THE EFFECT OF SKIN-TO-SKIN CONTACT ON UTERUS INVOLUTION

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Abstract, Background: Skin-to-skin contact affects the release of mothers' oxytocin through sensory stimuli like warmth, touches, and kisses. Oxytocin is closely related to membrane receptors of myometrium cells and stimulates the release of intracellular calcium and uterus contraction, which streamlines the process of involution. Uterine atony, occuring when uterus fails to contract, in mothers in the postpartum period can cause what is called subinvolution, which if left without treatment will cause *postpartum haemorrhage*, or excessive bleeding, and even mortality.
Objective: This evidence-based case report aimed to know the effect of skin-to-skin contact on the uterus involution of mothers in the postpartum period at Solokan Jeruk Community health center
Method: The search for articles about comparative studies on labor positions was run on Google scholar and PubMed by doing a keyword search for the two terms: skin-to-skin contact and involution. After the selection process, only two articles, each posted on Google Scholar and PubMed, were considered to be eligible according to the inclusion and exclusion criteria. Critically analyzed, both articles were deemed to be important and applicable to patients.
Results: Evidence Based Case Report (EBCR) involving a mother in the postpartum period who made a mother-child skin-to-skin contact for 30 minutes in the first hour after childbirth, the researcher found that the height of uterus fundus in the first, second, third, fourth, and sixteenth hours was 13,5 cm, 12,7 cm, 12,5 cm, 12,2 cm, and 11,6 cm respectively.
Conclusion: mother-baby skin-to-skin contact can be an effective treatment method in the postpartum period.

Keywords: Labor, Skin-to-skin treatment, Uterus Involution

Background

The Maternal Mortality Ratioin Indonesia is still high. Based on the data of Health Ministry of the Republic of Indonesia 2015, the MMR in Indonesia was 305 per 100.000 live births. According to the Directorate General of Family Health, Indonesian Ministry of Health Eni Gustina, the leading factor of maternal mortality in Indonesia during 2010-2013 was bleeding, which comprised 30,3%. (1)

Mothers in the postpartum period may suffer from uterine athony, also called uterus subinvolution, resulting from infection or a retained placenta in uterus which disrupts the process of uterus involution. Without effective treatment, subinvolution will cause mothers to suffer from postpartum haemorrhage, or excessive bleeding, and even face death. (2)

Early Initiation of Breastfeeding can save babies' life because skin-to-skin contact (babies' skin touches their mothers' bare chest) will provide those babies with warmth and protection and colostrum provides good nutrition serving as the source of irreplaceable immunity. Besides, early initiation of breastfeeding and skin-to-skin contact are useful to mothers by helping streamlining the process of uterus involution and staunching bleeding. (3)

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warmth, touches, and kisses. Oxytocin is closely related to membrane receptors of myometrium cells and stimulates the release of intracellular calcium and uterus contraction, thus streamlining the process of involution. Accelerating the process can help prevent mothers from suffering from postpartum bleeding which can be observed during the postpartum period. (4)

Based on the above data, the researcher tended to make a non-pharmachologic intervention in the form of skin-to-skin contact to know its effect on uterus involution.

Methods

The method used was to make a literature review by searching Pubmed and Google Schoolar for such key words as skin-to-skin contact and uterus involution. The articles searched for were limited to the full-text ones published within the last 5 years. After reviewed, only two articles were deemed to be eligible. The height of the patient's uterus fundus was measured in the first, second, third, fourth, and sixteenth hours after she enjoyed skin-to-skin contact begun 30 minutes after childbirth.

Results and Discussion

Mrs. M, 35 years old, came to PONED (basic obstetric and neonatal emergency service) on 8 April 2022 at 19.45 WIB, and had been suffering from colic since 16.00 WIB. The diagnose data obtained were that Mrs. M G3P2A0 was at gestational age of 39 weeks, aterm parturient, and in the active phase of the first stage of labor. At 21.45 WIB, she was experiencing a contraction of 5x10'x50", with fetal heart rate (DJJ) of 136 x/m, full cervic dilation, spontaneous colorless-water breaking, and no moulage, and the baby was at +1 station. After guided to push the baby out, at 22.15 WIB she delivered her baby, who spontaneously cried. Subsequently, the baby was laid directly on her bare chest for a 30-minute skin-to-skin contact. During the process of treatment and care in the third stage of labor, the placenta was delivered spontaneously at 22.21 WIB. With bleeding of ± 150 cc, a laceration of the first degree occured on the vaginal mucosa, but there was no need for the use of suture to repaire the laceration because the bleeding was not continuous. The fourth stage of labor ran well. In the first hour after birth, the fundal height was 13,5 cm, 12,7 cm in the second hour postpartum, 12,5 cm in the third hour postpartum, and 12,2 cm in the fourth hour postpartum. Because the mother had been allowed to leave the PONED, the next measurement of fundal height was carried out in the sixteenth hour postpartum, in which fundal height was 11,6 cm.

From the interventions made, it could be concluded that skin-to-skin contact can affect the process of uterus involution. This was in alignment with the article on Randomized Controlled Trial (RCT) written by Funda (2020) stating that the measurement of fundal height is made on average in the second, fourth, and twenty-fourth hours to know the baby's size in utero. The fundal height in the intervention group measured in those particular hours was 13,4 ± 0,3 cm, 12,9 ± 0,3 cm and 11,8 ± 0,3 respectively; meanwhile,he fundal height in the control group was 14,4 ± 0,3 cm, 13,8 ± 0,3 cm and 12,9 ± 0,3 respectively. This showed that the average fundal height in the intervention group was statistically significantly lower than that in the control group ($p < 0,05$). (4)

Analyzing six studies on the effect of mother-baby skin-to-skin contact during the third stage of labor, The research of Karimi et al. (2019) also corroborates the result of this research. The research of Karimi et al. (2019) shows that mother-baby skin-to-skin contact significantly shortens the duration of the third stage of labor (5)

Skin-to-skin contact can be defined as laying a newly-born baby on the mother's bare chest. Most of this research was done to examine the effect of skin-to-skin contact on newly-born babies. The literature review showed a significant effect of skin-to-skin contact on the involution process, namely by stemming postpartum bleeding to the extent that uterus involution ran well (6)

Uterus involution begins after the placenta is delivered. Involution lasts about 6 weeks.(9) Uterus involution depends on some factors, one of which is oxytocin. Skin-to-skin contact is believed to help produce oxytocin instrumental in facilitating contractions and uterus involution. The physiological function of oxytocin is to stimulate the contraction of uterine smooth muscles during labor and in the postpartum period, which expedites uterus involution. (8)

As for the mechanism of mother-baby skin-to-skin contact during the third stage of labor, when a baby's skin touches a mother's skin, the posterior hypophysis releases oxytocin, causing an increase in the mother's oxytocin level. Oxytocin is a crucial factor during the process of

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labor because of its role in uterus contraction which speeds up the process of uterus involution. Besides, the movement of a baby's feet on the mother's skin serves as an uterine massage which stimulates uterus contractions and accelerates the abruption and delivery of placenta, which in turn staunches postpartum bleeding. (5)

Skin-to-skin contact proves effective to keep babies calm and to steady their heartbeat and breathing because mother-baby skin-to-skin contact can strengthen an emotional, maternal bond between both. (9) Likewise, mother-baby skin-to-skin contact can help mothers avoid stress and prevent depression. In this regard, it can effectively reduce mothers' postpartum fatigue of medium and high levels commonly experienced by 80% of new mothers and boost their energy level.(10)

Conclusion

30-minute skin-to-skin contact is closely related to the process of uterus involution. The decrease in fundal height in the first, second, third, fourth, and sixteenth hours after birth (13,5 cm, 12,7 cm, 12,5 cm, 12,2 cm, and 11,6 cm respectively) is indicative of the conclusion. Therefore, it is recommended that midwives be well-informed about advantage of mother-baby skin-to-skin contact as a treatment method during the postpartum period. Similarly, parturient mothers should receive the information during the prenatal period in order that they can apply the method when delivering a baby.

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