

Effectiveness of Pelvic Rocking and Gym Ball Exercise Against of Duration of Labor in the First Stage

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Abstract—Childbirth is a process of expulsion from the conception (fetus and placenta) which is quite months or can live outside the womb through the birth canal or through other ways, using the assistance or without assistance (strength alone or spontaneous). Pelvic rocking can help the mother in an upright position, staying upright when in labor will allow the uterus to work as efficiently as possible by making the pelvic plane wider and open. Other physiological efforts besides moving pelvic rocking are gym ball exercises. A physical therapy ball that helps with labor and can be used in various positions. The purpose of this study was to determine the differences in the effectiveness of pelvic rocking and gym ball exercise for a long time I. This type of research is a quasi experiment using Post test only non-equivalent control group design, there were 30 respondent categorized into an intervention group (n=15) pelvic rocking and birth ball exercise (n=15). There is a difference in the effectiveness of pelvic rocking and gym ball exercise against the length of time I (P-value 0. 023). Pelvic rocking and gym ball exercise can accelerate the duration of labor in the first stage.

Keywords—*Pelvic Rocking, Gym Ball, Labor*

I. INTRODUCTION

Childbirth is the process of expulsion from the conception (fetus and placenta) which is of sufficient pregnancy age and can live outside the womb through the birth canal or other ways with the help or with the strength of the mother herself [1,2]. The incidence of old childbirth is still high according to the health profile of the Ministry of Health (MOH) in 2017, old parturition mothers who were hospitalized in hospitals in Indonesia obtained a proportion of 4.3% which is 12,176 of 281,050 births. The results of the Maternal Perinatal Audit (AMP) in Central

Java during the period of 2016 to 2017 found that the most difficult complication for mothers was old labor by 16%. Research conducted in Yogyakarta found that out of 3005 cases of prolonged labor, 16.4% (50 babies) of infants died, whereas in mothers there were 4 deaths. The Indonesian Health Demographic Survey (IDHS) in 2017 also noted that prolonged labor by 42.96% was the main cause of maternal and perinatal death followed by hemorrhage 35.26%, and eclampsia 16.44% [3]. WHO data in 2017 states that the main complications that cause almost 75% of all maternal deaths are heavy bleeding (mostly bleeding after childbirth), infection (usually after giving birth), high blood pressure during pregnancy (pre-eclampsia and eclampsia), complications from labor unsafe abortion. The survey results found that prolonged parturition can cause emergencies in mothers and infants, in mothers bleeding and shock can occur, in infants can occur fetal distress, asphyxia, and headache. This illustrates the importance of assistance with skilled health workers because most of the complications occur during delivery[4].

One of the objectives of the Sustainable development goals (SDGs) is committed to reducing the maternal mortality rate (MMR) with a target of reducing maternal mortality by 70 per 100,000 live births in the period 2015 - 2030. Several attempts have been made by the government to reduce maternal mortality, including help deliveries by health workers to 85%, early detection, antenatal care, good management of childbirth and childbirth [4,5].

Various physiological efforts were made to prevent prolonged labor, such as pregnancy exercise, deep

breathing techniques, birthing ball exercise and pelvic rocking [6]. Pelvic rocking can help the mother in an upright position, staying upright when in labor will allow the uterus to work as efficiently as possible by making the pelvic plane wider and open. In other words, it can stimulate dilatation and widen the pelvic outlet. Sitting straight will create an earth's gravitational force which will help the fetus or the lowest part of the fetus to descend immediately to the pelvis so that shorter or shorter labor times are obtained [7]. Pelvic rocking is a movement of pelvic rocking forward, backward, and rotation to the left and right, with the aim of accelerating the progress of labor, reducing pain, helping decrease the baby's head with the help of gravity [1,7,8].

Gym ball exercises help to open the pelvis wider, helping to relieve pain during labor, reduce pain during

contractions, relieve anxiety and stress during labor and the time of delivery will be much shorter, especially if you have routinely done gym ball exercises a few months before the process labor.[9]

II. METHOD

This research is quasi-experimental (posttest only with control group design). Performed at the Community Health Center (Puskesmas). The sampling technique used was accidental sampling involving 30 respondents. Respondents were categorized into two groups, namely intervention (n = 15) given pelvic rocking, (n = 15) given gym ball exercise. The intervention was carried out during the first stage of labor starting from the opening of 4-10 cm.

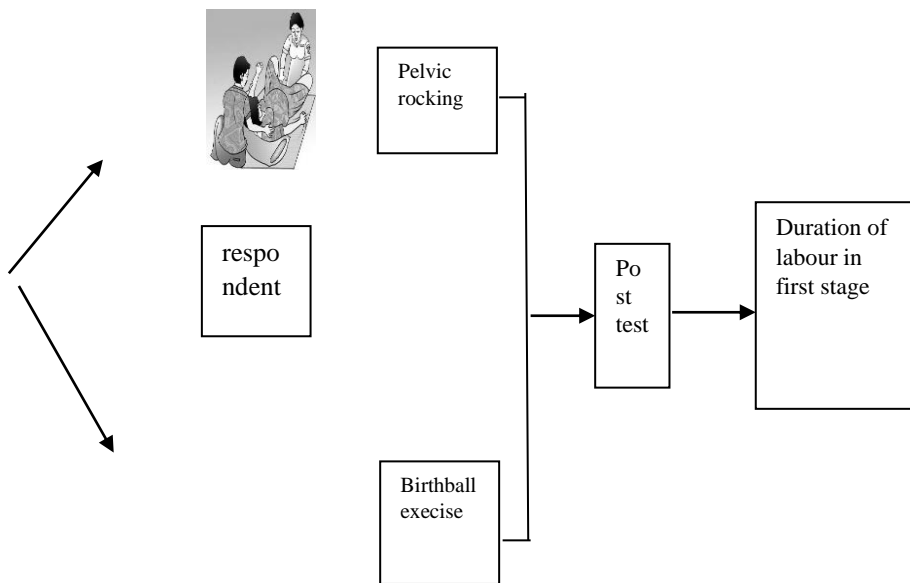


Fig. 1. Flowchart

III. RESULT AND DISCUSSION

The research respondents were first-time active mothers starting from opening 4-10 cm. While the data collected is derived from identity data and observations of labor. Informed consent was immediately made to the

respondent by explaining the procedure and benefits of the study.

A. Characteristics of Respondent

This study shows that the majority of responden have the age 20-35 year (83.33%) and education in Senior High (56.67%). As presented in Table II.

TABLE I. CHARACTERISTICS OF RESPONDENTS

Characteristics of respondent	Frequency	Percent (%)
Age		
Age 20-35	25	83.33
Age >35	5	16.67
Education		
Junior High	7	23.33
Senior High	17	56.67
Diploma	2	6.67
Bachelor	3	10.0
Post Graduated	1	3.33

B. Statistical Analysis

Table II shows that there was a decrease in the average delivery time in the pelvic rocking group by 5.47 and in the birth ball exercise group by 4.53.

TABLE 2. EFFECTIVENESS OF PELVIC ROCKING AND GYM BALL EXERCISE AGAINST OF DURATION OF LABOR IN THE FIRST STAGE

Group	n	%	Mean	SD	p-value
Pelvic Rocking	15	50	5.47	1.060	0.023
Birthball exercise	15	50	4.53	1.060	

In the independent T-test, p-value (0.023) <0.05 can be concluded that there is a statistically significant difference between the pelvic rocking intervention group and birth ball exercise on the duration of the first stage of labor.

Prolonged labor is one of the causes of increased maternal and fetal mortality and morbidity. Mothers with prolonged labor are more at risk of bleeding due to uterine atony, laceration of the birth canal, infection, fatigue and shock, whereas in the fetus can increase the risk of severe asphyxia, cerebral trauma, infection and injury from the action [10]. Interventions that are often carried out include oxytocin induction, vacuum extraction, and cesarean section and we can be sure these interventions increase maternal and infant morbidity [1,2,8,9].

Mobility training from the mother is needed to keep the ligaments loose, relaxed, free of tension and more room for the baby to get down the pelvis so that the length of the first and second stages of labor can be shortened by doing exercises/body work [11,12]. Movement on the Pelvic Rocking by shaking the pelvis to the front, back, left and right sides can train the muscles of the waist, hips and help lower the baby's head to enter the pelvic cavity toward the road. Therefore Pelvic Rocking is necessary for mothers to give birth to reduce pain during labor and improve the quality of life of mothers and their babies [13]. Pelvic Rocking and Gym Ball is to increase the size of the pelvic cavity by rocking the pelvis with the ball and slowly swinging the hips forward and back, right side, left, and circular. In other words, it can stimulate dilatation and widen the pelvic outlet. Sitting straight on the ball, the earth's gravity will help the fetus or the lowest part of the fetus to descend immediately to the pelvis so that the delivery time is shorter or shorter [14-17].

IV. CONCLUSION

This study showed that pelvic rocking and birthball exercise can reduce the duration of labour in the first stage. The result of this study can be useful in the planning of birth programs so the patients can lamafeel relaxing and comfortable for labour.

ACKNOWLEDGMENTS

For further researchers, it is expected to be able to make literature and examine research methods and other variables that affect the duration of labor at stage I.

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