THE RELATIONSHIP BETWEEN EARLY INITIATION OF BREASTFEEDING AND FREQUENCY OF BREASTFEEDING WITH UTERINE INVOLUTION IN POSTPARTUM MOTHERS AT MAMAJANG HEALTH CENTER MAKASSAR CITY

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ABSTRACT

Perfect involution is one of the important indicators in seeing the recovery of the mother during the puerperium. Early Initiation of Breastfeeding (EIBF) and frequency of breastfeeding is one of the factors that influence it and uterine subinvolution is a result of the failure of that process. According to the Data at the Mamajang Puskesmas, there were 16% of postpartum mothers who experienced uterine subinvolution in 2016 and increased to 18% in 2017. The purpose of this study is to determine the relationship between Early Initiation of Breastfeeding and the frequency of breastfeeding with uterine involution in postpartum mothers at the Mamajang Health Center in Makassar City. The population in this study were 133 postpartum mothers with a sample of 56 postpartum women taken using accidental sampling techniques. This research is a longitudinal study, conducted on March 11-May 13 2019 with the method of collecting observational data. The analysis used was univariate and bivariate with the Chi-square test at the level of confidence α = 0.1. The results of the statistical test obtained a significance value of Early Initiation of Breastfeeding (EIBF) ($p < 0.1$) and the significance value of the frequency of breastfeeding ($p < 0.1$). So it can be concluded that there was a relationship between the Early Initiation of Breastfeeding and the frequency of breastfeeding against female infertility in the mother of childbirth.

Keywords: Early Initiation of Breastfeeding (EIBF), Breastfeeding Frequency, Uterine Involution.

INTRODUCTION

Perfect *uterine-involution* is one of the important indicators in seeing maternal recovery during the postpartum. Therefore, it is very important for health workers, especially those who assist childbirth, to ensure that the *uterine-involution* of the maternal occur normally. A situation when *uterine-involution* does not last normally, or a *uterus* fails to involution at the estimated speed is called *subinvolution* (Apriliasari, 2015).

Subinvolution is one of the causes of postpartum bleeding, which is known to be the current highest cause of maternal mortality in Indonesia, especially in South Sulawesi. (South Sulawesi Provincial Health Office, 2017). One effort that can be done to prevent *subinvolution* occurrence is by implementing the Early Initiation of Breastfeeding (EIBF) followed by breastfeeding *on-demand*.

When implementing the EIBF and continuing with *on-demand* breastfeeding, a baby suction on the postpartum breast will stimulate the production of the hormone prolactin, which serves to increase milk production. It also stimulates the production of the hormone oxytocin, which functions to cause contractions in the *uterus*, causing *uterine-involution*. The more often the baby suckles, the more hormone prolactin and oxytocin will be produced.

Based on data obtained from the results of Nutrition Status Monitoring (NSM) in 2017, the implementation of EIBF decreased from 2016 to 2017, which was 9.2% to 6.6%. Furthermore, the implementation in South Sulawesi also decreased from 2016 to 2017, which was 7.9% to 6.9% (Ministry of Health RI, 2018)

EIBF implementation data obtained for Makassar City decreased from 2016 was 15.1%, then in 2017 to 9.4% and that has not exceeded the target of the Strategic Plan in 2017 (47%) (Ministry of Health RI, 2018). For the results of the preliminary data collection at the Mamajang Public Health Center in Makassar, the implementation of EIBF was 97% in there. EIBF was not carried out only on mothers and babies with problems. Furthermore, there were 52 of 325 postpartum mothers (16%) who experienced *uterine-subinvolution* in 2016 and increased to 65 out of 361 postpartum mothers (18%) in 2017.

Based on the results of a study conducted by Pratiwi in 2014 at Toto Kabila Regional Hospital, Bone Bolang Regency, it found that there was a relationship between Early Initiation of Breastfeeding (EIBF) and

uterine-involution in postpartum mothers. Furthermore, the research conducted by Lisnawati et al in 2015 at Mother and Child Hospital Pertiwi Makassar also found that there was an effect of Early Initiation of Breastfeeding (EIBF) on the acceleration of *uterine-involution* in postpartum mothers.

After the implementation of the EIBF immediately after birth, mothers are encouraged to continue giving breast milk to their babies because further involution also influenced by breastfeeding interventions. In other words, there is an influence of breastfeeding on uterine-involution in postpartum mothers (Wardiyah dan Setiawati, 2017). In the book of Maternal and Child Health (MCH), the Ministry of Health RI (2016) has also encouraged mothers to breastfeed their babies with a frequency of 8 times a day at least.

It is in line with the research conducted by Riyantika about the effect of frequency of breastfeeding on a high reduction of the *uterine-fundus* in postpartum mothers in Petirejo Temanggung Village in 2011. It is found a significant influence between the frequency of breastfeeding, and the high reduction of *uterine-fundus* in postpartum mothers (Wardiyah, 2017). In another study conducted by Indrasari in January - June 2013 in the Working Area of the Rajabasa Raya District Health Post in Rajabasa Bandar Lampung Subdistrict, it is found that there was a relationship between the frequency of breastfeeding and *uterine-involution* in postpartum mothers.

Based on the description above, the researchers interested in researching with the title "The Relationship between Early Initiation of Breastfeeding and Frequency of Breastfeeding with Uterine Involution in Postpartum Mothers at Mamajang Public Health Center, Makassar".

MATERIAL AND METHODS

This research was conducted at the Mamajang Public Health Center in Makassar City. Data collection was carried out from March 11 to May 13, 2019 with a population of 133 people. The number of samples is determined by the *Lamesow* formula, which is 56 people and taken by using *accidental sampling* techniques, namely accidental or incidental sampling techniques to meet researchers and are considered suitable as data sources. Early Initiation of Breastfeeding and frequency of breastfeeding are independent variables and the dependent variable is a uterine-involution.

The research design used *Longitudinal*, which is the risk variable (*independent variable*) and the case or effect (*dependent variable*) that occurs in the object of research measured or collected in a sequential time (*time series*). Primary data retrieval was obtained by researchers assisted by an enumerator using the observation method and using the high reduction *uterine-fundus* monitoring checklist sheet and the frequency of breastfeeding postpartum mothers on the first and second days.

RESULTS AND DISCUSSION

Table 1
Distribution of Respondents Based on Age of The Postpartum Mothers in Mamajang Public Health Center Makassar in 2019

The Age of Postpartum Mothers	Frequency	Percentage (%)
Low Risk	42	75,0
High Risk	14	25,0
Total	56	100,0

Table 1 shows that of 56 respondents, 42 (75.0%) had a low-risk age and there were 14 respondents (25.0%) who had a high-risk age.

Table 2
Distribution of Respondents Based on Parity of The Postpartum Mothers in Mamajang Public Health Center Makassar in 2019

Parity of The Postpartum Mothers	**Frequency**	**Percentage (%)**
Primipara	17	30,4
Multipara	31	55,4
Grande multipara	8	14,2
Total	**56**	**100,0**

Table 2 shows that of 56 respondents, 17 (30.4%) with primipara parity, 31 (55.4%)

with multipara parity and 8 respondents (14.3%) with grande multipara parity.

Table 3
Distribution of Respondents Based on Early Initiation of Breastfeeding of The Postpartum Mothers in Mamajang Public Health Center Makassar in 2019

Implementation of Early Breastfeeding Initiation	Frequency	Percentage (%)
EIBF	34	60,7
Did not implement EIBF	22	39,3
Total	56	100

Table 3 shows that out of 56 respondents, 34 (60.7%) implemented EIBF and there were 22 respondents (39.3%) who did not implement EBI.

Table 4
Distribution of Respondents Based on The Frequency of Breastfeeding of The Postpartum Mothers in Mamajang Public Health Center Makassar in 2019

The Frequency of Breastfeeding	Frequency	Percentage (%)
Good	30	53,6
Less	26	46,4
Total	56	100

Table 4 shows that of 56 respondents, 30 (53.6%) had a good frequency of breastfeeding and 26 (46.4%) had less frequency of breastfeeding.

Table 5
Distribution of Respondents Based on *Uterine-Involution* of The Postpartum Mothers in Mamajang Public Health Center Makassar in 2019

Uterine-Involution	Frequency	Percentage (%)
Normal	35	62,5
Abnormal	21	37,5
Total	56	100

Table 5 shows that of 56 respondents, 35 (62.5%) experienced normal uterine involution and there were 21 respondents (37.5%) who experienced abnormal uterine involution.

Table 6
The Relationship between Early Initiation of Breastfeeding (EIBF) and Uterine Involution in Postpartum Mothers at Mamajang Health Center Makassar City in 2019

Category		*Uterine-Involution*				Total		*ρ Score*	*Phi (μ)*
		Normal		Abnormal					
		F	%	F	%	F	%		
EIBF	EIBF	26	46,4	8	14,3	34	60,7	0,007	0,359
	did not implement EIBF	9	16,1	13	23,2	22	39,3		
Total		35	62,5	21	37,5	56	100		

Based on table 6 of 56 respondents, 34 (60.7%) who conducted EIBF, 26 people (46.4%) had normal *uterine-involution* and there were 22 respondents (39.3%) who did not do EIBF, 13 people (23.2%) of whom had abnormal *uterine-involution*.

Based on the results of statistical analysis using the Chi-Square test obtained p score (0,007) < α (0,10). It means that the score of p is smaller than the score of α at the 90% confidence level, it can be concluded that the alternative hypothesis is accepted. There is a relationship between the Early Initiation of Breastfeeding with uterine-involution in the postpartum mother. Then for the score of the strong relationship

between these variables obtained by the score of the phi coefficient (μ) = (0.359) which means that the relationship between variables is sufficient, which is equal to 35.9%.

The relationship of Early Initiation of Breastfeeding (EIBF) with involuntary uterine in this study in line with Nelwatri's in 2013 that there was a significant effect on maternal uterine involution who did implement EIBF than those who did not.

Research by Pratiwi in 2014 in the midwifery room at Toto Kabila Regional Hospital, Gorontalo also espouses the results of this study, because in hers there was a relationship between Early Breastfeeding Initiation and accelerated *uterine-involution* in vaginal *postpartum* mothers. The group of women who did implement EIBF has rapid uterine involution of 58.8% and those who did not, has a slow involution of 41.2%.

Research by Lisnawati et al in 2015 that examined the Factors Affecting Uterus Involution in Postpartum Mothers at Mother and Child Hospital Pertiwi Makassar also supported the results of this study. One of the factors is EBI, that most respondents who conduct EIBF had acceleration in the process of *uterine involution*.

According to Manuaba (2013), the process of uterine involution aided by the mother's willingness to give early breastfeeding. When the baby sucks milk, stimulation occurs to the posterior pituitary so that oxytocin can be released, which serves to increase the contraction of smooth muscle around the gland alveoli so that milk can be released. *Oxytocin* will also stimulate the uterine muscles to contract to accelerate uterine involution (Lisnawati et al, 2015).

Process uterine-involution gradually is one of the important indicators in seeing maternal recovery during the postpartum period. Therefore, it is very important for health workers, especially those who assist childbirth, to ensure the mother to do early breastfeeding if the condition of the mother and fetus is normal (Nelwatri, 2013).

Table 7
The Relationship between Frequency of Breastfeeding and Uterine-Involution of Postpartum Mothers in Mamajang Public Health Center Makassar in 2019

Category		*Uterine-Involution*				Total		*ρ Score*	*Phi (μ)*
		Normal		Abnormal					
		F	%	F	%	F	%		
Frequency of Breastfeeding	Good	27	48,2	3	5,4	30	53,6	0,000	0,610
	Less	8	14,3	18	32,1	26	46,4		
Total		35	62,5	21	37,5	56	100		

Based on table 7, of 56 respondents, 30 (53.6%) had a good frequency of breastfeeding, 27 (48.2%) of them had normal *uterine involution*, and 26 respondents (46.4%) had the frequency of breastfeeding the poor, 18 (32.1%) of whom had abnormal *uterine involution*.

Based on the results of statistical analysis using the *Chi-Square* test, the score of p is (0,000) <α (0.10). It means that the score of p is smaller than the value of α at the 90% confidence level, it can be concluded that the alternative hypothesis is accepted or there is a relationship between the Frequency of Breastfeeding with uterine-involution in the postpartum mother. Then for the score of the strong relationship between these variables obtained phi coefficient (μ) = (0.610), which means that the relationship between variables is sufficient, that is equal to 61.0%.

This study is in line with Riyantika's in 2011, which found the effect of the frequency of breastfeeding on a high decrease in uterine-fundus in postpartum mothers in Petirejo Village Temanggung. The results showed that the frequency of giving breast milk> 3 times a day decreased an average of 3.08 cm TFU, a frequency of 10-12 times a day a decrease in high reduction *uterine-fundus* an average of 4.03 cm and a frequency of <10 times per day an average TFU decrease of 5.22 cm. So it can be concluded that there is a significant influence between the frequency of breastfeeding and a decrease in high reduction *uterine-fundus* (Wardiyah, 2016). (Wardiyah, 2016).

In 2013, Indrasari conducted a study on the relationship of the frequency of breastfeeding to *uterine involution* in postpartum mothers in the Work Area of the Health Post in the Village of Rajabasa Raya, Bandar Lampung. From the results of his research, 18 out of 32 respondents whose frequency of breastfeeding <8 times a day (56.3%) had inappropriate *uterine involution*, whereas only 10 out of 58 respondents whose frequency of breastfeeding 8 times a day experiencing the same thing. it can be concluded that there is a relationship between the frequency of breastfeeding to the process of decreasing Uterine Fundus Height in postpartum mothers.

The relationship between this study and other researchers is in line with the theory, that breastfeeding will accelerate the process of involution (Varney et al., 2008). The suction which stimulates the nipple will stimulate the *anterior* pituitary so that it secretes *prolactin*. This hormone stimulates the cells of the alveoli, which function as a place for producing milk.

Along with the formation of prolactin by the anterior pituitary, stimuli that originate from the baby's suction continued to the posterior pituitary which is then released by oxytocin. It causes cell contractions that will make milk come out then enter the baby's mouth. Besides, through the bloodstream, this hormone is also brought to the uterine myometrium which can cause contractions in these organs so that there is a gradual involution of these organs known as uterine-involution (Rini, 2016).

CONCLUSION

Based on the results of data analysis and discussion of the study of 56 postpartum women respondents, it can be concluded that there are a relationship between Early Initiation of Breastfeeding and Frequency of Breastfeeding with *uterine involution* in postpartum women.

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