

# The Influence of Parturition Gymnastics towards the Lowering of Fundal Height on Post Partum Mother at Community Health Center in South Tangerang Indonesia

Henny Novita<sup>1</sup>, Marwati Biswan<sup>2</sup>, Vera Suzana Dewi Haris<sup>3</sup>

Jakarta I State Health Polytechnics

**Abstract:** *The first 24 hours of death is a major cause of bleeding caused by an atonic uterus (uterine contraction is not good after the baby is born). One care to maximize uterine contraction during the puerperium is by implementing parturition gymnastics in order to accelerate the process of uterine involution. The purpose of this study was to analyze the fundal height difference on 12 hours and 6 days postpartum by comparing those who did parturition gymnastics and those who did not do gymnastics parturition. This was experimental study with Post Control Only Control Group Design. Parturition gymnastics was given to intervention group but the control group was not treated with parturition gymnastics, then fundal height was measured on the 12 hour postpartum and 6 day. Data were analyzed by using chi-square and t tests. From the research results, there was a difference fundal height on 12 hours and 6 days postpartum who did gymnastics parturition compared to those who did not do gymnastics parturition  $P = 0.074$  and  $0.013$ . There was a relationship between gymnastics parturition with fundal height postpartum  $r = 0.0369$ . It can be concluded that there was a difference of fundal height on 12 hours and 6 days postpartum who did gymnastics parturition compared to those who did not do gymnastics parturition. There was a correlation between fundal height and gymnastics parturition.*

**Keywords:** gymnastics, parturition, fundal height, postpartum

## 1. Introduction

One of the causes of postpartum hemorrhage bleeding is poor contraction. An effort that can prevent bleeding is the absence of contractions that lead to the slowdown of uterine fundus decline. Currently in the world the health status of a country still uses the indicator of Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR). In 2008 the maternal mortality rate in Indonesia reached 228 and in 2012 increased to 359, cause of death is postpartum hemorrhage 42%. (IDHS 2012). Based on the result of Indonesia Health Demography Survey 2007, Maternal Mortality Rate (AKI) 228 per 100,000 live birth, while Infant Mortality Rate (IMR) 34 per 1000 live births. The phenomenon shown above that the largest contributor to maternal mortality is death due to bleeding and especially early post-partum hemorrhage due to retention of placenta and uterine atony of 28%. All the phenomenon is due to one of them because too often pregnant and give birth. The first 24 hours of death is mostly caused by bleeding caused by uterine atony (impaired uterine contractions after birth). To prevent such incidents, a strict care and monitoring takes place within the first 24 hours. Besides the threat of an atonic at 24 hours postpartum mothers are often plagued by urinal retention, then it should be given postpartum exercises (Rifatul 2011). In addition to the threat of the 24-hour atonic postpartum mothers are their retention and edema in the perineal sutures. Postpartum mothers exercises should be given after six hours postpartum. (Suherni 2008). The puerperium period begins after the birth of the placenta and ends when the birth control device is like the condition before pregnancy, which lasts for 6 weeks. Pregnancy fertilization is required in this period as it is both mother and the baby. It is estimated that 60% maternal deaths as a result of pregnancy and 50% of puerperal deaths occur within the first 24 hours. To improve

postpartum contraception of postpartum women should be given postpartum gymnastic exercises after 6 hours postpartum. According to Rifatul 2011 breastfeeding process can accelerate the process of uterine involution. This is because breastfeeding can stimulate the nipple against the end of the sensory nerve. The nipple stimulation will be continued until the pituitary gland that secretes the hormone oxytocin. From this background, the authors are interested in conducting research on the differences of the lowering fundal height in women who do gymnastics and those who do not do gymnastics parturition.

## 2. Methods

The study design was a quasi experiment research with post test only design. The experimental group received the treatment (X) followed by second measurement (O2). The results of observation was then compared with the observation results in the control group, which is not receive programs or interventions (Notoatmodjo, 2005). Samples were taken by total sampling, which all mothers postpartum 12 hours and the 6th day of giving birth in health centers Pondok Benda, Pamulang Ciputat. The research was held at Pondok Benda Puskesmas and Puskesmas Jombang Pamulang, South Tangerang and carried out in August-October 2016. Bivariate analysis, to determine the differences in the characteristics of respondents (age, parity, lactation and mobilization) and puerperal gymnastics relationship with reduced rates of the fundal height lowering, statistical test Chi Square was done and when cell with expected values  $<5$  performed by Fisher's exact test. To determine the difference between of the fundal height of mother who did and who did not exercise, t test was conducted.

### 3. Results

The lowering of fundal height in women who did and did not do gymnastics parturition can be seen in Table 1

**Table 1:** Decrease In Mothers Doing and Not Doing Gymnastics

Decrease in TFU	Doing Gymnastics	No Gymnastics
	n = 15 (%)	n = 15 (%)
<b>12 Postpartum Hours</b>		
- Fast	7 (46,7)	2 (13,3)
- Normal	8 (53,3)	12 (80,0)
- Slow	0 (0)	1 (6,7)
<b>6 Days Postpartum</b>		
- Fast	10 (66,7)	2 (13,3)
- Normal	5 (33,3)	13 (86,7)
- Slow	0 (0)	0 (0)

Based on the above table shows the 12 hours postpartum mothers who do gymnastics parturition, the most rapid decline was 46.7% compared with not doing, decrease the normal lowering was more (80%) in women who do not do gymnastics postpartum in women who do not doing gymnastics parturition and there were 6.7% of postpartum mothers who do not do gymnastics parturition showed slow decline. In 6 days postpartum mothers gained rapid decline was 66.7% more than not doing gymnastics parturition. The most normal TFU decline was (86.7%) in mothers who did not do postpartum gymnastics and none of the postpartum mothers had a slow decline.

To see the difference between the TFU decrease postpartum mothers 12 hours and 6 days do not do gymnastics parturition which can be seen from the table below:

Differences in decrease in women who do postnatal exercises with those who do not perform can be seen in the table below:

**Table 2:** Decrease Speed difference on Mother Postpartum Conducting Gymnastic and not

	Group	t / Z count	The value of P
TFU 12 hours pp	Gymnastics	0.030	0.074
	No gymnastics		
TFU 6 days pp	Gymnastics	0.004	0.013
	No gymnastics		

Based on the above table can be seen there is no difference reduction TFU maternal post t partum 12 hours that did and did not do gymnastics parturition with a P value of 0.074, while maternal postpartum 6 days there are differences in decline TFU between doing gymnastics parturition and who does not perform gymnastics with P value of 0.013.

Puerperal gymnastics relationship with TFU reduction on postpartum mother can be seen in Table 3:

**Table 3:** Gymnastics Relationship with TFU Decrease in Postpartum Mother

Model	The value of r	R Square
Postnatal Gymnastics (X) Decrease TFU (Y)	0.369	0,136

Based on the above table can be seen there was a correlation between puerperal gymnastics with high reduction fundus with the value of r 0.369.

### 4. Discussion

At 12 hours postpartum mothers who do gymnastics parturition fundal height most rapid decline was 46.7% compared with not doing, decreased TFU more normal (80%) in women who do not do gymnastics postpartum. In women who do not do gymnastics parturition. There was 6.7% postpartum mothers who did not do post-partum exercise decreased the TFU slowly. In the 6-day postpartum mother found a faster TFU decline of more that 66.7% compared to those who did not do gymnastics gymnastics. Decrease in normal TFU most (86.7%) in women who do not do gymnastics parturition and none of maternal postpartum TFU slow decline.

This suggests that the benefits of gymnastics parturition in accelerating the process of uterine involution on postpartum has been proven in this study. The results of this study are also basically in line with the results of the study Inayati (2004) about the influence of gymnastics parturition against physical recovery postpartum mothers who states that postpartum mothers who do gymnastics postpartum recovery physically faster rise, having general condition good, proper circulation, lactation good and increasingly rapid uterine involution. The presence of respondents who experience a decrease in TFU is slow due to the level of the patient's ability to perform different gymnastic movements.

Postpartum or puerperal period is a condition that began after two hours after birth until six weeks after birth. Impaired postnatal one of which is a disorder of the physical condition of the mother recovery form involution of uteri process. Disorders in involution of uteri was imperfect process which are sub involution of uteri which can result in bleeding, otherwise it is hyperinvolution of uteri. In this case the involution or (contraction of the uterus) is a process in which the uterus back to its pre-pregnancy weighing about 60 grams. This process started immediately after delivery of the placenta due to the contraction of smooth muscles of the uterus (Ambarwati, 2008).

In order to overcome the problems during childbirth, especially in the process of involution of uteri, treatment is urgently needed postpartum period, including through gymnastics parturition. In this case gymnastics performed to train early mobilization of postpartum mothers, so it can help the process of recovery of organs after childbirth. Postpartum exercises performed after childbirth is one form of early ambulation to restore physical changes such as before pregnancy and restore tone of the lower abdominal muscles. The contraction of the muscles will help the process of involution which starts after the placenta comes out shortly after childbirth. Ambulation as soon as possible and the frequency is often indispensable in the process of involution (Saunders, 2002). Concerned with involution of uteri process, then by doing gymnastics parturition it is expected to accelerate the process involution of uteri (Bahiyatun, 2009). The results of the bivariate analysis in this study showed no difference in the decline of maternal

postpartum 12 hours at the community health center Pondok Benda Pamulang, South Tangerang who do and do not do gymnastics parturition with a P value of 0.074, It is by comparing the presence of factors that influence the process of uterine involution in this case decreased height of the uterine fundus, ie age of respondent > 35 years or age at high risk of uterine abnormalities. Respondents also have one child, we know that primiparous mother when compared with multiparous mother has muscle elasticity especially muscle in the content is stronger than multiparous mother whose uterine muscles are often stretched by the growing fetus from day to day. Other factors affecting the process of uterine involution are parity of respondents, early mobilization, lactation, and nutritional status of the respondents.

In this study shows there is a difference TFU reduction on postpartum maternal sixth day to do gymnastics parturition and which do not do gymnastics parturition with a P value of 0.013. This is in line with that expressed by Saunders (2002), that puerperal gymnastics performed after childbirth is one form of early ambulation to restore physical changes such as the time before pregnancy and restore tone the muscles of the lower abdomen. The contraction of the muscles will help the process of involution which starts after the placenta comes out shortly after childbirth. Ambulation as soon as possible and the frequency is often indispensable in the process of involution. Hidayanti research results (2009) on the effect of exercise on the health status of mothers postpartum puerperal, also states that postpartum maternal postpartum exercise a positive influence on the speed of the mother did early mobilization. In this case Lestari (2009) states that the faster the capital mobilized more quickly his uterine involution process.

Analysis in this study also showed an association between postpartum gymnastics with high reduction fundus with the value of  $r = 0.369$ . This is in line with research conducted by Kurniawati (2009), which indicates that there is the effect of the decrease TFU puerperal gymnastics. The results of this study are also in line with the statement expressed by Brayshaw (2003) who said that gymnastics is a gymnastics performed after the birth of mothers who aims to maintain and improve the circulation of mothers during the puerperium, and assist the process involution of uteri seen from the number of lokia issued and changes in uterine fundus height.

The purpose of gymnastics parturition that help cure uterine, stomach and hip muscle trauma, speeding involution these parts, helps normalize the joints become loose due to pregnancy and childbirth, prevent weakening and stretching further and produce psychological benefit (Kettles, 2006). In the puerperal perineal exercises, there is a movement of muscle contraction and relaxation of perineal spinkter, this movement is able to restore vaginal muscle strength and improve muscle – uteri muscle weakened and reduced as a result of pregnancy.

At the time of the postpartum, a mother's body will enter a period of recovery and return to the condition before pregnancy. Generally the concern of the mother during the puerperium is how to restore the shape of the body and the

walls of the stomach as before. So by doing gymnastics gymnastics body shape and abdominal wall will return as usual (Brayshaw, 2003).

## 5. Conclusions

There is a difference in the mother fundal height lowering in 12 hours and 6 days postpartum among those who do gymnastics parturition and not doing gymnastics parturition with a p value of 0.074 and 0.013.

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