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Effect of Oxytocin Massage on Uterine Involution in Postpartum Mothers at Rengasdengklok Health Center, Karawang Regency

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ABSTRACT

Background: After giving birth, the uterus will normally experience involution, which is the process of shrinking and returning to its pre-pregnancy size and shape. The process of involution involves uterine contractions, decreased blood flow, and the expulsion of unnecessary tissue. However, in case of failed uterine involution, the uterus cannot return to its normal size and shape in a timely manner, and leads to bleeding. This study aimed to determine the effect of oxytocin massage on uterine involution of postpartum mothers at the Rengasdengklok Health Center, Karawang Regency, Indonesia. **Methods:** This study was an experimental study, where as many as 30 research subjects participated in this study. Data analysis was performed bivariate to assess the effect of oxytocin massage on uterine involution. **Results:** The results of the study showed that the control group had a slower process of uterine involution compared to the intervention group, p-value of 0.003 (p<0.05). **Conclusion:** It can be concluded that there is an influence between oxytocin massage and the uterine involution process.

1. Introduction

Bleeding during childbirth is one of the leading causes of preventable maternal death. Significant blood loss during labor can lead to shock, organ failure, and death if not treated promptly. Bleeding during childbirth can occur for several reasons, including uterine atony and failure of uterine involution. After giving birth, the uterus will normally experience involution, which is the process of shrinking and returning to its pre-pregnancy size and shape. The process of involution involves uterine contractions, decreased blood flow, and the expulsion of unnecessary tissue. However, in case of failed uterine involution, the uterus cannot return to its normal size and shape in a timely manner, and leads to bleeding.¹⁻⁴

If a mother loses a lot of blood during delivery, her body can become deprived of oxygen and essential nutrients. This can lead to hypovolemic shock, in which the lost blood volume causes a drop in blood pressure and potentially impairs the function of vital organs such as the heart, brain, and kidneys. Prolonged or heavy bleeding can cause severe anemia in the mother after delivery. Severe anemia can cause fatigue, decreased heart function, and reduced the body's ability to recover. Bleeding can increase the risk of infection in the mother after delivery. If there is damage to the birth canal or if the placenta does not come out completely, infection of the uterus (endometritis) or other infections can occur. Untreated infection can cause organ damage and death. Oxytocin is a hormone that plays a role in the initiation of uterine contractions. The presence of this hormone

plays a major role in preventing bleeding complications and consequent uterine involution disorders.⁵⁻⁷ This study aimed to determine the effect of oxytocin massage on uterine involution of postpartum mothers at the Rengasdengklok Health Center, Karawang Regency, Indonesia.

2. Methods

This study was an experimental study with a pre and post-test approach with a control group and used primary data obtained from the Rengasdengklok Health Center, Karawang Regency, Indonesia. A total of 30 research subjects participated in this study, where the research subjects met the inclusion criteria. The inclusion criteria in this study were postpartum mothers <2 weeks at the Rengasdengklok Health Center, Karawang Regency, Indonesia, and willing to participate in this study which was marked by signing informed consent. The research subjects were grouped into two groups, namely the intervention group and the control group. This study was approved by the medical and health research ethics committee.

The intervention group was the research subject who received the oxytocin massage intervention. Meanwhile, the control group was the subject of the

study who did not receive the oxytocin massage intervention. To assess uterine involution, a physical examination was carried out directly on the research subjects. This study also assessed the sociodemographic aspects as well as the clinical progress of the research subjects. Data analysis was carried out using SPSS software version 25. Univariate analysis was performed to assess the frequency distribution of each data variable test. Bivariate analysis was performed to assess the effect of each test variable, with a p-value <0.05.

3. Results

Table 1 shows that of the 15 respondents in the control group, there were 7 respondents (46.7%) with rapid uterine involution, and of the 15 respondents in the intervention group, there were 14 respondents (93.3%) with rapid uterine involution. The percentage of the control group was slower in the process of uterine involution compared to the intervention group. The statistical test results obtained value p-value of 0.003. Thus it can be concluded that there is an influence between oxytocin massage and the process of uterine involution in the intervention group and the control group.

Table 1. Relationship between oxytocin massage and uterine involution.

Massage oxytocin	Uterine involution process				Total		p-value*
	Fast		Slow				
	N	%	N	%			
Intervention	14	93,3 %	1	6,7 %	15	100 %	0,003
Control	7	46,7 %	8	53,3 %	15	100 %	
Total	21	70,0 %	9	30,0 %	30	100 %	

*Chi-square test, p<0,05.

4. Discussion

Oxytocin massage can help increase the release of the hormone oxytocin in the body, which helps activate uterine muscle contractions and reduces tension and pain during involution. In addition, it can also help increase blood flow and facilitate the absorption of nutrients needed for uterine decay. Oxytocin massage is also useful for accelerating the healing process and strengthening the immune

system. It is also beneficial for reducing inflammation and increasing breast milk production. Oxytocin can increase blood flow and facilitate the absorption of nutrients needed to restore the uterine muscles so that they can reduce pain during labor. Oxytocin massage can also trigger the production of the hormone oxytocin, which acts as a relaxing agent in the body and can reduce stress and anxiety. Oxytocin massage is also beneficial for increasing milk production

because the hormone oxytocin helps increase blood flow to the breasts and increases breast muscle contractions. In addition, the hormone oxytocin can also speed up the healing process during and after childbirth. This can help the uterus to return to its normal size after the baby is born, reduce bleeding, and speed up the healing process of stitches.⁸⁻¹¹

Oxytocin massage can also stimulate the production of endorphins, which can reduce pain and increase comfort. In addition, oxytocin can also increase blood flow to the uterus, which helps reduce swelling and accelerate wound healing. It can also help reduce the risk of infection and promote the consumption of nutrients necessary for healing. Oxytocin massage can also help reduce blood pressure, promote muscle relaxation, and improve mental well-being. In addition, oxytocin can help regulate the menstrual cycle and reduce menstrual pain. This is because oxytocin increases blood flow which causes the uterine muscles to relax more. Oxytocin also increases the production of the hormone progesterone, which can help reduce inflammation and improve hormone balance.¹²⁻¹⁴

5. Conclusion

There is the influence of oxytocin massage in accelerating uterine involution in postpartum mothers at the Rengasdengklok Health Center, Karawang Regency, Indonesia.

6. References

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