

Original Research Article

UTERINE INVOLUTION IN DAWANESSE POSTPARTUM MOTHERS WITH TATOBI PRACTICES

Kristiani Desimina Tauho^{1*}, Rifatolistia Tampubolon¹, Maya Miranthi Oematan¹

¹Faculty of Medicine and Health Sciences, Universitas Kristen Satya Wacana

*Correspondence:

Kristiani Desimina Tauho

Faculty of Medicine and Health Sciences,
Universitas Kristen Satya Wacana
Kartini St. 11A, Salatiga City, Central
Java, Indonesia, 50711

Email: kristiani.tauho@uksw.edu

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Abstract

Background: The Dawan tribe is a tribe on the mainland of Timor Island that owns a tradition of caring for postpartum mothers called Tatobi. Tatobi is a tradition done by compressing the vagina, perineum, abdomen, and mother's breast using a traditional cloth dipped in hot water. Heat stimulation can cause vasodilation, possibly affecting the process of returning the uterus to its original state, known as uterine involution.

Objectives: This study aims to determine differences of uterine involution in postpartum mothers who did and did not practice tatobi.

Methods: This quantitative study uses a comparative descriptive study design involving 15 exposed groups and 15 control group people. Determination of respondents using the quota in Binaus Health Center, Kapan Health Center, and Fatumnasi Health Center. Technique data collection using direct lochia observation, measurement of uterine fundus height, and interviews to find out the practice of Tatobi. The data were then analyzed using the paired t-test.

Results: The study showed no significant difference in FH of exposed and control groups on the first and third days of postpartum, which showed a p-value of 0.325 and 0.261, respectively. In contrast, there was a significant difference in FH on the seventh day, with a p-value of 0.000 at a 95% confidence level. The results also showed no significant difference in lochia's volume on the 1st and the third day of postpartum (p-values 0.764 and 0.426, respectively). However, the lochia's volume differed in the exposed and control groups with a p-value of 0.048). The results of this study could be due to the lax practice of tatobi, which is supported by factors of early mobilization, fulfilment of nutria ents, age, and parity.

Conclusion: This research concludes that there is a difference of the process of uterine involution in the exposed group and the control group on the seventh day.

Keywords: *Tatobi, Traditional practices, Postnatal care, Postpartum mother*

INTRODUCTION

The Maternal Mortality Rate (MMR) is an essential indicator in determining the degree of public health. MMR refers to the number of maternal deaths during pregnancy, childbirth, and the puerperium. According to the World Health Organization (WHO), the number of maternal deaths in Indonesia in 2019 was 4,221 cases (Ministry of Health, 2020). The cause of maternal death is around 25-50% due to problems related to pregnancy, childbirth, and postpartum (World Health Organization, 2020); the problems that often occur are bleeding, hypertension in pregnancy, infections, metabolic disorders, and others (Ministry of Health, 2020).

The causes of maternal death are also found in East Nusa Tenggara Province. According to the Strategic Plan of the East Nusa Tenggara Health Service for South Central Timor District, 2017, the highest was 260.9/100,000 live births. South Central Timor District is one of the districts with the highest MMR compared to 21 other districts in East Nusa Tenggara Province; this is due to economic, social, cultural, geographical, transportation, and health factors and also delivery assistance performed by non-health personnel which is still high and at risk of causing high cases of bleeding during the puerperium (Tauho & Karwur, 2019). Maternal deaths that occur during the postpartum period are caused by the care carried out by the mother independently and are not optimal. Therefore, the postpartum period becomes prone to maternal death.

Postpartum care is an effort made by health workers, postpartum mothers, and families with the aim that the healing process runs optimally; nutritional needs can be met, and adequate rest and sleep to prevent dangerous signs during childbirth that can endanger the mother's health and have an impact on death. A danger sign during the puerperium is an abnormal sign indicating complications that can occur (Eldawati, 2017).

The changes experienced by the mother during the postpartum period are physical and psychological, most of which are physiological, one of which is the process of uterine involution (Victoria & Yanti, 2021). Uterine involution is the process of returning the uterus to its original shape, this process begins as soon as the placenta comes out due to contractions of the smooth muscles of the uterus, and the size of the uterus will experience a reduction. The progress of involution can be measured by assessing the height and consistency of the uterine fundus. The fundus can rise immediately after delivery and on the first day postpartum but decrease by about 1 cm or one finger daily (Aprilian et al., 2016). If the process of uterine involution fails to return, it will be called uterine subinvolution. If uterine subinvolution is not handled correctly, it will result in continued bleeding or postpartum hemorrhage. The Dawan people believe that for the physical recovery process for postpartum mothers to go well, a tradition of caring for postpartum mothers must be carried out.

The Dawan tribe is a tribe that lives in South Central Timor Regency, East Nusa Tenggara Province. This tribe has a unique tradition of caring for postpartum mothers and their babies, known as the Neno Boha Tradition. This tradition consists of three practices, which are food restrictions, smoking (*se'i*), and compressing hot water using traditional cloth (*tatobi*). *Tatobi* is the process of compressing the mother's body, especially the vagina, perineum, abdomen, and breasts, using a traditional cloth dipped in hot water. *Tatobi* is believed to help improve blood circulation, so the process of *tatobi* is mandatory for postpartum mothers because it has become a hereditary culture for the Dawan tribe. This tradition is repeated twice daily, in the morning and evening. The mother can do this tradition with the help of the husband or a family member near the mother (Handayani & Prasodjo, 2017; Karwur et al., 2016).

An initial study conducted by researchers in November 2022, through interviews with a midwife in the working area of the Kapan Health Center, North Mollo District, obtained data that research had never been conducted in that area to compare the process of uterine involution with the practice of tatobi. The researcher's interviews with four postpartum mothers in the North Mollo Sub-district showed that three mothers still practiced tatobi at home and at the health center. One postpartum mother said they were still undergoing it but only at home. In addition, in several primary health centers in South Central Timor District, namely the Binaus Health Center and the Fatumnasi Health Center, the same thing also happened. Most postpartum women still carry out the tattoo tradition because it is believed to speed up healing (Anwar & Soerachman, 2014).

Previous research conducted in the Eban Health Center area, North Central Timor District, analytically with observational studies and in the same population, found that Neno Boha Tradition causes the uterine involution process to elongate (Korbaffo, 2018). Unfortunately, the previous study only observed the impact of smoking practices (se'i) on uterine involution. This study focused on the impact of tatobi practice on the involution of uteri. In the presence of a stimulus of hot compresses or the tradition of tatobi, the researchers assume that the risk of vasodilatation of blood vessels is more significant so that it will inhibit the process of uterine involution.

Objective: This study aimed to compare uterine involution between mothers who practiced tatobi and mothers who did not.

METHODS

Study Design

This study uses quantitative research with a comparative research design.

Setting

The study was conducted in the Central South of Timor District, East Nusa Tenggara Province, from June to August 2023.

Research Subject

The total sample in this study is 30 postpartum mothers. They were divided into exposed and control groups of 15 mothers each. Those who practice the tatobi tradition were in the exposed group, while the control group is those who do not practice the tatobi tradition. The determination of the respondent group was carried out on the first postpartum day by interview. Researchers met with postpartum mothers and interviewed respondents regarding their postpartum care plans, whether to use tatobi practices or not. When the respondent said she would practice tatobi, the respondent would be included in the exposed group. If the respondent said she would not practice tatobi, she would be included in the control group.

The researchers ensured that both groups in this study were postpartum mothers of Dawan tribe but did not limit the demographic factors of the respondents, such as age, education, occupation and marital status.

Instruments

The research instrument used was an observation checklist sheet. Data is taken by examining regular changes in the uterus during the puerperium, as follows:

1. First day of postpartum: Observing uterine involution from the outside and examining the uterine fundus with the provision that immediately after delivery, the height of the uterine fundus (FH) is two cm above the umbilicus, 12 hours later returns one cm below the umbilicus. Researchers and local midwives measured FH using the midline with an accuracy of 0.1 cm. The lochia's volume was observed by counting how many pads

- were full of blood in 24 hours. On the first day, the volume of lochia should not be more than ten pads per 24 hours.
- The third day of postpartum: The height of the uterine fundus is 2 cm below the umbilicus, and the expected volume of lochia is decreasing from the first day, not being more than six pads / 24 hours.
 - Seventh day of postpartum: The height of the uterine fundus is just above the symphysis bone, and the lochia decreases by a maximum of 3 pads a day.

Data Analysis

The data analysis technique used in this research is comparative or difference analysis. The statistical test used in this study is the independent sample t-test to test the similarity of the mean of two independent populations. Calculations with sample t-tests were performed using the SPSS program version 25.0 for Windows.

Ethical Consideration

This research has obtained research ethics approval and a research permit from the Office of Investment and One Stop Services of East Nusa Tenggara Province with number: 070/661/DPMPTSP.4.3/03/2023.

RESULTS

The respondents in this study, shown in Table 1, ranged in age from 18 to 40 years old, average age is 28.2 years old. Of the 30 postpartum women respondents, 46.7% have a high school education level, 82.7% work as housewives, and 70.0% have married status.

Table 1. Characteristics of respondents

Characteristics	Frequency (n = 30)	Percentage (%)
Age (y.o)		
<20	4	13.3
20 - 35	21	70.0
> 35	5	16.6
Range: 18 – 40		
Mean: 28.2		

Education		
Primary school	5	16,7
Junior High School	7	23,3
Senior High School	14	46,7
College	4	13,3
Occupation		
Teacher	2	6,7
Housewife	25	83,3
Students	3	10,0
Marital Status		
Unmarried	9	30,0
Married	21	70,0

Table 2 shows that most respondents, as many as nine mothers (60.0%), started doing tatobi on the second day postpartum. It is also known that nine mothers (60.0%) do tatobi with the help of their families, and two people (13.3%) are assisted by their husbands. Most postpartum mothers do tatobi 4-7 times daily (36.0%).

Table 2. Description of tatobi practice

Description	Frequency (n=15)	Percent age (%)
It starts on the day		
1	4	26.7
2	9	60.0
3	2	13.3
Total	15	100.0
Independence		
Assisted by her mother	1	6.7
Assisted by other family members	9	60.0
Assisted by husband	2	13.3
Independent	3	20.0
Total	15	100.0
Frequency per day		
2-3 times	5	33.3
4-7 times	9	36.0
Total	15	100.0

Table 3. Comparison of uterine involution in exposed and control group

Groups		Average value	Std. deviation	Sig.(2-tailed)
Fundal height				
Day 1	Exposed	12,2	.495	.325
	Control	12,4	.593	
Day 3	Exposed	9,6	.632	.261
	Control	9,8	.639	
Day 7	Exposed	5	.654	.000
	Control	5,8	.414	
Lochea's volume				
Day 1	Exposed	5,13	.516	.764
	Control	5,2	.676	
Day 3	Exposed	3	.378	.426
	Control	3,13	.516	
Day 7	Exposed	1,13	.352	.048
	Control	1,47	.516	

FH measurement results on the first and third day of the exposed and control groups did not differ significantly, with a two-way significance value of 0.325 and 0.261, respectively. Meanwhile, the FH examination on the seventh day postpartum found a significant difference between the FH exposed and control groups. Likewise, the lochia volume did not differ for the exposed and control groups on the first and third days postpartum but experienced a difference on the seventh. It can be seen in Table 3 that FH and lochia volume in the exposed group decreased faster than FH in the control group.

DISCUSSION

Tatobi is a treatment performed on postpartum mothers. This tradition is carried out by compressing hot or boiling water all over the body by pressing on the stomach area and the wound present after giving birth. Tatobi is believed to be an antidote to severe illness, especially in women after childbirth; another reason underlying the tradition of tatobi is the concern of parents and families that if the condition of the child's body becomes weak and unhealthy, it will even

cause craziness in the birthing mother (Hanifah N, 2016).

Tatobi is an example of traditional postnatal care practices. This kind of practice still has inconsistencies concerning uterine involution. Although research shows that traditional postpartum care practices are beneficial for the physical recovery of the mother, such as bathing in warm water, which can increase blood circulation in the breasts, thereby facilitating breast milk (ASI), several other practices can be harmful to the health of the postpartum mother (Nakibuuka, 2021). Lail (2019), in his research in Bogor, found that there was an influence from traditional postpartum care practices on accelerating the decrease in uterine involution. However, another study conducted in Surabaya showed that traditional postpartum care practices were unrelated to uterine involution (Nuraini, 2020).

Based on the data analysis results, there was a regular decrease in FH daily in both the exposed and the control group. Research on the pattern of decreased uterine involution shows that immediately after delivery, the uterine fundal range is 13-22 cm high, with an average of 18.2 ± 2.9 cm. FH then decreased by an average of 1.12 cm per day (range 0.85-1.50) (Othman et al., 2022). The results of this study show that the measurements of FH on day one postpartum were 12.2 cm (in the exposed group) and 12.4 cm (in the control group). In that case, it can be assumed that all respondents in the study experienced a normal uterine involution process because they experienced a decrease in the FH of approximately 0.8 cm.

Previous studies have shown that several factors influence the duration and characteristics of lochia, namely the mother's age, parity, and type of delivery. Mothers over 35 years old are proven to prolong the length of lochia discharge. Mothers who have multipara parity status have also been shown to contribute to prolonging the duration of

lochia discharge—likewise, mothers who give birth by cesarean section (Cho & Kim, 2013).

Statistically, the results of data analysis also showed that on the first and third day postpartum, there was no significant difference in the exposed and control groups. However, there was a significant difference on the seventh day postpartum. The difference can be related to the level of mobilization of postpartum mothers and the nutrients mothers consume in communities that still adhere to postnatal care traditions, such as the Dawan Tribe. The Dawan tribe has a tradition called the Neno Bo'ha tradition, in which for 40 days, mothers must do tattoos, warm themselves using charcoal in the traditional house of the Dawan tribe, which is called a roundhouse, do not eat food other than borse corn, until new may leave the house to interact socially on the 40th day. Although some aspects of tradition can be changed, several other aspects are still adhered to today. For example, the prohibition against doing activities outside the home in the early postpartum period and restrictions on food that postpartum mothers may consume. The longer the postpartum period, the looser the tradition (Neno, 2016).

Researchers assume that the loose practice of the Neno Bo'ha tradition could have influenced the real difference on the seventh day. Postpartum mothers do not have to eat corn borse for 40 days or do not have to limit themselves to physical activity after 40 days, but gradually start eating a variety of foods and doing physical activity from an early age. Therefore, on the seventh postpartum day, the uterine involution condition of the puerperal mother progresses more progressively. Research conducted on the factors that influence uterine involution which states that one of the factors that influence uterine involution is early mobilization with a p-value: 0.023 (Mayasari et al., 2015).

Postpartum mobilization has been shown to reduce lochia dams in the uterus,

increase bleeding around the genitals, and speed up the return of the reproductive organs to their original state (Prameswary & Kumaladewi, 2019). Early mobilization carried out after delivery will accelerate the process of uterine involution. Early mobilization will help uterine contractions so that the uterine fundus is hard; the uterus shrinks quickly and indirectly prevents the risk of abnormal bleeding because contractions cause narrowing of the open blood vessels (Mulyani & Solihah, 2020).

CONCLUSION

Based on the results of the study, it can be concluded that both postpartum mothers who practiced tatobi and those who did not practice tatobi experienced normal uterine involution on the first and third day postpartum. However, on the seventh day, uterine involution was more significant in the control group. The lack of strict tatobi practices coupled with other factors such as age, parity, and type of delivery could be why the process of uterine involution was not so different between mothers who had tatobi and those who did not.

SUGGESTIONS

Further research is needed to find a more in-depth explanation of how tatobi can cause uterine involution to be faster on the seventh day.

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DECLARATION OF CONFLICTING INTEREST

There is no conflict of interest regarding this research and publication.

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AUTHOR CONTRIBUTION

Kristiani Desimina Tauho: Determining research gap and objectives, controlling data collection, leading the preparation of manuscript to be published, responsible for publication.

Rifatolistia Tampubolon: Arranging the study's design, collecting data, and drafting the manuscript.

Maya Miranthi Oematan: Collecting data and drafting the manuscript.

ORCID

Kristiani Desimina Tauho: 0000-0002-3815-2670

Rifatolistia Tampubolon: none

Maya Miranthi Oematan: none

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