

## The Effectiveness Of Birth Ball On The Long Time Of Active Phase I In Primigravida In Pmb Az-Zahwa Muara Enim In 2021

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### ABSTRACT

The duration of labor in primigravida can affect fatigue and physical decline of the mother in labor. On the other hand, fatigue can also cause labor to last a long time because it results in inadequate uterine contractions, as a result, there will be a prolonged labor that can increase fetal distress and the risk of postpartum hemorrhage. The length of labor can be prevented by accelerating the delivery process, one of which is by using a Birth Ball. This study aims to see the effectiveness of the Birth Ball on the duration of the active phase 1st in primigravida. The research design used was pre-experimental with intact group comparison. The sample was divided into two groups, namely the treatment group and the control group. In taking the samples, the total sampling technique was used with a total of 30 mothers giving birth in the first stage of the active phase of primigravida according to the inclusion criteria. The data collection was used with informed consent sheets, respondent identity sheets, partograph sheets and then analyzed using the fisher exact probability test with a 95% confidence level p Value = 0.05. Based on the results of data analysis obtained p Value (0.002) < 0.05, then Ho is rejected, which means that there is an effectiveness of the Birth Ball on the duration of the 1st stage of the active phase in primigravida. After knowing the effectiveness of the Birth Ball on the duration of the active phase 1st in primigravida,

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### 1. Introduction

Maternal and child health is an important issue that the government pays attention to, as stated in the Sustainable Development Goals (SDG's) in the third point, namely ensuring a healthy life and supporting prosperity for all ages [1].

MMR is one of the important indicators in determining the degree of public health [2]. According to data from the Indonesian Demographic Health Survey (IDHS) in 2015, the Maternal Mortality Rate was 305/100,000 live births where the target should be 102/100,000 (Sali Susiana, BKD Research Center, 2019). This figure is still relatively higher when compared to ASEAN member countries. [3].

The number of maternal deaths in 2018 in South Sumatra was 119 people (111.19%) out of 161,210 mothers who gave birth, the highest in Banyuasin Regency as many as 15 people (17.85%). Musi Banyuasin Regency as many as 13 people (15.47%), Musi Rawas Regency and OKI 12 people (14.28%) and Muara Enim Regency 10 people (11.9%), Muara Enim Regency ranks sixth in the number of maternal mortality rates [4]. In the Puskesmas area of Muara Enim City, the number of MMR was 3 people, 1 bleeding, 1 hypertension, 1 person with metabolic disorders from 1,410

(97%) delivery assistance with 76 (25%) maternal complications, one of which was prolonged labor. (Muara Enim Health Office, 2018) [5].

AKN in South Sumatra Province in 2018 as many as 51 people out of a total of 161,210 live births. AKN calculations through the population census only describe the national figure, which is 32 per 100,000 KH. The highest AKN occurred in OKU as many as 16 people, followed by Muara enim 7 people, and Musi Rawas Regency and Palembang City 6 people [6]. AKN in the Puskesmas area of Muara Enim City was 7 (0.09%) of 1,410 (97%) live births, which were caused by asphyxia, preterm and other complications [7].

Labor and delivery is a process of expulsion of the fetus that occurs at term pregnancy (37-42), born spontaneously with a percentage of the back of the head without complications either to the mother or fetus [8]. The labor process begins with uterine contractions which causes the cervix to open. This process is known as the first stage of labor. [9]. The duration of labor can affect the fatigue and physical decline of the mother in labor. Fatigue can cause some complications in the first stage (Wahyuni, 2017) [10]. The longer the delivery, the mother in labor will feel the greater fatigue. On the other hand, fatigue can also lead to prolonged labor due to inadequate uterine contractions, resulting in prolonged labor, increased maternal distress, and increased risk of postpartum hemorrhage and fetal distress, which contribute to maternal and neonatal mortality [11].

Fatigue and stress are problems for pregnant women that cause excessive release of stress hormones such as catecholamines and steroids. This hormone can cause smooth muscle tension and vasoconstriction of blood vessels resulting in a decrease in uterine contractions, a decrease in uteroplacental circulation so that it can result in prolongation of the first stage of labor and impaired fetal welfare [12]. The Birth Ball is a physical therapy ball that helps first stage inpartum mothers into a position that helps the progress of labor that can be used in various positions. One of the movements is by sitting on the ball and rocking to help the progress of labor by using gravity while releasing endorphins so that the mother is relaxed and comfortable [13].

A preliminary study conducted on 13 PMBs in Muara Enim City only 4 PMBs used Birth Balls in patients giving birth and 9 PMBs who did not use Birth Balls. This initial interview in 4 PMBs said that the use of Birth Balls could speed up the delivery process [14].

Based on the above phenomenon, the researcher is interested in conducting a research entitled "The Effectiveness of Birth Ball on the First Stage of Active Phase of Primigravida Mothers in PMB AZ - Zahwa Muara Enim".

## 2. Methods

This study uses pre-experimental analytical research with an Intact - Group Comparison design or approach, the study was conducted from July to August 2021, the sample of this study was first-stage pregnant women in the active phase of Primigravida at PMB Az-Zahwa Muara Enim, the number of samples in the study this is 30 people.

## 3. Results and Discussion

### 3.1 Result

#### a. Univariate Analysis

TABLE 1  
BIRTH BALL FREKUENSI FREQUENCY DISTRIBUTION

<i>Birth Ball</i>	N	%
Treatment group	15	50%
Control Group	15	50%
Total	30	100%

Based on table 1, it can be seen that from the 30 respondents who were studied there were 15 (50%) women who gave birth who became the treatment group using Birth Ball and there were 15 people (50%) of women who became the control group.

TABLE 2  
DISTRIBUTION OF DURATION OF ACTIVE PHASE 1 IN PRIMIGRAVIDA

The duration of the 1st active phase in Primigravida	N	%
Fast 6 Hours	19	63.34%
Slow 6 Hours	11	36.66%
Total	30	100%

Based on table 2, it can be seen that 19 people (63.34%) of the active phase of the active phase of primigravida giving birth 6 hours and 11 people (36.66%) slow giving birth.

## b. Bivariate Analysis

TABLE 3  
BIRTH BALL . EFFECTIVENESS DURATION OF ACTIVE PHASE 1 IN PRIMIGRAVIDA AT  
PMB AZ - ZAHWA MUARA ENIM IN 2021

Stage 1 Active Phase In Primigravida	Birth Ball			
	Treatment Group		Control Group	
	f	%	f	%
Fast 6 Hours	14	46.66%	5	16.66%
Slow 6 Hours	1	3.34%	10	33.34%
Total	15	50%	15	50%

Based on table 3, it can be seen that the respondents who used Birth Ball were 15 people, in the first stage the active phase was fast 6 hours as many as 14 people (46.66%) and those who were slow  $\geq 6$  hours were 1 person (3.34%) while in the group control of 15 people whose active phase was fast 6 hours as many as 5 people (16.66%) and 10 people who were slow  $\geq 6$  hours (33.34%). The results of the analysis using the Fisher exact probability test with SPSS with a 95% confidence level showed  $p\text{-value} = 0.002 < 0.05$ , which means that there is an effectiveness of Birth Ball on the duration of the 1st active phase of primigravida in PMB AZ - Zahwa Muara Enim in 2021.

## 3.2 Discussion

### a. Analysis of the effectiveness of Birth Ball on the duration of the 1st active phase in primigravida

Based on the results of research, the use of Birth Balls has an effect on the duration of the first active phase in primigravida. This can be seen from the large percentage of respondents in the treatment group who experienced a fast period of 1 active phase when compared to the control group, which was 46.66%. The effect can also be seen from the graph of the average duration of active phase 1, which is significant between the treatment group and the control group, which is 1.5 hours. In the results of data analysis using the Fisher exact probability test, the  $p$  value (0.002) < a value (0.05). This shows that in this study there was an effect of Birth Ball on the duration of the active phase 1 in primigravida.

Birth Ball can affect the length of the active phase in primigravida due to the application of an upright position combined with movements above the ball. When the respondent uses a Birth Ball, the respondent not only benefits from an upright position that allows gravity to help lower the fetal head, but also moves and increases uterine contractions to be stronger and more efficient to assist the descent of the fetal head and cervical dilatation so that the duration of the first active phase is faster. This is in line with the research of Rania E Farrag et al (2018) when women give birth using a Birth Ball the pelvis can be wide open, making it easier to lower the fetal head with the help of gravity in an upright position so that cervical dilatation is faster.

In the treatment group, the respondent sat on the ball when he entered the first stage of the active phase with back and forth movements, left and right side then rotated clockwise. This movement helps widen the pelvic area and optimizes the position of the fetus and increases the intensity of uterine contractions. When compared with the control group, it is recommended to take a comfortable position, namely sitting, standing, walking, squatting and lying on your left side if the mother wants, so that the duration of the 1st active phase does not take place quickly because the position of the mother giving birth is not optimal.

According to Aprilia Yessi (2020) Sitting on a ball during delivery helps uterine contractions be more effective in bringing the baby through the pelvis, the pressure of the baby's head on the cervix remains constant when in an upright position so that cervical dilation can occur quickly, the ligaments/muscles around the pelvis are more relaxed and plane wider pelvic area making it easier for the baby's head to descend to the pelvic floor.

That way every mother giving birth can go through a pleasant delivery process for both the mother and the baby. The image that childbirth is tiring and painful can be replaced with an extraordinarily meaningful experience that should be felt by every maternity mother with the support of the optimal application of best practices for normal delivery care so as to prevent the occurrence of various complications so that childbirth can proceed physiologically.

#### **4. Conclusion**

There is a relationship between knowledge and family support simultaneously with the accuracy of giving complementary foods and there is no relationship between the role of health workers simultaneously with the accuracy of giving complementary foods at the Sugih Waras Health Center 2022

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