International Journal of Multidisciplinary Approach Research and Science
E-ISSN 2987-226X P-ISSN 2988-0076
Volume 2 Issue 3, September 2024, Pp. 1047-1055
DOI: https://doi.org/10.59653/ijmars.v2i03.855

Effect of Rebozo and Birth Ball Techniques on Length of Active Phase for Primi Maternity Woman at Ayu Independent Practicing Midwife In 2023

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Received: 19-04-2024 *Reviewed: 05-05-2024* *Accepted: 20-05-2024*

Abstract

There are still many problems in Indonesia, including prolonged labor which is one of several causes of maternal and newborn deaths. According to the World Health Organization (WHO), the maternal mortality rate is very high, around 287,000 women died during and after pregnancy and childbirth in 2020. The research aims to determine the effect of the rebozo and birth ball techniques on the length of the active phase in mothers giving birth in primary care. This research is quantitative research with a pre-experimental research design, namely a two-group pre-test-post-test design approach. This research was carried out at the Mandiri Ayu Practical Midwife in 2023. Time of the research was carried out in November 2023 - February 2024. The population in this study was all 2023 primigravida mothers from August-October with a sample of 22 people. The data obtained was normally distributed so we used a parametric test, the dependent T-test. The research results showed that the length of the active phase in the control group without treatment with the Rebozo technique and birth ball in primi mothers was 7.36 with a standard deviation of 0.505 and a std error of 0.152, while in the intervention group given the treatment it was 4.18 with a standard deviation of 0.982 and std error 0.296. The results of statistical tests using the independent t-test with p-value = 0.000 ($p \leq 0.05$). The conclusion of the study shows that there are differences between the Rebozo and birth ball techniques the control and intervention groups regarding length of the active phase in primary birth mothers. The researcher's suggestions can be applied midwifery practice accelerating Rebozo and birth ball techniques.

Keywords: Rebozo techniques, Birth Ball, Active Phase

Introduction

According to the World Health Organization (WHO) in 2023, maternal mortality is very high, about 287,000 women died during and after pregnancy and childbirth in 2020. Nearly 95% of all maternal deaths occur in low- and lower-middle-income countries, and most are preventable. Sub-Saharan Africa and South Asia accounted for about 87% (253,000) of the estimated global deaths in 2020. Sub-Saharan Africa alone accounts for about 70% of maternal deaths (202,000), while South Asia accounts for about 16% of maternal deaths (47,000) (WHO, 2023) .

The maternal mortality rate (MMR) in West Pasaman based on data from the West Pasaman Regency Health Office recorded 31 cases of maternal deaths during 2021. The cause of maternal death is caused by the presence of preeclampsia and eclampsia, infection, obsthetic embolism, bleeding, heart failure and Covid. One way to reduce the number of maternal deaths is to increase maternity assistance by medical personnel and neonatal services (Azhar, 2023). The government program directs further improvement of maternity assistance will be ideal if carried out by professional health workers, namely doctors, midwives, or other medical personnel, this is a proportion of maternity assistance by health workers can be used as an indicator of the success of the government program (DPPKBP3A, 2022).

The Neonatal Mortality Rate of 0-28 days was 8.61 live births with 70 deaths out of 8,129 babies. While the Infant Mortality Rate is 3.08 live births with 25 infant deaths, efforts that can be made in reducing MMR, AKB, AKBa one of them is by applying the Rebozo and Birth Ball techniques to speed up the process when I in labor. Problems in Indonesia itself are still widely found, including the old partus which is one of several causes of maternal and newborn death. In the labor process goes through 4 times, when I is divided into 2 phases, namely the latent phase and the active phase. In the latent phase is the initial time period from the active progress of the opening until the opening becomes complete. (Gustyar, 2019)

In the active phase of labor, primigravida fear is higher than multigravida and has a contribution to pain levels and duration of labor. Kala I for primigravida lasts 12 hours, for kala I the active phase normally runs for 6 hours on primigravida, while the length of time I lasts for multigravida 8 hours. Primigravida opening 1 cm per hour and multigravida 2 cm per hour. (Kirana, S, & P, 2023)

Independent Practice of Midwives (PMB) Wahyuni Asnita/Ayu in Jorong Rimbo Binuang, Pasaman District, West Pasaman Regency, there are 100-150/year pregnant women (ANC), there are 50-100/year maternity mothers (INC), there are 50-100/year postpartum mothers (PNC), there are 50-100/year newborns (BBL), 200-250/year family planning (KB), and there are no maternal mortality rates (MMR) and infant mortality rates (AKB) at PMB Wahyuni Asnita in 2023.

Based on an initial survey conducted at Ayu Independent Practice Midwife in November 2023. The results of an interview conducted at the Ayu Independent Practice Midwife said that she had never used the rebozo technique and rarely used birth ball, where if the active phase of labor took a long time, the midwife immediately carried out induction actions in labor. Based on the description above, researchers are interested and have conducted

research on "Effect Of Rebozo And Birth Ball Techniques On The Length Of The Active Phase From Primi Maternity Women In Ayu Independent Practice Midwives In 2023"

Literature Review

Labor is a process to push out (expulsion) the results of making from the inside out of the uterus. Normally, the process takes place when the uterus cannot grow any bigger, when the fetus is mature enough to live outside the womb. (Subiastutik & Maryanti, 2022) Childbirth is a normal physiological event. The birth of a baby is also a social event that mothers and families look forward to for 9 months. When labor begins, the role of the mother is to deliver her baby, the role of health workers is to monitor labor to detect early complications. (Andira, et al., 2023)

Meanwhile, according to Sulistyawati in (M'Rifah, Mardiyana, Rozifa, & Wiladati, 2022) Labor is the process of removing the results of conception (fetus and placenta) that have been full term or can live outside the womb through the birth canal or through other ways with assistance or without assistance (own strength). This process begins with the presence of true labor contractions, which are characterized by progressive changes in the cervix and end with the birth of the placenta. (M'Rifah, Mardiyana, Rozifa, & Wiladati, 2022)

The progress of labor during the active phase I in primigravida is influenced by cervical dilation and the lowering of the fetal head to the pelvic floor (Iversen et al., 2017). Labor pain is caused by contractions that take place regularly with intensity that is getting stronger and more frequent (Cohen & Thomas, 2015). The progress of labor during the first active phase is the most tiring, heavy time and most mothers begin to feel pain or pain, in this phase most mothers feel severe pain because uterine activities begin to be more active. Discomfort and pain will be felt by maternity mothers as labor progresses. (Kirana, S, & P, 2023)

Various physiological efforts are made to prevent prolonged labor, such as pregnancy exercises, deep breathing techniques and pelvic rocking techniques. Other efforts to prevent prolonged labor such as rebozo and birth ball that support labor can run physiologically. It is also one method that is very helpful in responding to pain with an active feeling and reducing the length of labor during the active phase. Sitting straight on the ball, the earth's gravitational force will help the fetus or the lowest part of the fetus to immediately descend into the pelvis so that a shorter or shorter delivery time is obtained. (Hidajatunnikma, 2021)

Rebozo is a traditional Mexican shawl or scarf. For centuries, rebozo has helped women in childbirth (Ningsih, et al., 2022). The rebozo technique is a nonpharmacological way or without the use of drugs (traditional). This technique originated in Mexico where women there have a tradition of using rebozo before, during and after childbirth. Rebozo is a long cloth that Mexican women usually wear for daily activities (carrying, holding a baby, blankets and others). Wrap the rebozo around the pelvis and buttocks of pregnant women, then shake it during labor. The swing from the rebozo is considered to be able to relax the mother and help position the baby into the birth canal (Simbolon & Siburian, 2021)

While the birth ball technique is a tool that can be used to do by the body during pregnancy, but its use requires more attention so that the mother does not fall when using it, considering the round shape of the ball and the balance of the mother by carrying a large load on the stomach (Simanullang et al., 2023). Birthball can be used during yoga, birth ball, squatting movement wake up in pregnant women. In addition, the birth ball also helps to massage the perineal part of pregnant women. Birthing balls can help the mother in an upright position, staying upright in labor will allow the uterus to work more efficiently by making the pelvic plane wider and opener. In other words, it can stimulate dilation and widen the pelvic outlet. Sitting straight on the ball, the gravitational force of the earth will help the fetus or the lowest part of the fetus to immediately descend into the pelvis (Riyanti, 2022)

Based on research conducted by (Batubara & Ifana, 2021)with the research title, "The Effect of Birthing Ball Implementation on the Duration of Kala I Labor in Primigravida Mothers at Bpm Desita S, SiT, Bireuen Regency". The results of the study were obtained that, p value 0.000 ($p < 0.05$). So it was concluded that there was an influence of the implementation of the birthing ball on the duration of labor when I in primigravida mothers. Meanwhile, the research conducted by (Kirana, S, & P, 2023), with the research title "The Relationship of Birth Ball Therapy with the Progress of Labor Kala I Active Phase in Primigravida Mothers at Lidya Sifra Kudus Primary Clinic". The results of the study found that the p value was 0.001 ($p < 0.05$). So it was concluded that there is an influence of birth ball therapy with the progress of labor during the active phase I in primigravida mothers.

Research Method

This research is a quantitative research with a Pre-Experimental research design, namely with a two-group pre-test-post test design approach, an approach with one pre-treatment group and post-treatment is research carried out in one group with two measurements, namely pre and post-treatment (SIregar, et al., 2021). The pre and post-treatment measurements of rebozo and birth ball techniques are measurements of the length of the active phase in primi maternity mothers. The research design is as bellow :

The Research

Intervensi	*Post Test*
X	O1
X1	O2

Description:
X : Treatment in Intervention class
X1 : Treatment in control class
O1 : Control Class
O2 : Control Class

1. Population and Sample
   a. Population
      The study population is people who are the subject of research or people whose characteristics are to be studied (Amriza, 2023). The population in this study is all 2023 primigravida maternity mothers from August to October as many as 29 people.
   b. Sample
      The sample is a portion or representative of the population studied (Amriza, 2023). The sampling technique used is Experimental, that is, if the design is complete random, randomized group, or factorial can use the formula Slovin, M. J (1960)
2. Research Data
   a. Primer Data
      The data that have been obtained directly from respondents using observation sheets in accordance with research variables, namely the effect of rebozo and birth ball techniques on the length of the active phase in primi maternity mothers in the Ayu Independent Practice Midwife in 2023.
   b. Sekunder Data
      Supporting data obtained from the West Pasaman Regency Health Office and Ayu Independent Practice Midwives in the form of all primigravida maternity mothers in Ayu Independent Practice Midwives and and matters related to research obtained from the recapitulation of Ayu Independent Practice Midwives
3. Analisis Data
   a. Analysis Univariate
      Univariate analysis uses descriptive statistical techniques to describe the parameters of each variable. These parameters include, mean (mean, median, mode) and variance (variance, standard deviation, range) (Andira, et al., 2023)
   b. Analysis Bivariate
      Bivariate analysis is performed when two variables are analyzed, namely the dependent variable and the independent variable. Used in designing association studies, association experiments and two groups. This analysis aims to verify the research hypothesis. The data obtained is processed with a normality test to see the distribution of data by looking at the results of the Shapiro-Wilk test. The data obtained is distributed normally, then using a parametric test, namely the dependent T test test with a confidence level of 95% (α=0.05) with $p \leq 0.05$ there are two effects. Decision making on the use of bivariate analysis tests, using consideration of the requirements of the T test, namely data must be normally distributed (Anam S, 2023)

Result and Discussion

Based on the results of research conducted at the Mandiri Ayu Practical Midwife in 2023, regarding the effect of the rebozo and birth ball techniques on the length of the active

phase in primi mothers, with a sample of 22 respondents, with 11 respondents in the control group and 11 respondents in the intervention group.

1. Analysis Univariate
   a. It is known that the average length of the active phase in primi maternity mothers in the control group without being given rebozo and birth ball technique treatment at the Ayu Independent Practice Midwife in 2023

The average length of the active phase in Primi maternity mothers in the control group without being given rebozo and birth ball technique treatment in Ayu's independent practice midwives in 2023

Control Class	*Posttest*		
	Mean	Standar Deviasi (SD)	Std. Error
Long of Phase Active	7,36	0,505	0,152

Based on the table, the length of the active phase in the control group without treatment of rebozo and birth ball techniques in primi maternity mothers was 7.36 with a standard deviation of 0.505 and an STD error of 0.152

   b. It is known that the average length of the active phase in primi maternity mothers in the intervention group was given rebozo and birth ball technique treatment at the Ayu Independent Practice Midwife in 2023.

The average length of the active phase in primi maternity mothers in the intervention group was given rebozo and birth ball technique treatment in Ayu independent practice midwives in 2023

Intervention class	*Posttest*		
	Mean	Standar Deviasi (SD)	Std. Error
Long of Phase Active	4,18	0,982	0,296

Based on the table, the length of the active phase in the intervention group given rebozo and birth ball technique treatment in primi maternity mothers was 4.18 with a standard deviation of 0.982 and a std error of 0.296

2. Result of *Sahpiro-Wilk Test*

Class	*Statistic*	*Df*	*Sig*
Class Control	0,625	11	0,000
Class Intervension	0,896	11	0,165

Based on the table, the value of the shapiro-wilk test results was obtained in the control group as many as 11 respondents with statistics of 0.625 and significant 0.000, while as many as 11 respondents with statistics of 0.896 and significant 0.165, then in the intervention group obtained the value of normal distribution then using a parametric test, namely the T test.

3. Analysisi Bivariate

It is known the difference between rebozo and birth ball techniques on the length of the active phase in primi maternity mothers at the Ayu Independent Practice Midwife in 2023.

Differences between Rebozo and Birth Ball Techniques on the Length of Active Phase in Primi Maternity Women in Ayu Independent Practice Midwives in 2023

Variable	N	Mean	Std. Deviasi (SD)	Std. Error Mean	95% CI	P Value
Class Control	11	7,36	0,505	0,152	2,488-3,876	0,000
Class Intervension	11	4,18	0,982	0,296	2,472-3,891	

Based on table statistical test results were obtained using an independent t test for the length of the active phase, obtained a p value = 0.000 (p = 0.05), so there are differences in rebozo and birth ball techniques on the length of the active phase in primi maternity mothers at the Ayu Independent Practice Midwife in 2023.

Conclusion

Based on the results of research that has been conducted on the effect of rebozo and birth ball techniques on the length of the active phase in primi maternity mothers in the Ayu Independent Practice Midwife in 2023, namely:

1. The duration of the active phase in the control group without treatment of rebozo and birth ball techniques in primi maternity mothers was 7.36 with a standard deviation of 0.505 and an STD error of 0.152.
2. The duration of the active phase in the intervention group given rebozo and birth ball technique treatment in primi maternity mothers was 4.18 with a standard deviation of 0.982 and an STD error of 0.296.
3. There are differences in rebozo and birth ball techniques on the length of the active phase in primi maternity mothers at the Ayu Independent Practice Midwife in 2023

Declaration of conflicting interest

The researcher revealed that this research work was carried out without elements of conflict and coercion from anyone. It is expected to add insight and knowledge, skills in knowing the influence of rebozo techniques and birth ball this research researchers can apply or provide health education to family, friends and others on the length of the active phase in primi maternity mothers, where with this study researchers can apply or provide health education to family, friends and others.

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