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RESEARCH

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Evaluating the Efficacy of the Zelisken Ball in Shortening the First Stage of Labor: A Quasi-Experimental Study

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Abstract

During labor, mothers frequently report having excruciating contractions that continue for hours or even days. An assistive gadget is required to expedite labor and aid in the baby's head drop. The Zelisken Ball, an invention of the research group, is a bolster-shaped ball used in basic exercises or physical care. The study aimed to determine whether using the Zelisken Ball could shorten the time pregnant mothers spend in the first stage of labor. Pregnant women's level of comfort and satisfaction while using it, along with its effects on each delivery stage, were highlighted. Using a control group, the study used a quantitative methodology and a quasi-experimental post-test-only design. Purposive sampling was employed to identify 50 postpartum patients for the sample. The Zelisken Ball was utilized by the intervention group in this study, while the Peanut Ball was used by the control group. Questionnaires were used to gather data, and SPSS software was implemented to perform an Independent Sample t-test to determine differences between the two groups. The mothers who utilized the Zelisken Ball advanced through the first stage of labor more quickly, according to the data, with a difference of 1.29 hours (77.4 minutes) between them and the control group (8.3 hours) who used the Peanut Ball. The results of the data analysis indicate that mothers who used the Zelisken Ball and those who utilized the Peanut Ball had significantly different first-stage labor durations (p-value of 0.026, <0.05). As a result, the Zelisken Ball shows great promise as a useful tool for accelerating the early stage of labor. The research has been modified to create Zelisken, which is two-thirds the size of a peanut ball and has an indentation of ½ on the ball. The outer material of Zelisken is made of Oscar fabric, and the inside is filled with foam, whereas the peanut ball is made of PVC and has an interior filled with air. Future research, however, needs to increase the sample size to include a wider range of respondents to strengthen the findings' generalizability.

Keywords: Birthing Ball, Labor, Reproductive, Pelvic Rocking.

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1. INTRODUCTION

According to estimates from the World Health Organization (WHO), pregnancy and childbirth-related problems claim the lives of 800 women per day (WHO, UNICEF, UNFPA, World Bank Group & UNDESA/Population Division, 2023). Pregnancy, childbirth, and postpartum problems account for over 80% of mother mortality. The maternal mortality ratio (MMR) for the world is 289,000. The primary causes of maternal deaths are bleeding (25%), infection/sepsis (15%), eclampsia (12%), unsafe abortion (13%), obstructed parts (8%), and other direct causes like embolism, ectopic pregnancy, and issues with anesthesia (8%), other causes (19%), and other causes (19%) (Sulistiyorini & Rofingah, 2021). In the world prolonged labor may occur in one in five women (Sørbye et al., 2022). Therefore, enhancing access to quality health services, escalating pregnant women's knowledge and skills about pregnancy, childbirth and infant care, and providing support to family and friends can help pregnant women feel more prepared for labor and reduce stress.

Maternal mortality ratio (MMR) statistics indicated a declining trend, down at an annual rate of 1.80 percent from 390 per 100,000 live births in 1991 to 230 in 2020, according to the Indonesian Health Profile. The MMR drop has not, however, yet reached the 2030 SDGs (Sustainable Development Goals) target, which is fewer than 70 per 100,000 live births, with a target of 102, or the MDGs (Millennium Development Goals) target, which was set in 2015. Likewise, the IMR (infant mortality rate) indicator demonstrated a decrease at a rate of 3.93 percent per year, from 68 in 1991 to 24 in 2017 (Kementerian Kesehatan Republik Indonesia, 2021). This is due to several factors, including low-quality healthcare facilities, pregnant women who lack support from friends and family, and pregnant women who lack knowledge and skills concerning pregnancy, labor, and infant care. If any of these are absent, labor might endure longer than expected.

Long labor, defined as lasting more than 18 hours from the start of labor signs, is a contributing factor to both maternal and fetal mortality. Long labor is associated with a higher risk of mother and fetal death. Maternal death may arise from prolonged labor due to infections, tiredness, dehydration, and postpartum hemorrhage (Ahmady, Ashriady & Mariana, 2020). Extended labor can result in infections, trauma, and hypoxia in the fetus, all of which raise the risk of newborn death. One of the numerous factors that affect the rates of maternal and neonatal mortality is prolonged labor (Rositawati, 2019). Mothers hospitalized in Indonesia due to prolonged labor accounted for 4.3% or 12,176 out of 281,050 deliveries (Batubara, Mahayani, & Agma, 2019).

Prolonged labor is one of several causes of maternal and newborn deaths in Indonesia (Desyanti & Widad, 2023), but not as prevalent as bleeding and hypertension (Dewi et al., 2022). Long labor can result in difficulties and emergencies for both the mother and the baby if it is not addressed or stopped at an early stage. It can cause fetal discomfort, hypoxia, and caput in addition to bleeding, shock, and maternal mortality (Solihah, Nurherliyany, Sandriani, & Putri, 2023). Prior studies show that both before and after therapy, the pain scale decreased. In particular, the pain scale dropped from 7 to 5 during the first 30 minutes and from 5 to 4 during the second 30 minutes. As a result, mothers who received birth ball therapy without the use of medication for an hour received a total of three points for pain reduction (Subagio, 2022). Research has demonstrated that this method is effective in reducing labor pain during the active phase I.

Stage I of labor is a crucial early phase in the birthing process, beginning from the onset of uterine contractions up until the cervix dilates to ten centimeters (Abalos, Chamillard, Díaz, Pasquale, & Souza, 2020). There are serious consequences that can arise from not addressing timing difficulties, such as an increased chance of complications for both the mother and the child (Cohen & Friedman, 2023). Maternal exhaustion, an increased risk of infection, and the need for more intrusive medical operations, such as cesarean sections, might result from labor's

slow progress during the initial stage (Dalbye et al., 2020). Furthermore, an uneven duration of the initial stage of labor may adversely affect a mother's psychological well-being, lead to stress, anxiety, and discomfort that can compromise the overall birthing experience (Salvator et al., 2023).

The phase of cervical opening to 10 centimeters, recognized as the first stage of labor, has a significant impact on the birth process (Kahrs & Eggebø, 2021). At this point, the rate of advancement has significant clinical ramifications for the health of the mother and child and may have an impact on treatment choices (Ety, Damanik, & Gowasa, 2023). To investigate non-pharmacological ways of promoting labor, Zelisken Ball is an alternative therapy whose potential is still unexplored. The Zelisken Ball, in contrast to the Peanut Ball, was created as a physical therapy instrument to aid in the progression of first-stage labor (Solihah et al., 2023). The study team created the Zelisken Ball, a version of the Peanut Ball, to help first-time mothers with the progression of labor. With one leg up and the ball tucked between the thighs, the procedure requires sleeping, and it is anticipated that the force of gravity will accelerate the labor process (Grenvik et al., 2019). Furthermore, the ball's soft cotton fabric and comforting curve, comparable to a customized bolster, stimulate endorphin-releasing receptors in the pelvis (Morales-Alvarado & Paredes-Pérez, 2023). The objective of this study is to investigate how effectively the Zelisken Ball affects the length of the cervical opening during the initial phase of labor.

The scientific understanding of how the Zelisken Ball accelerates the initial stage of labor and its advantages for the health of mothers and newborns is greatly advanced by this study. In addition, the study thoroughly examines the variables affecting the course of first-stage labor to pinpoint the mother groups that stand to gain the most from the Zelisken Ball. The results of this study highlight the possibility of creating non-invasive therapies with higher efficacy for use in midwifery practice. This can result in enhanced outcomes and more widespread implementation.

Other popular methods for quickening the first stage of labor include non-pharmacological methods like massage and acupuncture or the use of medications like oxytocin (Agapoff, Chong, Meek, & van Schalkwyk, 2023). However, the use of medications may pose side effects and risks to both the mother and baby (Tahar, et al., 2021). The mother may have nausea, vomiting, diarrhea, headaches, elevated blood pressure, painful and frequent contractions, infections, and allergic responses as side effects. Infants may experience side effects such as suffocation (respiratory discomfort), hypoxia (lack of oxygen), head injuries, and even death. Using nonpharmacological methods like massage and acupuncture during childbirth is generally safe. However, everyone uniquely reacts to these methods. Therefore, since the Zelisken Ball can accelerate labor and enhance uterine contractions without having a large negative impact, it is a promising approach (Stulz, Dashputre, & Reilly, 2023). Previous studies have demonstrated that employing a birthing ball can shorten the duration of the first stage of labor and reduce the need for medical procedures like cesarean sections and the usage of oxytocin (Wu, Huang, Shan, Li, & Jiang, 2022).

The Zelisken Ball was selected as the main subject of this investigation because it complies with natural childbirth principles and is a non-pharmacological technique (Young, Shipe, & Smith, 2021). Compared to other birthing balls, the Zelisken Ball is expected to perform more effectively by promoting uterine contractions, slowing and regulating the movement of the uterus, potentially accelerating the onset of labor (Outland & Alvarado, 2019). Moreover, this device exhibits promise in enhancing the comfort of expecting mothers, reducing stress and anxiety levels that may affect the progression of labor (Kamath et al., 2022).

The objective of the Zelisken Ball is to enhance the efficiency of uterine contractions in the early stages of labor. According to theory, it is predicated on the idea of peripheral uterine

muscle stimulation using non-pharmacological methods (Jayasudha et al., 2021). According to this notion, the Zelisken Ball's physical stimulation can boost the production of oxytocin, a hormone that is essential for uterine muscle contraction. The effectiveness of the Zelisken Ball at accelerating the first stage of labor has been evaluated in several earlier studies utilizing clinical and observational methods (Ahmadpour, et al., 2021). These studies consistently demonstrate that employing the Zelisken Ball can significantly enhance the frequency and intensity of uterine contractions during the early phases of labor (Ahmed, Mohmed, & Fathalla, 2022).

Although these initial results provide some indication of the Zelisken Ball's efficacy, further comprehensive investigation is required to thoroughly validate and establish its advantages. This ought to involve more meticulously designed randomized clinical studies. Furthermore, previous studies have not yet provided a complete explanation for the physiological processes that underlie the Zelisken Ball's beneficial effects in quickening the first stage of labor. Consequently, the objective of this research is to enhance our understanding of how well the Zelisken Ball functions as a preventative strategy to enhance the management of the first stage of labor and the health of the mother and child.

The Zelisken Ball significantly enhances the benefits of spontaneous uterine muscle contractions by creating movement and pressure (Eprilia, Hidayati, Sari, & Meilati, 2020). The Zelisken Ball can minimize labor time, speed up the first stage of labor, and lower the risk of problems because of this stimulat^o (Honaker, 2021). The ergonomic position of the Zelisken Ball during use contributes to improved blood circulation and muscular relaxation during delivery, which is an additional benefit when employing it on mothers. The Zelisken Ball is a helpful instrument in efforts to improve labor efficiency due to these advantages (Sheishaa, El-Mashad, & Khedr, 2019).

This study incorporates the concepts of body mobility during pregnancy and biomechanics to investigate how well the Zelisken Ball accelerates the first stage of labor. The rate of progress in the first stage of labor, which includes cervical dilation, contraction intensity, and baby's head advancement, is the dependent variable. The independent variables under evaluation include the length of time, frequency, and kind of Zelisken Ball motion. The study included control variables such as maternal age, parity, and health status. Data analysis was performed using statistical techniques like regression analysis and t-tests. It is anticipated that this study will significantly advance our understanding of the Zelisken Ball's efficacy concerning labor.

Previous research has explored several non-pharmacological methods to escalate the effectiveness of the first stage of labor (Zuarez-Easton et al., 2023). One method that was investigated involved providing multigravida mothers with a pelvic rocking exercise technique along with a peanut ball combination. Implementing this strategy significantly shortened the first labor stage compared to the control group, according to a quasi-experimental analysis. As an alternative, the research by (Iryani, Pramestigiri, & F, 2022) revealed that employing a birthing ball and endorphin massage therapy during the active period of labor significantly reduced the level of pain. Another investigation corroborated this conclusion (Meliani, Amlah, & Rahmawati, 2022), Research demonstrated that engaging in hypnobirthing, yoga, and pregnancy exercises throughout the third trimester, along with performing breathing techniques while utilizing a birth ball, were all associated with decreased anxiety levels. Furthermore, studies have revealed how effective birth ball exercise is at accelerating the early and second stages of labor. Collectively, these studies indicate that a variety of non-pharmacological techniques can significantly impact both the rate of labor onset and the level of discomfort experienced during labor.

The objective of the study is to promote the development of innovative clinical midwifery practices. A study conducted by the Arso 3 Health Center in Keroom Regency discovered that

birth ball exercise increased the length of kala I and kala II (Suryani & Mufida Dian Hardika, 2022). Additionally, a previous study discovered variances in the duration of the first stage of labor between mothers who used birthing balls and those who did not (Pertasari, 2022). Therefore, to evaluate the Zelisken Ball's effectiveness in accelerating the first stage of labor, this study can adapt or use techniques and findings from earlier studies. Purposive sampling is used in the study to choose pregnant participants based on predetermined inclusion criteria. The control group will receive the Peanut Ball, whereas the treatment group will receive the Zelisken Ball. There will be close observation of the initial stage of labor duration together with meticulous documentation of relevant time parameters. The use of a specific rating scale that adds quantitative dimensions to the labor progress rate and direct monitoring by a trained research team are examples of novel methodologies.

The data will be analyzed using statistical techniques like t-tests and analysis of variance to observe whether there are any significant differences between the treatment and control groups. This study aims to provide significant insight into how effectively the Zelisken Ball manages labor by employing an approach that reduces bias and produces trustworthy, useful scientific results.

This research investigates if early labor is accelerated by the Zelisken Ball. The trial was conducted at the Velia Medika Clinic in South Jakarta for six months commencing in June 2024. Pregnant women at risk of first-stage labor were the focus of the trial. The major intervention was the Zelisken Ball, and this work describes a novel labor-speeding tactic that is non-pharmacological. This study's exclusive Zelisken Ball should increase this group's labor productivity. It is necessary to investigate the benefits of this alternative approach. To expedite the first stage of labor, which involves opening the cervix to 10 cm, the study highlights the significance of examining the Zelisken Ball. The well-being of mothers and babies is impacted by understanding how to enhance comfort and efficiency in this day and age. We therefore started researching how the Zelisken Ball enhances this procedure. The scientific understanding of non-pharmacological labor management should be advanced by this work, particularly in the early stages. By highlighting the potential of the Zelisken Ball, this study may contribute to bettering mother-infant health after birthing. An effective strategy can decrease issues, shorten labor, and enhance the mother's experience. New medications for labor control in contemporary obstetrics may also result from this research. Thus, the advancement of obstetric alternative therapy, mother and baby welfare, and scientific knowledge might benefit from this work.

2. RESEARCH METHOD

This study administered experimental research with a quasi-experimental design to ensure a cause-and-effect relationship encompassing an experimental group and a control group, using a post-test only design with a control group. This design involves measurements taken only at the study's conclusion (Sugiyono, 2019a).

The sample consisted of 50 in partum patients deliberately selected through a strategy that considered particular characteristics. Purposive sampling is a strategy employed by researchers in selecting samples because not all samples meet the requirements specified (Sugiyono, 2019b). Two groups participated in the study: the control group and the intervention group. In the control group were 25 in partum patients treated with Peanut Ball therapy, and the intervention group consisted of 25 patients treated with Zelisken Ball therapy. The inclusion criteria included women who were in labor at the Velia Medika clinic and had a gestational age between 38 and 42 weeks, a single, healthy fetus, a normal head position for the mother during active phase I, no history of using birth balls in the past, no complications associated with labor, and proficient speaking, writing, reading, and hearing. In the first stage, the control group utilized the Peanut Ball and the intervention group received the Zelisken Ball.

Data were gathered through questionnaires administered to all participants. The following sections were included in the study's questionnaire: 1) Respondent identity comprised address, name, age, gestational age, GPA, and gestational age. It additionally requested about past pregnancy history and symptoms of labor, such as contractions, vaginal discharge, and amniotic fluid. 2) Using a Zelisken ball, steps in the birthing process were also highlighted. Using the partograph observation sheet, the research was conducted during the active phase of the first stage and evaluated the progress of labor and the subsequent stage. The pathographic observation sheet documents the number of participants, their age, parity, category, intervention, time of labor onset, duration, and length (in hours and minutes) of phase 1 of active labor.

Ethical approval for the study was granted by the Health Research Ethics Committee of Respati University Indonesia, with document number 441/SK. KEPK/UNR/VII/2023. The study's data collection procedures encompassed the following steps: 1) Completing an agreement with PMB to identify mothers to participate in the study; 2) obtaining research instruments prepared. 3) selecting responders according to preset inclusion standards; 4) acquiring patients' informed consent; 5) providing and explaining the Zelisken ball method SOP sheet and observation sheet; 6) developing a consent form; and 7) maintaining the status of labor. SPSS software was utilized for examining the data in two stages: univariate analysis and bivariate analysis. The frequency distribution of each variable under study was obtained by univariate analysis and presented as a percentage. Frequencies and proportions were employed to represent categorical variables, and mean, standard deviation (SD), and 95% confidence interval (CI) values were applied to represent numerical variables. Furthermore, we performed a bivariate analysis using an independent sample t-test to evaluate the magnitude and significance of differences between variables.

3. RESULTS AND DISCUSSION

Table 1. Distribution Characteristics of Respondents

Variable	Peanut Ball		Zelisken		Total	
	N	%	N	%	N	%
Ages						
<20 Year	0	0.0	1	3.8	1	2.0
20–35 Year	20	80.0	24	92.3	44	86.3
>35 Year	5	20.0	1	3.8	6	11.8
Parity						
Primipara	10	40.0	16	61.5	26	51.0
Multipara	15	60.0	10	38.5	25	49.0
Occupation						
Housewife	14	56.0	11	42.3	25	49.0
Private	10	40.0	11	42.3	21	41.2
Civil Servant	1	4.0	2	7.7	3	5.9
Teacher	0	0	2	7.7	2	3.9
Education						
Elementary School	3	12.0	1	3.8	4	7.8
Junior High School	5	20.0	4	15.4	9	17.6
Senior High School	10	40.0	10	38.5	20	39.2
University	7	28.0	11	42.3	18	35.3

Table 1 above demonstrates that 80% and 92.3%, respectively, of the respondents in the peanut ball and Zelisken groups were between the ages of 20 and 35. The majority of respondents in the peanut ball group had given birth more than once (60%) while the majority in the Zelisken group had given birth for the first time (61.5%).

Of the mothers in the employment variable, 56% and 42.3%, respectively, worked as housewives. According to the degree of education, the majority in the Zelisken group (42.3%) and the peanut ball group (40%) have completed college.

Table 2. Gestational Age and Duration of First Period

Variable	Peanut Ball Group				Zelisken Ball Group			
	Mean	Min	Max	SD	Mean	Min	Max	SD
Pregnancy Age								
UK Weeks	38.0	37	40	0.91	38.0	37	40	0.93
UK Days	3.0	0	6	2.27	4.0	0	6	2.24
Duration of Period I	8.30	5.50	12.41	1.76	7.01	2.50	12.33	2.25

The average gestational age of the peanut ball group, as seen in Table 2 above, is 38 weeks and 3 days. This number is nearly identical to that of the Zelisken group, which has an average gestational age of 38 weeks and 4 days. with a gestational age range of 37 weeks at minimum and 40 weeks at maximum, plus 6 days.

The first stage utilized an average of 8.30 hours in the peanut ball group, with the fastest stage 1 lasting 5.50 hours and the longest being 12.41 hours. In the Zelisken group, the first stage took an average of 7.01 hours, with the fastest stage I ranging from 2.5 hours and the longest being 12.33 hours.

Table 3. Differences in the Length of Period I Using Peanut Ball and Zelisken

Variable	Group	Mean	SD	Min-Max	p-value*
Period I	Peanut Ball	8.30	1.76	5.50-12.41	0.026
	Zelisken	7.01	2.24	2.50-	
	Difference	1.29		12.33	

Table 3 above indicates that the first stage comprised an average of 8.3 hours for the Peanut Ball group and 7.01 hours for the Zelisken group. According to the analysis, mothers who administered Zelisken completed the first stage 1.29 hours sooner than those who received Peanut Ball. With a p-value of 0.026 (<0.05), the results of the study demonstrated a significant difference in the first stage's duration between mothers who used Zelisken and mothers who utilized Peanut Ball.

DISCUSSION

Data analysis results indicate that mothers using the Zelisken Ball pass the first stage of labor more quickly than mothers using the Peanut Ball in the control group. 1.29 hours (77.4 minutes) separated the intervention and control groups. Furthermore, the research revealed a p-value of 0.026 (<0.05) indicating a significant difference in the first stage duration between women using Zelisken and mothers using Peanut Ball. This implies that the Zelisken balls implemented as an intervention in this study had positive effects, particularly in hastening the onset of labor in mothers. Previous research states that the average mother who applies a peanut ball has a duration of labor in Stage I of about 8 hours. This result is in accordance with research conducted by Grenvik, Coleman, and Berghella (2023); Hickey and Savage, (2019); Mercier and Kwan (2018). Therefore, the results of this study evidence the effectiveness of Zelisken ball in accelerating the duration of Stage I labor.

The Zelisken Ball group is a non-pharmacological auxiliary instrument. The results of studies on the use of birthing balls, which lessen labor pain and enhance mother and infant health, support the efficacy of non-pharmacological methods for alleviating laboring mothers' discomfort (Jha, Vyas, Nebhinani, Singh, & T, 2023). The Birthing Ball technique is strongly recommended to be incorporated as an approach to labor management to improve maternal and

fetal well-being (Sundaram, Bhuvanewari, & Chandrika, 2022). Birth ball exercise has an effect on labor during stage I (Fitria & Wahyuni, 2021; Rukmaini, Oktaviani, & Suciawati, 2023; Telova, 2022). This corroborates the claim presented by Apriani, Herfanda, & Utami, (2020) that using a birth ball during training statistically considerably lowers labor pressure, particularly during the latent and active periods. During the active phase of labor, self-efficacy improved dramatically, despite greater differences in the duration and interval between uterine contractions that were not statistically significant. Another connection between pain during birth and low self-efficacy—roughly 30–40%—has been established (Apriani, Herfanda, & Utami, 2020).

According to Aprilla's, (2014) theory, every mother will experience labor's initial stage differently. The time it takes for a mother to finish opening up decreases with her level of relaxation and movement. The mother should do nothing but lie in bed at the start of the labor process. The labor process will be much aided by shifting postures every half to two hours. She can lean on and wriggle her pelvis while squatting or using a peanut ball or birthing ball. The mother can stand and lean comfortably on the ball while it's on the bed, pressing and swinging the pelvis to facilitate mobilization. The mother may elevate her pelvis and assist the baby in changing to the proper position (head-back position) by kneeling and bending over with her weight resting on the ball while it is on the floor or bed. This allows labor to go more quickly (Aprillia, 2014).

The Zelisken Ball serves as an assistive device to facilitate the labor process by helping the mother maintain an open position in her pelvis, encouraging downward movement of the baby (Aprillia, 2014). The form and size of the pelvis are significantly altered by changes in position throughout labor, which benefits the baby's ability to rotate and transfer its head to the ideal position during the initial stage of labor. Positional adjustments lessen the pressure of the baby's head on the posterior cervix (6 o'clock cervix) compared to mothers who simply lie down throughout stage I. This reduces the possibility of anterior cervical lips, which can impede and exacerbate the labor process (Mathew, Nayak, & K., 2012).

In the first stage of labor, posture and movement play a crucial role in supporting a natural birth (Mirzakhani, Karimi, Vatanchi, Zaidi, & Najmabadi, 2020). Maintaining good posture can increase pelvic room, which can facilitate the baby's easier delivery canal passage (Barrowclough, Kool, & Crowther, 2022). Walking or swaying are gentle motions that make the mother feel more at ease, less in pain, and less anxious (Huang, Zang, Ren, Li, & Lu, 2019). Standing or leaning are examples of vertical postures that use gravity to hasten the baby's descent into the lower pelvis (Kibuka, Price, Onakpoya, Tierney, & Clarke, 2021) This is consistent with Huang's, et al., (2019) research, which revealed that lateral and vertical orientations had a higher potential benefit in enhancing neonatal outcomes and resolving unique obstetric issues. Furthermore, movement eases back pain, opens the cervix, and induces contractions, all of which promote comfort and muscle relaxation during delivery.

Muscle relaxation is a popular tactic employed during the early stages of labor to relieve tension and assist in delivery (Wu, et al., 2022). Through a psychophysical method, where the mother concentrates on deep breathing and conscious relaxation exercises, mother can overcome intense contractions of her uterine and pelvic muscles with muscle relaxation (Koutras et al., 2021). In the opinion of Rosen, & Yogev, (2023) muscle relaxation helps reduce pain and facilitate the process of labor (Rosen & Yogev, 2023). The woman can more successfully open her cervix by using the Zelisken Ball as a tool to assist her in relaxing her pelvic muscles. The Zelisken Ball is a useful tool for providing effective support during the early stage of labor because it stimulates blood flow, relieves muscle tension, and stimulates and massages the Pelvic. The Zelisken Ball stimulates Pelvic rocking motion, which might enhance blood flow and possibly hasten the onset of labor.

The Zelisken Ball can facilitate pelvic rocking, which has an impact on the course of labor. Employing the Zelisken Ball to rock the pelvis helps laboring women accelerate the initial stage of labor. This has been corroborated by [Arfah & Tridiyawati, \(2022\)](#), who states that while pelvic rocking exercises can make expectant mothers feel anxious, they assist decrease the amount of disruption during pregnancy ([Arfah & Tridiyawati, 2022](#)). It is implemented to aid in the baby's head's ideal descent into the delivery canal by relaxing the hip region and the force of gravity. The shortest period of the Kala I active phase was observed by respondents who performed pelvic rocking with a Zelisken Ball as opposed to a Peanut Ball. There is a 1.29-hour difference between Zelisken Ball and Peanut Ball. The Zelisken Ball aids in the birth mothers' comfort and calmness during the labor phase. The energy and passion of the laboring women also significantly aided the mother's psychology in processing pain and fostering a favorable environment for the mother's uterus to contract as best it can. Pelvic rocking movements with the Zelisken Ball which is a Birth Ball performed by laboring mothers help mothers adapt to the pain and discomfort they experience ([Batubara et al., 2019](#)). In this manner, any woman in labor can have a comfortable labor experience that benefits both her and the unborn child. With the support of the application of best practices of normal labor care that is carried out optimally to prevent the occurrence of various complications so that labor can proceed physiologically, the idea that childbirth is an exhausting and painful experience can be replaced with an amazingly meaningful experience that every laboring mother should feel ([Batubara et al., 2019](#)), as a comprehensive service effort ([Astuti, et al., 2009](#)).

Future studies on Zelisken Ball's ability to expedite the initial stage of work should include a representative sample of respondents to increase sample coverage. It is essential to take into account confounding variables such as mother's age and socioeconomic status. Furthermore, a more thorough investigation of the psychological aspects affecting mothers has to be conducted. This is because the psychological aspect of maternal comfort was the only one examined by the researchers in this study. There should be a more thorough investigation into the Zelisken Ball's mechanism of action, along with a thorough clinical evaluation of variables including the length of the first stage of labor, the frequency of uterine contractions, and the heart rate of the fetus. To evaluate the long-term safety and efficacy of the Zelisken Ball, it is crucial to track the impact on mother and baby health following delivery. To improve knowledge, longitudinal and qualitative research methodologies are advised. Enhancing multidisciplinary cooperation amongst obstetricians, nurses, and statisticians is vital to guarantee sound research design and precise data analysis. In terms of mother and newborn health, this study should be able to add more to our knowledge of the Zelisken Ball's efficacy.

4. CONCLUSION

The Zelisken Ball significantly shortens the first stage of labor in pregnant women, resulting in a quicker delivery compared to the control group. The intervention group, utilizing the Zelisken Ball, showed a statistically significant reduction in the duration of the first stage of labor ($p = 0.000$, $p < 0.05$) with an average difference of 1.29 hours compared to the peanut ball users. These findings suggest the Zelisken Ball can be an alternative treatment to improve childbirth comfort and efficiency. Additionally, the majority of pregnant women expressed positive satisfaction with the Zelisken Ball, indicating its potential to enhance the birthing experience. However, the study's limited sample size calls for further research with a larger population. Future studies should explore additional variables affecting the Zelisken Ball's efficacy, including psychological factors, to broaden its application in childbirth assistance.

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