

## The Effectiveness of Pelvic Rocking Exercises With Birthing Ball on Labor Progress in Maternal in 2022

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**Abstract.** Protracted labor is correlated with an increase in maternal and fetal motility, an increase in abnormalities in the physiology of labor, and an escalation in the rate of caesarean section delivery. In women with prolonged labor, there is an increased risk of death due to atonic uterus, birth canal lacerations, infection, fatigue, and shock, however in infants, prolonged labor is not associated with an increase in infant mortality, decreased APGAR score, trauma, and infection. With adequate physical and psychological preparation, the impact of prolonged labor can be reduced. The (PRE) is a bodywork involving waist and hip rotations.

This research employs Systematic Literature Reviews (SLR), a synthesis of systematic, clear, and comprehensive literature studies, by identifying, analyzing, and evaluating existing data using explicit research methods and incorporating critical review procedures into the selection study. The data consists of 6 national journals and 1 international publication indexed by Shiinta Indonesia and Scopus with Q2 standard Results in 7 journals utilizing observation sheets and partographs for data collection instruments. In one of the seven journals reviewed, the Pelvic Rocking Exercise technique was applied at TM 3 gestational age, between 34 and 35 weeks. When the laboring mother enters the first stage of the active phase, another publication employs the Pelvic Rocking Exercise technique. Conclusion: Pelvic Rocking Exercise is effective in shortening the active phase till the full opening of the cervix in primiparous moms.

Pelvic rocking using a birth ball helps the baby to rotate into the optimal position and shortens the first stage of labor, therefore reducing labor pain and providing comfort to the mother. It is anticipated that health care workers will become facilitators for expectant mothers and provide physical support for the profession.

**Keywords:** pelvic rocking exercise, the progress of labour, primipara, birthingball.

### INTRODUCTION

Labor is a sequence of processes that result in the expulsion of the offspring of conception (Varney, 2017). Labor is affected by four factors: power, passage, passage, psyche, and assistance. If a problem develops in any of the aforementioned steps, it will contribute to the complexity of the delivery process (Purwaningsih, 2018).

Long work is one of the leading causes of death and morbidity. A prolonged labor increases the risk of infection, shock, uterine atony, hemorrhage, and birth canal rupture. Can increase the risk of brain damage, infection, and hypoxia in babies and fetuses (Oxon & Forte, 2018)

Long parturition was determined for 206 deliveries, or 8%, in the Tangerang area in 2015. In Indonesia, late parturition, one of the causes of mother and neonatal death, is still prevalent. Ningsih (2017)

Dyah Renaningtyas's research revealed that the control group that underwent breathing techniques for labor progress was 42.5% during the first stage of labor,

whereas Sahtria Ningsih Masbait's (2015) research revealed that the control group that underwent pelvic rocking exercises was more effective and accelerated labor. 60 percent from the beginning stage of labor till complete opening (Dyah, 2017).

To prevent protracted labor, many physiological measures were used, including prenatal exercises, deep breathing methods, and rebozzo. In addition, pelvic rocking techniques using a birthing ball are used to prevent protracted labor. This strategy is also extremely beneficial for actively responding to pain and shortening the duration of the first stage of labor during the active phase (Aprilia, 2017). By sitting upright on the ball, the earth's gravitational attraction encourages the fetus or the lowest section of the fetus to swiftly descend to the pelvis, resulting in a shorter or shorter labor period (Aprilia, 2017).

Research conducted at El-Shatby Maternity University Hospital in Egypt found a statistically positive relationship between pelvic rocking exercises with birthing balls and labor processes in terms of decreasing intervals and increasing duration and frequency of uterine contractions, cervical dilatation, and decreased fetal head (Nevertity, 2017).

## **METHOD**

This research comes utilizing a literature study approach which is a complete overview summarizing past research on specific topics, informing readers of what they already know and what they do not. To pursue research or research-related ideas. (Aprilia, 2019).

Literature evaluations are available from a variety of sources, including periodicals, documents, books, libraries, and the internet. (Aisyah, 2017) ..

After obtaining the writing topic, define the phrasing of the problem and collect the required facts. This piece is an analysis of a descriptive nature. The source of secondary data is direct observation. And the data that may be accessed comes from already conducted study.

## **RESULT**

To determine the relationship between the efficacy of PRE and the length of time it takes for a woman to give birth, it is necessary to examine the findings of a literature study or research conducted in the past. In 2019, Catur Erti Suksesty published the first study publication on the effect of pelvic rocking movements on the initial stage of primi gravida.

In accordance with the second journal examined by Surtiningsih, Kun Aristiati, and Sri Wahyuni, the results indicate that respondents who used pelvic rocking exercises were shorter than those who did not.

According to the findings of RR.Cattur Wulaandari and Srri Wahyunii's study titled The Effectiveness of Pellvic Rocking Exercises for Mothers in the First Stage of Labor, cervical dilatation happens more quickly and the hips are shook to the right, left, front, when back. To press down on the infant's head. (April, 2019 at the initial stage of the active phase of labor. One way to immediately open or dilate the cervix is to perform pelvic rocking exercises by swaying the pelvis forth and backward on a ball. To provide

pregnant ladies with a sense of ease and relaxation. The release of endorphins (Kurniaawati, 2018).

Table of analysis results from literature review

No	Journal Name	Publication Year	Title	Researcher	Type and design	Population and Sample	Instrument and data collection	SIG	Conclusion
1	<i>Jurnal ilmiah kesehatan</i> (Health scientific journal)	2017	<i>Efektivitas PRE terhadap lama waktu persalinan pada ibu primipara</i> (The effectiveness of PRE on the length of time of delivery in primiparous mothers)	Kuun Aristiatti, Surtiningsih, Sri.	Quasi Experiment	<ul style="list-style-type: none"> <li>Primipara pregnant women TM 3, UK 34 to 35 weeks.</li> <li>Sample 63 people.</li> <li>With purposive sampling technique</li> </ul>	Observation sheets and partographs	P <0,5	There is an effect of pelvic rocking exercises on first and second stage of labor. Independentt test results with value <0.05
2	<i>Jurnal antara kebidaanan</i> (Journal among obstetrics)	2019	<i>Pengaruh PRE terhadap lama kala I faase aktif pada ibu inpartu di PKM Batuah tahun 2018</i> (The effect of PRE on the duration of the active phase I in inpartu mothers at PKM Batuah in 2018)	Fadjriah Ohorella	Quaasi Experiment, posttest only control group design	Population: 30 mothers giving birth in the first stage of active phase, using purposive sampling technique	Partographs and observation sheets	P=0,001	Presence or influence of PRE with the length of the first stage of labor.
3	<i>Jurnal ilmiah keperawatan, intan Husada.</i> (Scientific journal of nursing, Intan Husada.)	2019	<i>Pengaruh PRE terhadap lama kala I persalinan</i> (The effect of PRE on the length of the first stage of labor)	RR. Catur Lenny Wulandari, Sri Wahyuni	Quasi Experiment with posttest only control design	<ul style="list-style-type: none"> <li>The population of mothers giving birth in the first stage of the active phase.</li> <li>Sample 28 mothers giving birth</li> </ul>	Partographs and observation sheets	P <0,05	Presence or association with pelvic rocking on the duration of stages I & II.

4	<i>Seminar Nasional Kebidanan (Midwifery National Seminar)</i>	2019	<i>Efektifitas Pelvic Rocking terhadap lama persalinann, dilatasi atau pembukaan servikks &amp; penurunan kepala janiin pada primigravida</i> (The effectiveness of Pelvic Rocking on the duration of labor, cervical dilatation or opening & decreased fetal head in primigravida)	Cattur Errty Sukksesty	observational analytics	Maternal population in PMB Surabaya. There were 35 mothers giving birth with a sample of 30.	The provision of pelvic rocking exercises with birth balls as well as an observation sheet or parrtograph.	P <0,005	There was or was there a significant difference in the duration of II with the group using PRE and not using PRE.

5	<i>Journal midwifery</i>	2019	<i>The effectiveness of pelvic rocking exercises on the progress of labor &amp; the incidence of perineal tears at PMB Mei Kuniawati Surabaya</i> ()	Lailaatil dan Fitria	observational analytic, quasi-experimental design nonequivalent control group design	The population is 35 people with a sample of 30 mothers giving birth	PRE treatment with birth ball and partograf observation	P <0,005	There is a significant difference in the second stage using PRE and not using PRE
6	<i>Bharmada</i> :jurnal ilmu teknologi kesehatan	2019	Pengaruh teknik pelvic rocking dengan birth ball terhadap lama persalinan kala I	Masinni dan Christen	eksperimen dengan <i>statistic group comparison</i>	Sample ibu bersalin di BPM Magelang 30 orang	Lembar observasi dan partograf	P=0,006	Adanya perbedaan dan pengaruh PRE dengan lama persalinan kala I fase aktif

7	<i>IOSSR JOURNAL OF NURSING AND HEALTH SCIENCE (IOSSR-JNHHS)</i>	2017	Effectt of pelvicc rocking exerccise usingsitting positiion on birthing ball durring the firsst sttage of labour on its progress	Zaky	Quasy experime nt	A puruposive sampling technique waas useed in collectng the data. A total of 80 parturient women	Tool I: Socio-demograp hic and reproducti ve data structure interview schedule questionna ire Tool II: The Partograp Tool III: whiich Vissual analogg painn reducess aortointen sityscale caval	P=(< 0,000 1)	There is a difference and the effect of PRE with labor duration I .
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## DISCUSSION

This study's discussion will compare and contrast the studied publications to draw findings regarding the effectiveness of Pelvic rocking exercise with birthing balls in encouraging labor progression.

### A. Management of Pelvic Rocking Exercise in Primipaara's mother

There are two papers that describe the usefulness of pelvic rocking exercises on the duration of labor in primiparous women, based on a search for relevant literature.

The first article is a 2019 study by Catur Errty Suksesty with the conclusion that pelvic rocking exercises have a substantial influence on the length of time I phase is active in primi gravidas with a p-value 0.05. This study contrasts two sample groups: those who received pelvic rocking treatment and those who received only conventional care. This is a quantitative study employing a quasi-experimental methodology, specifically a post-test only design. This study's sample consisted of 30 moms who gave birth during the first active phase of their first pregnancy. The findings of the statistical test utilizing Maann Whitney indicated an association between cervical dilatation and pelvic rocking exercises during the active period of the first stage of labor.

The results of this study concur with the findings of the 2017 study by Surtinningsih, Kuun Arisstiati Sussiloretne, and Sri Waahyuni titled The Effectiveness of Pelvic Rocking Exercises on the Length of Labor Time in Primipaara Women, which concluded that women who engage in Pelvic Rocking Exercises experience a lengthy first

stage of labor. The active period was shorter than in the group that did not perform Pelvic Rocking Exercises. According to the notion, the active phase is when the greatest cervical dilatation occurs and the presenting portion of the fetus descends more into the pelvis. This study supports this theory. It is expected that the rate of cervical dilatation in primiparous women will be at least 1 cm per hour, whereas in multiparous women it will be 1.5 cm per hour. According to Frieddman, the typical active phase of labor in primiparous women lasts 5.8 hours or 348 minutes, whereas Killpatrick and Larros report that it lasts 8.1 hours or 448 minutes (Walsh, 2017). When seen from an aperture of 4 cm to 10 cm on an active phase partograph, the average is 6 hours or 360 minutes.

According to a theory, labor mobilization with pelvic rocking exercises, specifically sitting down slowly, swinging and shaking the hips forward and back, the right, left, and circular sides, will be beneficial for maintaining constant pressure from the baby's head on the cervix when the mother is in an upright position, allowing for faster dilatation (opening) of the cervix. This notion is consistent with study findings that indicate pelvic rocking might assist open the cervix during the early stage of active labor (Aprilia, 2010).

It needs exercise for mobility from the mother to maintain the ligaments loose, relaxed, and tension-free, allowing the baby more freedom to descend into the pelvis, so shortening the duration of the first and second stages of labor. The purpose of Pelvic Rocking Exercises (PRE) is to strengthen the abdominal and hip muscles and assist in lowering the baby's head so that it may enter the pelvic cavity and birth canal swiftly (Hermina, 2017).

## **B. Pelvic Rocking Exercise Using Birthing Ball on Labor Progress**

Two papers demonstrate the effect and relationship of the Pelvic Rocking Exercises technique employing birthing balls on the progression of labor during the first stage of the active phase, based on an article search.

The first article is a 2019 research by Chrisstin Hilyana and Massini on the effect of Pelvic Rocking Exercises using a birthing ball on the duration of the first stage of labor. It may be concluded that there is a significant difference in the duration of labor in the active phase of the mother between conventional techniques by walking and standing with the Pelvic Rocking Exercises technique.

This conforms to the assumption that the upright posture may be achieved by sitting on a birthing ball or using a method known as pelvic rocking movements and walking, standing, in an upright position. Both can expedite the shipping procedure. However, respondents prefer the sitting posture on the ball with pelvic rocking activities because they are more relaxed and do not fatigue as quickly. By remaining seated, the mother may utilize the force of gravity to assist in lowering the infant's head without becoming fatigued due to the absence of stomach weight. Therefore, this position makes the mother more resilient when she is in the upright position (Sherrwood, 2017).

Increasing the size of the pelvic cavity during pelvic rocking activities relaxes the mother and strengthens the pelvic smooth muscles. Ligamentum sacrotuberosum and ligamentum sacrospinuosum, which extend from the lateral aspect of the sacrum and coccyx to the ischial spines, influence the hip bone joints (Cunningham, 2017).

### **C. Effectiveness of Pelvic Rocking Exercises with Birthing Ball on Labor Progress**

Research conducted by RR.Cattur, Lenny Wulandaari, and Sri Waahyuni on the Effectiveness of Pelvic Rocking Exercises in the first stage of labor on the progression of labor and duration of labor with 28 respondents in the first stage of labor revealed a correlation between Pelvic Rocking Exercises and duration. first phase with a p-value of 0.008 (0.05). So that the results of this study are consistent with the theory that labor mobilization with pelvic rocking, specifically sitting slowly, swinging and rocking the hips forward and backward, right side, left side, and circularly, it will be advantageous for the pressure from the baby's head on the cervix to remain constant when the mother gives birth in an upright position, so that cervical dilatation (opening) can occur more rapidly (Aprilia, 2017).

Agree with Fadjrriah Ohoreella's research on the effect of pelvic rocking exercises on the duration of the first stage of the active phase in inparrtu moms. The results indicated that pelvic rocking exercises had an influence on the duration of the initial stage of the active phase.

### **CONCLUSION**

In actuality, pelvic rocking exercises help minimize the degree of impairment throughout pregnancy, albeit they may cause anxiety in birthing women. done to relax the hip region and the force of gravity in order to assist the baby's head in optimally descending into the birth canal. PRE is an excellent technique for relaxing the lower body, particularly the pelvis. During labor, this method is frequently recommended. To encourage relaxation and enable the force of gravity to facilitate the baby's progress through the birth canal. This enables the work process to advance more rapidly.

### **SUGGESTION**

In providing midwifery care to pregnant women, it is intended that health care professionals would use pelvic rocking exercises (PRE) as one of the exercises throughout pregnancy for pregnant women in an effort to prepare them for labor so that labor will be shorter. Pelvic rocking movements can be utilized to decrease the time of I and II in rhythmic gymnastics lessons for pregnant women.

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