

The Effects of Early Breastfeeding Initiation on the Uterine Involutional Process in Post Partum Mothers

Raisha Octavariny, Sri Tri Dwi, Sri Melda Br. Bangun, and Dwi Handayani
Faculty of Midwifery, Institut kesehatan medistra lubuk pakam, Deli serdang, Sumatera utara, Indonesia

Keywords: Early breastfeeding initiation, involuntary uteri, post partum mother

Abstract: One of the causes of high bleeding rate is involute uterine process which is not running properly. Mothers who initiate breastfeeding early will accelerate uterine involution due to the influence of the hormone oxytocin which can increase uterine contractions. The type of research is Quasi Experimental. The population are all post partum mothers with a total sample of 20 people with accidental sampling technique using the independent sample t-test. The results of this study indicate that the mean height of uterine fundus mothers who have an EBI is 9.70 cm and those who do not do an EBI 11.20 cm, thus the EBI is effective in accelerating the process of uterine involution. Furthermore, it is expected for health workers to implement early breastfeeding initiation as a permanent procedure in the management of post partum mothers.

1 INTRODUCTION

The puerperium (post partum) is literally defined as the period immediately after birth, this period also includes the following weeks when the reproductive tract returns to a normal nonpregnant state, generally lasting 6 weeks or shortly thereafter. During the puerperium, the reproductive organs gradually return to the state before pregnancy. One of the changes in the reproductive organs is involution. Uterine involution is the process of returning the uterus to its original state or state before pregnancy where in the process of uterine involution the contraction of the uterus can be marked by a decrease in the height of the uterine fundus (Maryunani, 2017).

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If uterine involution goes normally, it can reduce the incidence of bleeding, especially post partum hemorrhage which is one of the direct causes of maternal death. If uterine involution goes normally, it can reduce the incidence of bleeding, especially post partum hemorrhage which is one of the direct causes of maternal death. The factors influence the process of involution, namely: puerperal exercise, early mobilization, early breastfeeding initiation, nutrition, age, and parity. Early breastfeeding initiation is one of the factors that influence uterine involution because during breastfeeding stimulation and hormone release include oxytocin which functions in addition to stimulating the contraction of smooth muscles of the breast, also causing contractions and retraction of uterine muscles (Nelwatri, 2017).

This problem has been carried out research in which the study stated that mothers who initiate early breastfeeding will accelerate uterine involution due to the influence of the hormone oxytocin which can increase uterine contractions. The uterus will naturally contract slowly and return to its original shape for approximately 14 days (Gibert et al, 2018)

In Figure 1 can be seen the ongoing process of early breastfeeding in which a baby looks for its mother's nipples. important step to facilitate the baby in starting the process of breastfeeding. Newborns who are placed on the mother's chest or stomach, naturally can find their own source of breast milk and suckle.



Figure 1: Early Breastfeeding Initiation.

Rahayu's research (2018), explained that the use of curves and octopus was not effective in helping in uterine involution, but used of these curves and octopus was allowed with the condition that they must be used with the right technique but in reality there are still many women who believe that use of curved and octopus can help the process of involutonal uteri, the obstacle that is often faced is the belief that has been believed in society for generations that is difficult to change (Rahayu, 2018)

Rosyidah's research (2017) entitled The effect of early breastfeeding incision to the high rate of decrease in uterine fundus also found that there was an effect of early breastfeeding initiation on the rate of high loss of uterine fundus in post partum mothers where uterine involusio process in mothers who breastfeed their babies early on would have a time span which is shorter than mothers who do not breastfeed their babies (Rosyidah, 2017)

Wulan's research (2018) explains that there are differences in uterine involution in post partum mothers day 1 who are given hypnobirthing relaxation therapy and who are not given hypnobirthing relaxation therapy. Hypnobirthing relaxation therapy is 2 times faster making a decrease in uterine involution in normal post partum mothers, this is can be seen from the average obtained in the group of mothers who were given treatment amounting to 6 people, amounting to 2.50 while in the group of mothers who were not given treatment amounting to 12 people obtained an average of 1.25 (Wulan, 2018)

Martini's research (2018) states that the average time a baby takes for EBI is 61.1 minutes. The results of multivariate analysis showed that mothers who gave exclusive breastfeeding for up to 7 days had a 29.8 times higher chance of experiencing normal

uterine fundus height, compared to those who did not exclusively breastfeed.

In Figure 2 By giving exclusive breastfeeding requires mothers to breastfeed routinely, when mothers naturally breastfeed their bodies will produce the hormone oxytocin which helps the uterus to contract slowly so that the process of uterine involution in mothers who give exclusive breastfeeding will be faster (Martini, 2018)

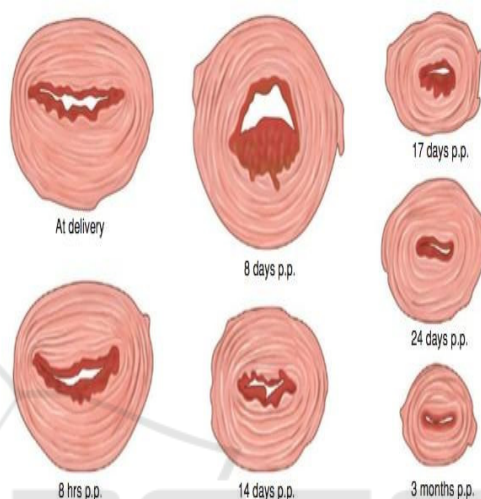


Figure 2: Uterine Involutional Process.

Research Cyril et al (2019) in his research on dairy cows states that ecboic therapy carried out in the post partum period can improve uterine involution and reproductive tract health in cattle by giving intramuscular injections twice a day by 50 IU oxytocin, or 25 mg dinoprost (Cyril et al, 2019)

Permata' Research (2018), states that there is a correlation between abstinence with the process of uterine involution. This research shows that the majority of respondents have elementary school education, do not work and are primitive mothers so that they do not have enough experience and knowledge in the culture of abstinence from postpartum mothers. The process of uterine involution is influenced by the mother's attitude towards abstinence from food. It is recommended that mothers further increase knowledge about the effects of abstinence from food by reading books, asking health workers. Health Workers increase education and provide motivation about the impact of abstinence on postpartum mothers and families so that mothers can change their abstinence habits (Permata, 2018)

From the results of a preliminary study at the Marisa Lorena maternity clinic in a month the

average mother who gave birth as many as 30 people. From the observation results obtained uterine involutional speed in puerperal mothers on average 10-12 days until the uterus can not be touched again. Early breastfeeding initiation has been carried out in this clinic but it has not been maximized because although it has been given ASI shortly after giving birth but it has not been done for an hour and skin contact between mother and baby is still rarely done.

Rahma' Research (2019) explained that after initiation of early breastfeeding there was 17 patients who experienced a condition of hard uterine involution, strong contractions and there was 2 patients who experienced conditions of soft uterine involution, contractions were weak. While those who did not initiate early breastfeeding there was 9 patients who experienced a condition of hard uterine involution, strong contractions and 2 patients experienced conditions of soft involution, weak contractions (Rahma, 2019)

Liliana' Research (2019) There was no influence between EBI behavior and uterine involution in postpartum mothers. Because the process of involution is not only influenced by EBI, but there are several other factors such as age, number of parity, and early mobilization of the mother. This is caused between EBI behavior and uterine involution is that there are still some respondents who even though EBI did not experience normal uterine involution (Liliana, 2019)

Elis' Research (2017) states that there is a cynical effect of the puerperium on involuntary uterine processes. The data taken are primary data obtained at the time of study. For monitoring involuntary uteri both those who do puerperal exercises and do not do puerperal exercises carried out during the post partum mother was treated at the Tobadak Health Center. Middle Mamuju District with a total sample of 20 thousand post partum, where 10 thousand were treated post partum exercises and 10 mothers were not given postpartum gymnastics treatment (Elis, 2017)

Kartinazahri's research (2019) explains that there is a significant correlation between oxytocin massage and uterine involution with a p value <0.05. It can be concluded that the post partum group of mothers who did not do oxytocin massage had a 3 times greater risk of experiencing abnormal uterine involution than the group with oxytocin massage. Decreased uterine fundal height does not occur at once but gradually. Uterus fundal height decreases every day around 1 to 2cm, so that on the 10th day no longer palpated when palpated. The occurrence of contractions and retractions in the smooth muscle of the uterus causes disruption of blood circulation in the uterus resulting

in uterine muscle tissue lacking the necessary substances, so that the size of the muscle tissue becomes small, eventually the size of the uterus returns to its state before pregnancy (Kartinazahri, 2019)

However, knowing the effect alone is not enough, for this reason it is necessary to know the difference in the process of involuntary uteri to post partum mothers by giving EBI and those not given EBI, this study will discuss the differences in the process of involuntary uteri in post partum mothers in the two groups (Goiuri, 2019)

In Figure 3 is to explain the process of initiating the stages of early breastfeeding. after birth the baby is placed on the mother's stomach and left looking for her mother's nipples. after finding the mother's nipples, the baby will suckle for the first time. do not rush to initiate breastfeeding early and let the baby suckle and recognize the scent of the mother's body



Figure 3: Early Breastfeeding Initiation Process.

2 RESEARCH METHODS

2.1 Research Locations and Samples

The location of this research was at the Marisa Lorena Maternity Clinic Lubuk Pakam. The Population of this research was post partum mothers. Samples of 10 people were divided into two groups: intervention group and control group with the criterias of not having other disease complications.

2.2 Research Design

The type of this research was a quasi-experiment with a case control study design which the sample is

divided into a control group p and a case group (which was done early breastfeeding initiation) and then compared to the length of involuntary uteri in each group. Mothers gave birth in centimeters (cm) then the average of the fundus decreased, then the difference in mean height of uterine fundus in the intervention group and the control group used paired sample t test at a 95% confidence level with p value $\leq \alpha$ (0.05).

2.3 Systematic Research

2.3.1 Tool/Equipment

The tool used in this research is the centipede tape.

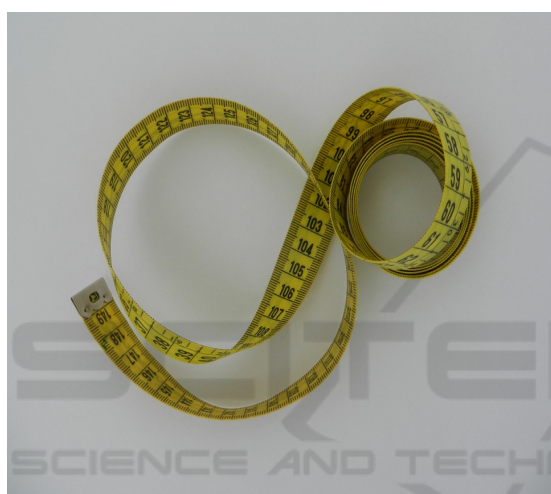


Figure 4: centimeter ribbon.

2.3.2 Research Process

This research was conducted by measuring the height of the fundus of uterine women early post partum immediately after giving EBI using pitasenti, then measured again the height of the fundus 10 days later, then see how much the decrease in the fundus of the mother in centi units.

2.3.3 Data Collection Techniques

1 Administrative Procedures

Data collection was carried out after obtaining permission from the research location and the Research Ethics Commission

2 Technical Procedures

The researcher meets with related parties at the research location through the following procedures:

Intervention Group:

- a) Determine the subject based on inclusion and exclusion criteria
- b) Introduce yourself and explain research covering the objectives, rights and obligations of the subject as well as the benefits of research to the subject.
- c) Provide an informed consent sheet or consent sheet to be signed by the subject, if the subject is willing to participate in the study
- d) Explain the procedure of the series of checks to be carried out
- e) Measuring the height of the fundus before the EBI
- f) Shortly after the baby is born do early breastfeeding initiation in one group while the other group is not done.
- g) Wait until the EBI process is completed, marked by the baby being able to suck the mother's nipples
- h) Pay attention to the position of the mother and baby when the baby suckles (position must be correct)
- i) After doing EBI, allow the mother to continue breastfeeding her baby
- j) Monitor the breastfeeding process for 10 days, giving exclusive breastfeeding
- k) Measure the fundus height again for the mother 10 days later
- l) Record all data on an observation sheet

Control Group:

- a) Determine the subject based on inclusion and exclusion criteria
- b) Introduce yourself and explain research covering the objectives, rights and obligations of the subject as well as the benefits of research to the subject.
- c) Provide an informed consent sheet or consent sheet to be signed by the subject, if the subject is willing to participate in the study
- d) Explain the procedure of the series of checks to be carried out
- e) Measuring the fundal height of the mother
- f) Measure the fundus height again for the mother 10 days later
- g) Record all data on an observation sheet

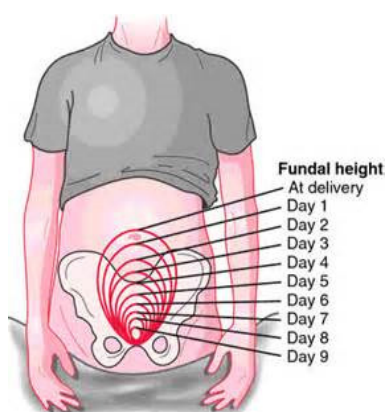


Figure 5: Fundal height.

3 RESULT AND DISCUSSION

EBI is one of the factors that influence uterine involution. In this EBI the baby is left in the mother's chest 1 hour after birth. In this process the baby will look for the mother's own nipples.) Mothers who initiate early breastfeeding will accelerate uterine involution due to the influence of the hormone oxytocin which can increase uterine contractions.

Oxytocin is a substance that can stimulate the uterus myometrium so that it can contract. Uterine contraction is a complex process and occurs because of the presence of actin and myosin. Thus actin and myosin are components of contraction. The meeting of actin and myosin is caused by the presence of myocin light chine kinase (MLCK) and dependent myosin ATP ase, this process can be accelerated by the number of calcium ions entering the cell, while oxytocin is a hormone that increases the entry of calcium ions into the intra-cell. So that the presence of oxytocin will strengthen uterine contractions.

In Tabel 1 dan Tabel 2 From the results of the study conducted 10 days after post partum in the intervention group (carried out EBI), the average height of the fundus uteri was 9.70 cm. In the control group (no EBI was performed) the average height of the uterine fundus was 11.20 cm.

Table 1: The mean height of fundal uteri in post partum mothers.

No Respondent	Group	Involutional Uterus (cm)
1	With EBI	10
2	With EBI	9
3	With EBI	10
4	With EBI	11

5	With EBI	9
6	With EBI	9
7	With EBI	10
8	With EBI	10
9	With EBI	9
10	With EBI	10
Average		9,70

Table 2: The mean height of fundal uteri in post partum mothers.

No Respondent	Group	Involutional Uterus (cm)
1	without EBI	11
2	without EBI	12
3	without EBI	10
4	without EBI	11
5	without EBI	11
6	without EBI	10
7	without EBI	12
8	without EBI	12
9	without EBI	11
10	without EBI	12
Average		11,20

After doing statistical tests it was found that there were differences in the average height of the fundus of the uteri in the involuntary process of the uterus in post partum mothers who did EBI and those who did not do EBI of 1.50 with a p value of 0.001

Early initiation (the best crawl) or the beginning of early breastfeeding is a baby after birth from the mother's womb can suckle by itself. Meanwhile, according to the Ministry of Health (2012), Early Breastfeeding Initiation (EBI) defined an opportunity given to the baby immediately after birth by putting the baby in the mother's stomach, then allowing the baby to find the mother's nipples and suckle until satisfied. This process is done at least 60 minutes (1 hour) first after the baby is born.

The results showed that the mean involution of uterus in post partum mothers who performed early breastfeeding initiation was 9.70 with a standard deviation of 0.675 and a mean standard error of 0.213. The results of this research are in accordance with research conducted by Sahetapy (2016) who found that in the group that carried out early breastfeeding, uterine involution of fast categories were 13 postpartum mothers (86.7%) and normal categories of uterine involution were 2 postpartum mothers (13, 3%).

EBI was one of the factors that influence uterine involution. In this EBI the baby is left in the mother's chest 1 hour after birth. In this process the baby will

find its own mother's nipples. Mothers who initiate early breastfeeding will accelerate uterine involution due to the influence of the hormone oxytocin which can increase uterine contractions.

Oxytocin is a substance that can stimulate the uterus myometrium so that it can contract. Uterine contraction is a complex process and occurs because of the presence of actin and myosin. Thus actin and myosin are components of contraction. The meeting of actin and myosin is caused by the presence of myosin light chine kinase (MLCK) and dependent myosin ATP ase, this process can be accelerated by the number of calcium ions entering the cell, while oxytocin is a hormone that increases the entry of calcium ions into the intra-cell. So that the presence of oxytocin will strengthen uterine contractions.

Uteric Involvement in Post Partum Mothers not Early Initiated Breastfeeding

The results showed that the mean involuntional involution of post partum mothers who did not initiate early breastfeeding was 11.20 with a standard deviation of 0.789 and a mean standard error of 0.249. The results of this research are in accordance with research conducted by Sahetapy (2016) who found that in the group without early breastfeeding initiation, rapid category uterine involution were 3 postpartum mothers (20%) and normal uterine involution were 12 normal postpartum mothers (80%)

Uterine involution begins after delivery, that is after the placenta is born. The involution process lasts for about 6 weeks. After the placenta is released from the uterus, the uterine fundus can be palpated and is in the middle of the center and symphysis pubis or slightly higher. The height of the fundus after delivery is estimated to be one centimeter or 1 cm below the center.

In this research still found mothers who did not initiate early breastfeeding which was then used as a control group in this study. According to UNICEF (2016), there are many problems that can hinder the implementation of EBI, among others: lack of concern for the importance of EBI, lack of counseling by health workers and lack of EBI practice, there is an opinion that injection of vitamin K and eye drops to prevent gonorrhoea disease should be given immediately after birth, when in fact this action can be postponed for at least one hour until the baby suckles on its own, strong family belief that mothers need adequate rest after giving birth and breastfeeding is difficult, public belief stating that colostrum that comes out on the first day is not good

for the baby, public trust that does not allow mothers to breastfeed early before her breasts are cleaned.

The Effect of Early Breastfeeding Initiation on Uteric Involvement in Post Partum Mothers

The result of this research it was found that the mean difference of uterine involution in post partum mothers who did and did not initiate early breastfeeding was 1,500. Based on statistical tests found that the value of p value 0,000. Means p value <0.05, then there is the effect of early breastfeeding initiation on involuntional uteri in post partum mothers.

The results of this research in line with Sahetapy's (2016) study entitled, the effect of Early Breastfeeding Initiation (EBI) on the speed of uterine involution in puerperal mothers at BPM Dwi Inggrini Samarinda, where this study found

Effect of EBI on uterine involuntional speed in postpartum mothers (p value = 0.001). The results of this research are also relevant to the study of Rosyidah & Sulistyorimi (2017) that there is an effect of EBI on the speed of TFU reduction. Likewise, the results of a study conducted by Nelwatri (2013) entitled the effect of early breastfeeding initiation (EBI) on uterine involution in maternal in BPS Padang City found that there were significant differences in the height of the uterine fundus between those carried out by EBI and not carried out by EBI to maternity mothers at BPS Kota Padang.

EBI is one of the factors that influence involution because in the lactation process there is a prolactin reflex and an oxytocin reflex (Let Down Reflex). Nipple stimulation is passed on to the anterior pituitary which then secretes the hormone prolactin, then continues again until the posterior pituitary so that the hormone oxytocin will come out. Through blood circulation, the hormone oxytocin will go to the uterus so that it triggers contractions.

Breastfeeding will speed up the process of involution. The Efforts to improve maternal and infant health can be done by giving ASI. Likewise, the results of a study by Pratiwi (2014) found that mothers who had EBI experienced rapid uterine involution and mothers who did not do EBI experienced involution of respondents who were given EBI treatment which experienced a faster TFU decline. This is due to the touch of the baby's hands, mouth, and head and sucking on the breast stimulates the production of oxytocin which causes uterine contractions so that it can accelerate uterine involution in post partum mothers.

4 CONCLUSION

The means of involusio uteri in post partum mothers who performed early breastfeeding initiation was 9.70. The means of involusio uteri in post partum mothers who did not initiate early breastfeeding was 11.20 and the difference in mean height of uterine fundus in post partum mothers with early breastfeeding initiation and not early breastfeeding initiation was 1.50 so there was a difference in the process of involuntary uteri in post partum mothers with the initiation of early breastfeeding and those who are not initiating early breastfeeding with p value = 0.00.

5 SUGESTION

5.1 Related Health Workers

Especially midwives must be more patient in accompanying post partum mothers in conducting EBI.

5.2 Maternity Clinic

Maternity Clinic is expected to make Early Breastfeeding Initiation a permanent procedure that must be done after the mother gives birth.

5.3 Patient

The results of this study can be a source of knowledge for patients that early breastfeeding is very influential in accelerating the return of the uterus to its original form.

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