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Original Research Article

Effect of Kegel Gymnastics on Trimester III Pregnant Women: Avoiding Perineum Rupture (Perineal Tearing) During Maternity at Tanjung and Sumiariani Clinics in 2018

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ABSTRACT

Maternal mortality rate is an indicator used to measure maternal health status in an area and refers to death during pregnancy or during a period of 42 days after pregnancy due to all causes or which is aggravated by pregnancy or treatment, but not due to accident or injury (Ministry of Health, 2014). From 2015 Inter-census Population Survey (SUPAS), mother morality rate (AKI) in Indonesia reached 305 per 100,000 live births. This figure decreased compared to 2012 Indonesian Health and Demographic Survey (SDKI) in which the AKI in Indonesia amounted to 359 per 100,000 live births (Ministry of Health, 2016). The fifth global target of the Millennium Development Goals is that the AKI should only reach 102 per 100,000 live births in 2015 (Ministry of Health, 2014). Based on the 2010 population census, the AKI in North Sumatra amounted to 328 per 100,000 live births; this figure is still quite high when compared to the national figure of the 2010 population census in which tke AKI should reach 259 per 100,000 live births. From reports issued in district / city profiles, the AKI in North Sumatra in 2014 is reported to reach only 75 per 100,000 live births. The purpose of this study is to determine the effect of Kegel Gymnastics on trimester III pregnant women who experienced perineum rupture (perineal tearing) during their maternity at two maternity clinics, for example Tanjung and Sumiariani in Medan. This study is expected to strengthen the lecturing materials on Kegel Gymnastics which can prevent perineal tearing during labour. This research is an experiment, designed in correlational analytic and used post-test design approach. The study was conducted from March to July 2018. The sample was divided into experimental and the control groups in which the sample size was equal to N1 = N2. The sampling technique is accidental sampling of nonprobability and the research subjects (or respondents) were taken from all third trimester pregnant women visiting in February to March 2018 and maternity mothers appearing from March to June 2018; the respodents fulfilled the inclusion criteria set by the researchers. The statistical analysis in this study is the analysis of *t*-test with a confidence level of 0.05.

Keywords: Third trimester pregnancy, maternity or childbirth, Kegel gymnastics, perineum rupture

INTRODUCTION

Based on the Indonesian Demographic and Health Survey, the causes of maternal deaths in 2013 were bleeding (30.3%), hypertension (27.1%), infection (7.3%), prolonged labor (1.8%) and abortion (1,6%); while other significant causes, such as cancer, kidney, heart disease, tuberculosis, among others is recorded to reach 40.8% (Ministry of Health, 2014). The main factor causing perineal rupture is noted to include the pregnant women themselves during pregnancy and labor. Pregnancy is always influenced by their knowledge, education, prenatal care, and physical condition, while labor is usually affected by parity, by how to deliver, and by condition of the perineum (flexibility of the perineal muscle). The second factor is the condition of the fetus, due to the child's

weight and baby presentations (Turlina, 2015).

Effects and complications due to the tearing in the birth canal may include bleeding, infection, and discomfort. Bleeding can be severe especially in tear rips of the second or third degree or if the tear extends to the side or rises to the vulva reaching to the clitoris. Perineal wound can easily become infected because it is located close to the anus and can often contaminate the stool. Infection can also cause the wound not immediately fused; as a result, the scar tissue appears and brings discomfort (Turlina, 2015). One method to reduce perineal tears is to do Kegel gymnastic (KG) which can strengthen the pelvic floor muscles before labor, flex perineal tissue for baby's birth canal, and help prevent urinary incontinence problems (Kristianti, 2015).

MATERIALS AND METHODS

This research is an experiment having correlational analytic design and post test design approach. This study tried to see the effects of KG for pregnant women who perhaps experience the perineal rupture at the time of delivery. The population involved all third trimester pregnant women and mothers who have given birth at the Medan-based Tanjung and Sumiariani clinics from March to July 2018. The sampling technique is nonprobability especially the use of accidental sampling. All samples are grouped into experimental and control groups; the sample size of the groups is considered the same (N1 = N2) and there were thirty respondents. The study was conducted from March to July 2018.

RESULTS

Consider Table 1 to see the characteristics of normal delivery by women visiting the Tanjung and Sumiariani Medan clinics.

Table 1. Characteristics of women visiting the Tanjung and Sumiariani Clinics in 2018 for normal delivery

No	Characteristics	f	%
	Age		
1	< 20 Years	3	7,5
2	20-35 Years	17	42,5
3	≥ 36 Years	20	50,0
	Total	40	100,0
	Education		
1	Primary	1	2,5
2	Junior High	9	22,5
3	Senior High	20	50,0
4	College	10	25,0
	Total	40	100,0
	Profession		
1	Civil Servants	1	2,5
2	Private Workers	15	37,5
3	Business Women	11	27,5
4	Mothers	13	32,5
	Total	40	100,0

Table 1 shows that, based on age, the majority are >36 years (there were 20 patients or reaching 50%); in case of education, the majority were graduated from high schools (20 patients or reaching 50%), and with regard to profession, most of them were housewives (13 patients or reaching 32.5%).

Table 2. Amount of Perineum Ruptures (Perineal Tearing) for Experiment and Control Groups with Normal Labor at the Tanjung and Sumiariani Clinics in 2018

Group	Case of Rupture				
	Not ruptured		Ruptured	Total	
	Frequency	%	Frequency	%	
Experiment Group	17	85	3	15,0	20
Control Group	7	35	13	65,5	20

Table 2 notes that pregnant women from control group who did not exercise the KG experienced more perineal ruptures at delivery (there were 13 patients or reaching 65.5%) than by the experiment group. Consider also Table 3 in the following.

Table 3. Crosstab Table of Effect of KG on Pregnant Women Experiencing Perineum Rupture during Maternity at the Tanjung and Sumiariani Clinics in 2018

Status of KG's Participants	Cases of Rupture				Total		RP (95% CI)	P value
	Not ruptured		Ruptured					
	f	%	f	%	f	%		
Not active	7	35	13	65	20	100	4,333	0,001
Active	17	85	3	15	20	100	1,454 – 12,911	

Table 3 shows that 85% of pregnant women who routinely exercised the KG did not experience perineal rupture during labor. This can be seen from the results of the chi

square test using p value = 0.001, so the RP value of 4.3 (95% CI = 1.454 - 12,911) was obtained, meaning that the patients doing the KG may not experience perineal rupture during labor for four times greater than those who were not involved in the KG.

DISCUSSION

The cases of perineal rupture (perineal tearing) in the control group with normal delivery at the two clinics was reaching 65.0%, while in the experimental group (patients took part in KG) we only obtained 15.0% cases of the perineal rupture. In short, we believe that pregnant women who were not doing the KG would suffer higher risk of perineal rupture than those who were active in the KG. Patients who had perineal rupture were usually caused by two factors, namely how mothers themselves impulsed and their babies weighing > 3000 grams. To impulse when mothers are in labor requires power in the form of impulse impingement. The thrust to impulse happened at the same when mothers did *his* or *uterine contractions* (Ariyanti, 2008).

Perineal conditions that allow for perineal tearings, according to Salmah (2006), might include: if the signs of vaginal tears become clear, if the perineum that is too stretched appears to be torn, the perineum is stiff and thick, and the perineum is fragile and edema. There were positive effects of KG on pregnant women when they were waiting for delivery. Threfore, the more routinely they exercise the KG, the lesser risk of rupture they would experience; even, they could reduce rupture four times compared to pregnant women who were not active in doing the KG.

According to Anggraeni (2010), the perineal tear can be prevented in various ways, for instance, by doing pregnancy exercises from 28 weeks of gestation to the time of birth. Pregnancy gymnastics consists of various gymnastic movements, like the KG which, if it is done routinely, can exfoliate the perineum. The elastic perineum can facilitate the birth of a baby without much tearing the birth canal, without or any few stitches, and the KG is useful to strengthen the muscles of the vagina and its surroundings (perineal) as a readiness for labour, so that it can affect the perineal condition which can cause perineal tearing. Flexibility of the muscles or the birth canal is very necessary because usually pregnant women are hit by anxiety and panic when they are about to give birth. Therefore, pregnancy exercise is one way to minimize the degree of perineal tearing and reduce mother's mortality. Pregnancy gymnastics is a relaxation exercise carried out by pregnant women from 28 weeks of gestation to the time of birth (Anggraeni, 2010).

With normal frequency in the practice of the KG, this gymnastics is useful for pregnant women when they face delivery. Several benefits of the KG are that the pelvic muscles that are often trained will strengthen the pelvic floor muscles, and increase blood flow to the vagina and rectum so that it can help during the labor process. All this facilitates the birth of a baby without much tears in the birth canal and restores the perineal muscle elasticity (Kirana, 2013).

CONCLUSIONS

It can be concluded that there is a positive effect of KG on perineal rupture for pregnant women who visited the Tanjung and the Sumiariani Medan maternity clinics. Midwives are expected to be able to add information about the benefits of KG because the majority of women who delivered experience perineal tearings during labor, so to reduce such cases the KG can become an effective way to reduce perineal rupture.

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