section.

Methods: The population was all postpartum mothers in the midwifery room of Ahmad Yani Hospital, Metro City, Indonesia. Determination of the sample is by accidental sampling technique by including all subjects who meet the sample selection criteria until the number of research subjects is fulfilled, namely 17 exposed groups and 13 not exposed groups. The research instrument used was a questionnaire. Data were analyzed by univariate and bivariate analysis with a statistical test of Chi-square.

Results: The results showed that the proportion of normal uterine fundus in normal postpartum mothers was 64.7% and the post-caesarean section was 61.5%, whereas ordinary postpartum mothers who performed oxytocin massage were 53% and post-caesarean section mothers who completed oxytocin massage were 46.1%.

Conclusion: The oxytocin massage effect on changes in uterine fundus height in ordinary postpartum mothers with $p = 0.002$ with OR = 4.000 and the oxytocin massage effect on changes in uterine fundus height in post-caesarean mothers with $p = 0.016$ with OR = 3.500. Midwives are expected to be able to teach mothers how to measure the height of the uterine fundus in the first week using their fingers at home to ensure normal fundus uterine height before delivering babies.

Keywords - Fundal Height, Oxytocin Massage, Post- Partum, Caesar Section

INTRODUCTION

Indicators of the ability of a country's health services according to WHO can be seen from the maternal mortality rate during the perinatal, intranasal, and postnatal periods. Specific health targets of sustainable development goals are improving maternal health and reducing to $\frac{3}{4}$ of the risk of maternal death. In

Indonesia, the maternal mortality rate reaches 81% due to complications during pregnancy and childbirth and 25% during the puerperium ⁽¹⁾.

One of the causes of postpartum hemorrhage is the occurrence of sub uterine involution - a state of permanent or involuntary retardation as the normal process causes the uterus to return to its original shape ⁽²⁾. Further, many in the third day postpartum mothers with Symphysis-Fundal Height (SFH) still one finger below the center, whereas it should have been three fingers below the center. This process is characterized by a slow decline in uterine fundus, a prolonged period

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of discharge and excessive uterine bleeding with severe bleeding. The height of the uterine fundus describes the normal involution process in the middle of the symphysis center in the first week. The method of uterine involution includes the effects of oxytocin, autolysis, and tissue atrophy⁽³⁾.

Efforts to prevent hemorrhage post partum can be made since the third and fourth stage of labor with oxytocin. This oxytocin hormone plays a role in the process of uterine involution. The involution process will work well if uterine contractions are muscular. Efforts to control the occurrence of bleeding from the placental site by correcting the contraction and retraction of the strong myometrial fibers with oxytocin massage⁽⁴⁾.

Oxytocin can be obtained in various ways, either through oral, intra-nasal, intra-muscular or by a massage that stimulates the release of the hormone oxytocin. The effect of oxytocin massage itself can be seen after 6-12 hours of massage. Oxytocin massage is a part of spinal massage ranging from the 5-6 nerves to scapula which will accelerate the work of the parasympathetic nerve to convey commands to the back brain so that oxytocin exits⁽⁵⁾.

Based on the data obtained from the General Medical Record of the General Hospital of Jendral Ahmad Yani in Metro City, Indonesia, it was received that the incidence rate of cesarean section was 11.27% of the total deliveries. The results of the preliminary study through interviews conducted at midwives in the hospital midwifery room, they said that they had never done oxytocin massage when giving care to mothers post partum normal and post cesarean section mothers. As such this research aims at the effect of the oxytocin

massage on the respective mothers.

METHODOLOGY

This study is a quantitative study with the total number of samples of 30 samples by using accidental sampling. This research was conducted in the Ahmad Yani Hospital Midwifery Metro City from July to October 2016. Analysis of the data in this study employed the Chi-Square test.

RESULTS

Based on the results of data processing, the proportion of changes in uterine fundal height is as follows:

Table 1: Frequency distribution of fundal height

No.	Type of birth delivery	Fundal Height				Total	
		Normal (> 7)		Not Normal (< 7)			
		n	%	n	%	n	%
1.	Normal	11	64.7	6	35.3	17	100
2.	Caesar	8	61.5	5	38.5	13	100
Total		19	100	11	100	30	100

Table 1 shows that post-partum mothers with standard delivery were 6 people (35.3%) with abnormal uterine fundus height, and postnatal mothers with cesarean delivery were 5 people (38,5%) with abnormal fundus uteri.

Table 2: Oxytocin massages distribution

No.	Type of birth delivery	Oxytocin Massage				Total	
		Massage		No massage			
		n	%	n	%	n	%
1.	Normal	9	53	8	47	17	100
2.	Caesar	6	46,1	7	53,9	13	100
Total		15	100	15	100	30	100

Table 2 indicates the normal post-partum mother's given oxytocin massage were 9 people (53%), and the postpartum cesarean given oxytocin massage were 6 people (46.1%). Further, it was found that the mean of fundal height at the first week of post-partum mother given oxytocin massage was 7.13 cm, while the average of fundal height in postnatal mothers the first week who did not undergo oxytocin massage was 8.2 cm.

Table 3: Effect of oxytocin massage to fundal height on normal post-partum mother

Oxytocin Massage	Fundal height				Total	p- value	OR
	Normal (≤ 7)		Abnormal (> 7)				
	n	%	N	%	n	%	
Yes	8	89	1	11	9	100	4.000 (1.205 -13.283)
No	2	25	6	75	8	100	
Total	10	58.8	7	41.2	17	100	

Statistical test obtained p-value = 0.002 meaning that oxytocin massage affects the changes in the fundal height of ordinary postpartum mothers with the oddity ratio (OR) = 4.000 indicating that the massage has the possibility of 4 times to fundal height.

Table 4: Effect of oxytocin massage to fundal height on cesarean post-partum mother

Oxytocin Massage	Fundal height				Total	p- value	OR
	Normal (≤ 7)		Abnormal (> 7)				
	n	%	N	%	n	%	
Yes	4	66.6	2	33.4	6	100	3.500 (1.085 -11.292)
No	2	28.6	5	71.4	7	100	
Total	6	46	7	54	13	100	

The table shows p- value = 0.016 indicating that oxytocin massage affects the changes in the fundal height of cesarean post- partum mothers with the oddity ratio (OR) = 3.500 implying that the massage has the possibility of 3.5 times to add the fundal height.

DISCUSSIONS

Based on an analysis of uterine fundus height changes to 30 respondents, of 17 postpartum mothers with standard and non-mass types of labor, 6 people (35.3%) had abnormal uterine fundus height, and from 13 postpartum mothers with cesarean deliveries given no massage was obtained 5 people (38.5%) with abnormal fundus uteri.

Post-partum mothers are said to have experienced a

decrease in standard uterine fundus height if after birth the Symphysis-Fundal Height (SFH) is as high as the center, then after the first week, SFH is in the middle of the symphysis center and or 7 cm below the center. The abnormal decline in uterine fundus can cause sub uterine involution, infection and bleeding, therefore monitoring of the involution process must be performed by the midwife by performing height measurements of uterine fundus during the postnatal visit, so that the height of the uterine fundus is standard and abnormalities can be by post-partum mothers ⁽⁶⁾.

Based on the results of the analysis it was found that the average SFH in 15 mothers who experienced post-partum in the first week was 7.13 cm in line with previous research ⁽⁷⁾ on the effect of oxytocin massage

on uterine involution in postnatal mothers. The results of the analysis is obtained OR of 3.500 meaning that post cesarean mothers who received oxytocin massage had a chance of 3.500 times getting standard uterine fundus size compared to mothers who did not get oxytocin massage. Back massage is an act of spinal massage ranging from the 5-6 to the costa until scapula will accelerate the work of the parasympathetic nerve to deliver commands to the brain back so oxytocin exits. The hormone oxytocin is used to strengthen and regulate uterine contractions, compress blood vessels and help maternal hemostasis, thereby reducing the incidence of uterine agony, especially in prolonged birth delivery⁽⁸⁾. Besides, massage therapy has a biological effect that after 2 weeks of massage with a light touch, affects the neuroendocrine which can trigger oxytocin release and can maintain oxytocin stability⁽⁹⁾.

The results of the research using the test of chi-square generated the χ^2 -value of 0.016, (p-value =0.002 <0.05) indicating the effect of oxytocin massage on the decrease of uterine fundus height in ordinary postpartum women. Oddity Ratio of 4.000 means that the regular postpartum mothers who received an oxytocin massage have the opportunity to get 4 times the standard uterine fundus size compared to women who did not get the oxytocin massage. This is in line with the previous research at the Central Java Regional Hospital that oxytocin massage effectively increased the incidence of uterine involution after post-cesarean section, so that a decrease in uterine fundal height could generally run (no more than 7 days) reaching 31.0 cm⁽¹⁰⁾. Oxytocin plays an essential role in the female reproductive cycle. During menstruation, oxytocin is responsible for causing uterine contractions that lead to the release of the placenta and removal from the lining of the uterus. The ability to cause uterine contractions that make oxytocin a very important role during childbirth because these hormones play an essential role in triggering and regulating contractions during labor, but oxytocin release can be inhibited by, for example, acute stress, scale delivery, through mediation of adrenal catecholamine which bind to oxytocin neurons and impede ostosine release⁽¹¹⁾.

The results showed that oxytocin massage can not only be performed on ordinary postpartum women but can be done on post-cesarean women because it can accelerate the decrease in uterine fundus height. In post mother, oxytocin massage can be done and applied, in addition to facilitating the production of breast milk

(the process of breastfeeding), reducing the incidence of anemia, and the mother feels quickly recovered and healthy again.

After the surgery, the wound will heal, but there are times when there are many parts of the body that are injured, and during the healing period there is undue adhesion. Sticking occurs between one wound and another that does not stick perfectly according to the location. This is what causes complaints in the form of pain around the surgical scar. The danger of being imperfectly sticky can be in the way of internal organs such as the intestine, ovary, uterus, and bladder. To get them back to their original position, we need to help by massaging.

Ethical Clearance: The Ministry of Health Polytechnic approved this research in Tanjung Karang, Indonesia.

Conflict of Interest: Nil

Source of Funding: The Ministry of Health Polytechnic Tanjung Karang, Indonesia.

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