FACTORS RELATED TO THE SPEED OF THE UTERUS INVOLUTION IN POST PARTUM MOTHERS

Noor Cholifah, Heni Siswanti

Universitas Muhammadiyah Kudus

ABSTRACT

Background: Favorable uterine involution and ovarium activity are very important for the next reproductive cycle of postpartum women. Involution is how the uterus is transformed from a pregnant to a non-pregnant state. This period is characterized by restoring ovarium function to prepare the body for a new pregnancy. This study aimed to determine factors associated with the speed of uterus involution.
Subjects and Method: This was a cross-sectional study conducted at Sultan Hadlirin Hospital Jepara, Central Java, in April 2021. A sample of 78 postpartum women was selected for this study. The dependent variable was the speed of uterus involution. The independent variables were age, nutrition status, early mobilization, and early breast-feeding initiation. The data were analyzed using OR and chi-square.
Results: The speed of uterine involution increased with early mobilization (OR= 5.25; p= 0.004) and good nutrition status (OR= 4.27; p= 0.021). The associations between age (OR= 5.25; p= 0.410) and early initiation of breastfeeding (OR= 1.25; p= 0.740) with the speed of uterine involution were statistically non-significant.
Conclusion: The speed of uterine involution increases with early mobilization and good nutrition status. The associations between age and early breastfeeding initiation with the rate of uterine involution are statistically non-significant.

Keywords: uterus involution, age, early mobilization, early initiation of breastfeeding, postpartum women

Correspondence:
Noor Cholifah. Universitas Muhammadiyah Kudus. Jl. Ganesha Raya No. 1, Purwosari, Kudus 59316, Central Java. Email: noorcholifah@umkudus.ac.id. Mobile: +628112-884404.

BACKGROUND

Maternal Mortality Rate (MMR) is one indicator of the success of health services in a country (Saputri, 2020). The Maternal Mortality Rate (MMR) in Indonesia is still relatively high, according to the 2018 MMR Health Research of 334 per 100,000 per live birth (Depkes RI, 2018). Based on Central Java health profile data in 2010, it was found that in 2010 the number of MMR was 117 deaths per 100,000 live births (Central Java Health Office, 2010). The MMR in Kudus District, according to the Kudus District Health Office in 2018, was 91 per 100,000 live births (Juhasz-Böss et al., 2018). The MMR has decreased considerably but is still far from the 2018 Millennium Development Goals (MDGs) target of 102 per 100,000 live births (Rejeki et al., 2009).

The maternal mortality rate in Indonesia due to postpartum hemorrhage is high; one of the causes of the bleeding is uterine atony or the absence of uterine contractions. The results showed that 60% of maternal

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deaths due to pregnancy occurred after delivery, and 50% of postpartum deaths occurred within the first 24 hours (Bobak, 2004). MMR in Indonesia, however, is still far from the 2018 Millennium Development Goals (MDGs) target of 102 per 100,000 live births (Purwarini, 2012).

The speed of uterine involution is influenced by several factors, namely age, nutrition, parity, early mobilization, and early initiation of breastfeeding (Abultdinova et al., 2020). Early mobilization influences the uterine involution process; therefore, the uterine involution process can be associated with early mobilization (Ainun et al., 2020).

Early mobilization can be done as early as 2 hours after the baby is born to restore the mother's health. There is a return of organs that changed to their original state and function before pregnancy in this condition. Early mobilization can help return the uterus more quickly and thoroughly. By doing early mobilization after delivery, the muscles experience the necessary contractions and retractions to expel the contents of the uterus that are not needed. This continuous contraction and retraction cause the muscle tissue to become smaller so that the uterus gradually becomes smaller and finally returns to its pre-pregnancy state (Rejeki et al., 2009).

Based on a preliminary survey conducted at the Sultan Hadlirin Hospital in Jepara on ten postpartum mothers on the first day of delivery, the results showed that 5 mothers had TFU 2 fingers below the center of the puerperium on the first day of postpartum, while 5 mothers experienced slow involution where the TFU was as high as the center of the uterus. Of the 6 mothers who experienced slow involution, it was found that 4 mothers had an age > 35 years, with parity > 2, and 2 mothers had an age < 20 years. Judging from early mobilization, 6 mothers did not do early mobilization properly due to fear of moving a lot, based on nutrition, 4 mothers experienced SEZ, and 3 mothers did not initiate early breastfeeding (Abultdinova et al., 2020).

Based on this background, the authors are interested in conducting a study with the title factors related to the speed of uterine involution in postpartum mothers at Sultan Hadlirin Hospital, Jepara.

SUBJECTS AND METHOD

1. Study Design

This study is a quasi-experimental study with a pre-post test design. This research was conducted at Fastabiq General Hospital, Pati, Central Java, from March to April 2021.

2. Population and Sample

78 postpartum mothers selected the sample of this study at the Sultan Hadlirin Hospital, Jepara.

3. Study Variables

The dependent variable is the rate of uterine involution. The independent variables were age, nutritional status, early mobilization, and early breastfeeding initiation.

4. Operational Definition of Variables

Uterine involution rate is when the uterus returns to its prepregnant state after delivery.

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Age is the age of the subject at the time of the study.

Maternal Nutritional Status is when the mother is malnourished due to a chronic (chronic) deficiency of one or more dietary nutrients, which results in relative or absolute health problems for the mother.

Early mobilization is an immediate movement activity in the postpartum period.

Early initiation of breastfeeding is the process of the baby suckling immediately after birth, where the baby is allowed to find the mother's nipple on its own (not thrust into the nipple).

5. Instruments

This study uses an instrument, namely a questionnaire.

6. Data Analysis

Data were analyzed using univariate and bivariate analysis, namely chi-square with the reported relationship is the odds ratio (OR).

RESULTS

1. Univariate Analysis

Most of the subjects aged 20-35 years were 43 people (66.2%), with early mobilization as many as 35 people (53.8%). More subjects experienced chronic energy deficiency as many as 35 people (53.8%). The majority of subjects had primiparous parity as many as 43 people (66.2%). Almost all subjects did not do EBF and experienced normal uterine involution as 46 people (70.8%) (Table 1).

Table 1. Frequency Distribution of Postpartum Mothers' Age at Sultan Hadlirin Maternal Hospital Jepara

Subject Characteristics	Frequency	Percentage (%)
Age		
Health (20 – 35 years)	43	66.2
Risk (< 20 or > 35 years	22	33.8
Early Mobilization		
Yes	35	53.8
No	30	46.2
Maternal Nutrition		
Chronic Energy Deficiency	30	46.2
No Chronic Energy Deficiency	35	53.8
Parity		
Multipara	22	33.8
Primipara	43	66.2
Early Initiation of Breastfeeding		
Yes	19	29.2
No	46	70.8
Uterine Involution		
Normal	46	70.8
Abnormal	19	29.2

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2. Bivariate Analysis

Table 2. Chi-Square Test Results between Age, Early Mobilization, Maternal Nutrition, and Early Initiation of Breastfeeding with Uterine Involution

Subject Characteristics	n	%	RR	p
Age				
Health (20 – 35 years)	43	66.2	0.61	0.410
Risk (< 20 or > 35 years)	22	33.8		
Early Mobilization				
Yes	35	53.8	5.25	0.004
No	30	46.2		
Maternal Nutrition				
Chronic Energy Deficiency	30	46.2	4.27	0.021
No Chronic Energy Deficiency	35	53.8		
Early Initiation of Breastfeeding				
Yes	19	29.2	1.64	0.410
No	46	70.8		

DISCUSSION

1. The relationship between age and the process of uterine involution

The results of this study are in line with the theory which states that the aging process much influences older mothers; in the aging process, changes in metabolism occur, namely an increase in the amount of fat, a decrease in muscle elasticity, and a decrease in muscle stretch, will affect the shrinking of the uterine muscle after giving birth. It takes a long time—compared to mothers who have better muscle strength and stretch.

Based on the results of this study, uterine involution cannot be seen from age because both 20-35 years and <20 years or >35 years have a risk of experiencing prematurity

2. The relationship between early mobilization and uterine involution process

The results of this study are in line with the theory, which states that immediately after normal delivery, 8 hours later, the mother is expected to be mobilized. The mother may tilt to the right and left on the first day to prevent thrombosis and thrombo-embolism. On the 2nd day, they are allowed to sit; on the 3rd day, they walk around, and on the 4th or 5th day, they are allowed to go home. The mobilization carried out has variations, depending on complications of childbirth, postpartum, and healing of wounds

3. The relationship between maternal nutrition and the uterine involution process

The results of this study are by the theory, which states that the general function of nutrition is as a source of energy, maintaining body tissues by replacing damaged cells, regulating metabolism and balance in the body, and playing a role in the body's defense against disease. If the body does not get enough nutrients, then the function will be impaired. Postpartum mothers will experience the process of recovering uterine equipment and preparing for breastfeeding so that they need additional energy. If the

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mother's nutrition is lacking, then the process of growth and tissue maintenance, especially to replace cells damaged by childbirth, will also be disrupted so that the return of uterine involution equipment becomes slow (Sediaoetama. 2018: 42).

The good nutritional status will accelerate the recovery of postpartum maternal health, and the return of muscle strength will be faster. It will increase the quality and quantity of breast milk.

4. The relationship between early initiation of breastfeeding and the process of uterine involution

According to Utami (2007), initiating early breastfeeding, it should be done after the baby is born and in a dry state without removing the vernix or fat that comforts the baby's skin, immediately put the baby on the mother's chest or stomach with the baby's skin attached to the mother's skin. Let the baby find the mother's nipple on its own; the mother can stimulate the baby with a gentle touch, or the mother may bring the baby closer to the nipple but do not force the baby to the mother's nipple. The baby should be left in contact with the mother's skin until the first feeding is complete.

This study concluded that the rate of uterine involution increased with early mobilization (OR= 5.25; p= 0.004) and good nutritional status (OR= 4.27; p= 0.021). The relationship between age (OR= 5.25; p= 0.410) and early initiation of breastfeeding (OR= 1.25; p= 0.740) and the rate of uterine involution was not statistically significant.

This study recommends that health agencies improve the quality of services, especially in postpartum services, and the community can increase insight into early initiation of breastfeeding to accelerate uterine involution.

AUTHOR CONTRIBUTION

Noor Cholifah processed and analyzed the data. Heni Siswanti is the author of this article.

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CONFLICT OF INTEREST

There is no conflict of interest.

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