

EFFECTIVENESS OF EARLY MOBILIZATION, EARLY BREASTFEEDING INITIATION, AND OXYTOCIN MASSAGE AGAINST UTERINE INVOLUTION

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.Abstract

The puerperium begins after the birth of the placenta and ends when the uterine uterus returns to normal. During this period, two important events happened, namely uterine involution and lactation. Uterine involution is very important to stop the hemorrhage. The purpose of this study was to determine the factors of early mobilization, Early Breastfeeding Initiation, Oxytocin Massage against uterine involution in puerperal women at Community Health Center of Solokan Jeruk. This study used a quasi-experimental approach —46 samples taken using inclusion and exclusion criteria. Data analyzed using the chi-square test with $\alpha = 0.05$. The study showed that there is a significant correlation between early mobilization ($p\text{-value} = 0.001$), Early Breastfeeding Initiation (IMD) P ($p\text{-value} = 0.032$), and oxytocin massage ($p\text{-value} = 0.006$) against uterine involution in puerperal women at Puskesmas Solokan Jeruk. To Optimize the process, it needs adequate obstetrical care.

Keywords: Early Mobilization, Early Breastfeeding Initiation, Oxytocin Massage, Uterine Involution.

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1. Introduction

Indonesia's development of the health sector is still a concern. The government strategies are prioritizing efforts to improve maternal and children's health in aspects of pregnancy, childbirth, postpartum, and infants during the perinatal period. The program continues to be carried out in the context of achieving goal three from the 2015-2030 Sustainable Development Goals (SDG), which is to ensure healthy lives and promote well-being for all ages.^[1]

Maternal mortality (MMR) and Infant Mortality (IMR) used as indicators assessing the health status of a country.^[2]

Hemorrhage is one of the causes of maternal death which arises from weakness or absence of contraction. Hemorrhage also arises because of the

contraction myometrium fails to contract. Most cases found in 50-60% of deliveries. Proper postpartum care is essential as one of the main pillars in reducing maternal mortality..^[3]

Direct and indirect causes cause maternal deaths. The direct causes of maternal death were hemorrhage (32%), eclampsia 26%, infection 11%, obstructed labor, and complications of miscarriage. The causes of infant death were low birth weight (LBW) and asphyxia. Indirect causes are anemia, which commonly found in people aged 15-24 years old (18.4%).^[4]

Hemorrhage is a major cause of maternal death. In West Java Province, the health data analysis report 2017 reported that the most common cause of maternal death is hemorrhage, especially in the postpartum period.^[5] Hemorrhage is a major cause of maternal death. In West Java Province,

the health data analysis report 2017 reported that the most common cause of maternal death is hemorrhage, especially in the postpartum period. In this period, occur uterine involution directly suppresses the occurrence of hemorrhage.^[6]

The uterus' failure to return to their normal state may cause complications such as hemorrhage and abnormal discharge of lochea. The occurrence of uterine involution is influenced by several factors like early mobilization, early breastfeeding initiation, and exclusive breastfeeding.^[7] This statement is reinforced by Desi et al. (2011) previous study, which found that lactation can influence the process of uterine involution by releasing oxytocin since the first time the baby sucking the mother's nipples. The presence of myoepithelial contractions around the lactiferous ducts accompanied by oxytocin secretion causes uterine contractions that help release the placenta and reduce hemorrhage. Therefore, after birth, if possible, the baby should be breastfed immediately to stimulate uterine contractions.^[8]

Early mobilization can help accelerate the return of the uterus to its original shape. The movement helps to accelerate blood circulation and lochea expenditure.^[9]

Data on the Profile of the Bandung District Health Service in 2017 revealed that the incidence of obstetric complications is still high, including sub-involution cases. The high incidence of obstetric complications must also be balanced with the speed and accuracy of treatment provided.^[10]

Solokan Jeruk Health Center is one of Basic Emergency Neonatal Obstetric Services, also called PONEB. The incidence of obstetric complications is quite high, as many as 245 cases. Moreover, from 245, only 118 cases (48.16%) handled.^[10]

Based on this background, the authors were interested and intended to carry out a study on Factors Related to

Uterine Involution in the Solokan Jeruk Community Health Center.

2. Method

This study used a correlational method with a quasi-experiment approach to 46 people. We used a control group and a case group. The case one was postpartum mothers who would get intervention such as early mobilization, early breastfeeding initiation, and oxytocin massage. Furthermore, for the control group were postpartum mothers without intervention, this group was used as the comparison.

This study used involution uteri as the dependent variable and early mobilization, early breastfeeding initiation, and oxytocin massage as an independent variable. Collected data analyzed using *Shapiro Wilk* to verify the normality and for the effectiveness analyzed using unpaired t-test and Mann Whitney U.

3. Results and Discussion

a. Correlation of Early Mobilization with Uterine Involution

Tabel 1. Correlation of Early Mobilization with Uterine Involution

Mobilization	Uterine Involution state						<i>P-Value</i>
	Unmatched		Matched		Total		
	f	%	f	%	n	%	
No	14	60.9	9	39.1	23	100.0	<i>0.001</i>
Yes	3	13.0	20	87.0	23	100.0	

Table 1 shows that most respondents (87%) have normal uterine involution due to early mobilization, and statistically, it shows a significant correlation (p-value= 0.001).

During the puerperium period, the reproductive organs are recovered marks with decreasing uterine fundal height to the size before pregnancy or are no longer able to palpate. Many studies stated that to help speed recovery; the mother could do early mobilization and puerperal gymnastics.^{[11],[12]} Early mobilization help mother healthier and more energetic, so they can care for their baby as soon as

possible. It also helps to prevent thrombosis and thromboembolism, facilitate blood circulation, and prevent postpartum infections. Early mobilization spur uterine contractions, which directly help stop the bleeding and suppress postpartum hemorrhage occurrence. Therefore, health workers need to ensure that mothers need to do early mobilization.^[13]

b. Correlation of Breastfeeding Early with Uterine Involution

Tabel 2 Correlation of Breastfeeding Early with Uterine Involution

Breastfeeding Early	Uterine Involution state					
	Unmatched		Matched		Total	
	f	%	f	%	n	%
No	12	52.2	11	47.8	23	100.0
Yes	5	21.7	18	78.3	23	100.0

Table 2 shows the Chi-squared test results obtained by p-value (0.032), which means there is a relationship between early breastfeeding initiation and uterine involution. This finding is consistent with some previous studies, and they stated that when the baby suckles, the nerve endings in the nipples are stimulated. These stimulations by afferent fibers carried to the brain's hypothalamus, then stimulate the anterior pituitary to secrete the hormone prolactin in the blood.^[9] Prolactin spur glands (alveoli) to produce milk. The amount of prolactin secreted and the amount of milk produced is related to the sucking stimulus, namely the frequency, intensity, and length of the baby sucks. Several previous studies also stated that the more mothers breastfeeding her baby, the more the production of breast milk would increase.

Mothers who breastfed early will be able to provide exclusive breastfeeding to their babies successfully. In reality, many mothers failed to breastfed exclusively despite doing breastfeeding early in the first hour after birth.^[14] When the baby is sucking the nipples, it stimulates the secretion of oxytocin. It also helps to stimulate the uterus to

contract.^[15] Breastfeeding early not only helps to stimulate the process of uterine involution faster but also helps the mother bond with their babies.^[16]

Breastfeeding early is one way to stimulate uterine involution. Many studies stated that breastmilk is the most suitable food for babies because it contains nutrients needed by babies to grow and develop. At day one postpartum, the uterine fundal height is one cm below the navel. On day fifth postpartum, the uterus approximately 1/3 from the symphysis to the navel. Furthermore, on day ten, the uterine fundal is hard to palpable.^[17]

c. Correlation of Oxytocin Massage with Uterine Involution

Tabel 3 Correlation of Oxytocin Massage with Uterine Involution

Oxytocin Massage	Uterine Involution state						<i>P</i> <i>Value</i>
	Unmatched		Matched		Total		
	f	%	f	%	n	%	
No	13	56.5	10	43.5	23	100.0	0.006
Yes	4	17.4	19	82.6	23	100.0	

Chi-square test results obtained p-value = 0.006, it shows that there is a significant correlation between oxytocin massage with uterine involution. Oxytocin release when the baby is sucking nipples. The presence of myoepithelial contractions around the lactiferous ducts accompanied by oxytocin secretion causes uterine contractions that help release the placenta and reduce hemorrhage.^[18]

Oxytocin massage applied to nursing mothers by massaging the spine until the 5-6 costa spreads to the scapula, which will accelerate the work of the parasympathetic nerve to deliver commands to the brain to stimulate the secretion of oxytocin. This finding also consistent with Hamranani's previous study; she stated that there is a relationship between oxytocin massage with uterine involution.^{[19],[20],[21]}

Oxytocin stimulates contraction and retraction of uterine muscle and helps to compress blood vessels resulting in reduced blood supply to the uterus. This process helps to reduce the site or place of

placental implantation and reduce bleeding. The oxytocin can be produced through the stimulation of oxytocin massage, which accelerates the parasympathetic nerve's work to deliver commands to the brain to stimulate the secretion of oxytocin.^[22]

4. Conclusion

The study results show that there is a significant correlation between early mobilization, early breastfeeding initiation, and oxytocin massage against uterine involution.

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