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## Cohort Study: Pregnant Exercise with Primigravida Stage II of Labor Delivery

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### Abstract

*Pregnancy exercise is a program for healthy pregnant women to prepare for the mother's physical condition. Suppose the mother does not do pregnancy exercise. In that case, she will experience aches, get tired quickly during pregnancy, and her delivery is not smooth in the second stage, thereby increasing fetal distress. This study determined the relationship between pregnancy exercise and the duration of the second stage of labor in primigravida in the Ambunten Health Center Work Area. The study design used a cohort analytic using a retrospective approach. The population was all primigravida women giving birth from September 2019 to September 2021. The sample taken was 179 respondents using a non-probability sampling technique. The second stage of labor They were then analyzed using the chi-square test. The results obtained from 179 respondents who did pregnancy exercise during the second stage of labor (74%) and did not do pregnancy exercise were not smooth (9%). The data analysis obtained the results with a p-value (0.000) and an error rate of the p-value (0.05). Conclusion H0 is rejected, and H1 is accepted. This means that there is a relationship between pregnancy exercise and the duration of the second stage of labor in primigravida in the Ambunten Health Center Work Area. This study concludes that respondents who did pregnancy exercise experienced a smooth process of the second stage of labor. Thus, it is recommended that respondents be more active in carrying out pregnancy exercises and that health workers intensify pregnant women to participate in classes for pregnant women.*

**Keywords: Pregnancy Exercises, Smooth Delivery Process, Second Stage**

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## INTRODUCTION

The maternal mortality rate in Indonesia in 2017 was 305 per 100,000 live births and is the highest maternal mortality rate in ASEAN countries. MMR in East Java Province in 2019 reached 89.81 per 100,000 live births, the most significant cause of maternal death was bleeding at 30.3%, and prolonged labor was the lowest cause at 1.8%. (Health Office, 2019)

Data from the Sumenep District Health Office, the maternal mortality rate in 2019 is 11%, while the maternal mortality rate data in 2020 is 10%. It can be seen from this that the maternal mortality rate has decreased from the previous maternal mortality rate. The lowest 1% is old parturition. While data from the Ambunten Public Health Center, the incidence rate of women giving birth with prolonged labor in 2019 is 1%, and in 2020 the incidence of women giving birth with prolonged labor is 1.6%. As seen from this, the incidence of women giving birth experiencing prolonged labor has increased.

*Long parturition* is a labor that lasts 60 minutes for primi and 30 minutes for multi during the second stage (Legawati, 2019). The causative factor of long labor is the presence of inadequate hist so that there is no opportunity for the uterus to relax. The cause of the lack of contractions is not (Salat & Suprayitno, 2019). One of them is the lack of activity or mobilization of the mother during pregnancy, especially in the second and third trimesters, because during pregnancy in this trimester, there are physical, bodily, and psychological changes. So that to maintain the health of the mother and fetus during the delivery process. It is necessary to carry out body refresh activities, namely pregnancy exercise because it is a fitness program for pregnant women. It has many benefits, such as providing comfort and convenience during childbirth. In addition, Doing pregnancy exercise can increase norepinephrine levels in the brain, increasing work power and reducing tension. (Maryunani, 2016)

Doing exercises and movements during pregnancy will have the purpose and benefit of mentally preparing pregnant women for delivery by conducting supervision during antenatal check-ups and providing information and education for pregnancy exercises. Pregnancy exercise benefits body care and can reduce disturbances due to changes in body posture. Pregnancy exercise is said to be imperfect if its implementation is not carried out regularly and intensively. (Rahmawati, Rosyidah, & Marharani, 2016) From the results of this study, the authors are interested in researching pregnancy exercise with the length of the second stage of labor.

## RESEARCH METHODS

The design in this study used a cohort with a retrospective approach. The population is all mothers who gave birth from September 2019 – September 2021 at the Ambunten Health Center, totaling 357 people. The sample size is 179 people with inclusion criteria: primigravida pregnant women who gave birth at the Ambunten Health Center, complete maternal data, and primigravida pregnant women who did pregnant exercise. This study uses a non-probability sampling technique with a purposive sampling technique. The data collection technique used is in the form of a checklist sheet by looking at the partograph and cohort to collect secondary data, in the form of pregnancy exercise and the smoothness of the labor process as seen from the length of time in labor which begins using the second stage partograph and seeing complicating factors during the labor process. In contrast, the pregnancy exercise process is taken using cohort data and documentation to see whether pregnancy exercise activities carried out by mothers are carried out correctly or if they are routinely carried out and not routinely carried out—data processing using the chi-square test.

## RESULTS AND DISCUSSION

**Table 1 implementataon of pregnancy exercise**

<b>Pregnancy exercise</b>	<b>n</b>	<b>%</b>
Regular (4X)	143	80
Irregular (<4x)	20	11
No exercise	16	9
Total	179	100

Based on the table. on. shows that most of the respondents did pregnancy exercise 4 times regularly, namely as many as 143 people (80%)

**Table 2 Time of Kala II**

<b>Time of Kala II</b>	<b>n</b>	<b>%</b>
≤ 60 menit	141	78
≥ 60 menit	38	21
Total	179	100

Based on table 2 shows that the majority of respondents second stage 60 minutes as many as 141 mothers (78%).

**Tabel 3 The relationship of pregnant exercise to the duration of labor in the second stage of Primigravida**

Pregnant Exercise	Time of Kala II				P value
	< 60 minutes		≥60 minutes		
	n	%	n	%	
Regular (4x)	137	76	6	3,6	0,000
Irregular (< 4x)	3	1,7	17	9,6	
No exercise	1	0,6	15	8,5	
<b>Amount</b>	<b>139</b>	<b>78,3</b>	<b>40</b>	<b>21,7</b>	

From the table above, the P value = 0.00 which means that there is an influence of exercise for pregnant women with the length of the second stage of labor.

### Discussion

Pregnant women perform pregnancy exercises to prepare for physical and psychological conditions in the face of childbirth. In general, pregnancy exercise has five critical goals (Suprayitno et al., 2018). Among other things, so that pregnant women master breathing techniques, the abdominal wall muscles get stronger, trained to do perfect relaxation and minimize difficulties during the delivery process. Therefore, experts state that the most suitable exercise for pregnant women is pregnancy exercise. Pregnancy exercise is a motion exercise therapy to prepare pregnant women for childbirth, either physically or mentally. (Lily Yulaikhah, 2019)

Based on the study results, pregnant women who exercise under the supervision of experts will improve their psychological well-being. Pregnant women who experience depression at 29-34 weeks of gestation can also provide coping mechanisms in the labor process and during the puerperium. (Broberg et al., 2021)

Doing pregnancy exercise has a positive impact on pregnant women and their fetuses. Pregnant training can provide flexibility for the body for pregnant women and is very important for the second stage of labor. Some mothers do not exercise during pregnancy, which can happen due to a lack of information (Ahmaniyah et al, 2021)

And this is evidenced by the results of the study showing that there is an effect of pregnancy exercise on the duration of labor in the second stage of primigravida at the Ambunten Health Center in 2021. This is evidenced by the results of a significant value of 0.00 or (p <0.05) which shows a strong relationship between exercise pregnant on the length of labor in the second stage of primigravida.

Mothers who did regular pregnancy exercise 4 times and the duration of the second stage was <60 minutes were 137 people (74%). Most of the mothers who were respondents participated in regular pregnancy exercise 4x and had the second stage of labor duration in the classification of normal or fast stage II. This was because the mother was actively participating in pregnancy exercises. Most of the mothers in this study did regular pregnancy exercise 4 times; the second stage of labor duration did not take a long time. It could be interpreted that for pregnant women who regularly participated in pregnancy exercise, the period of labor in the second stage would be usual or faster. This is in accordance with the results of other studies that pregnant women who do exercise for pregnant women under health supervision have the advantage that it will speed up the labor process in the first and second stages. (Barakat, Franco, Perales, López, & Mottola, 2018; Ferreira, Guerra, Silva, Rosario, & Pereira, 2019)

## CONCLUSION

The results of this study indicate that pregnancy exercise affects the duration of labor in the second stage of Primigravida in the working area of the Ambunten Health Center. For pregnant women who exercise regularly, the delivery process in the second stage is < 60 minutes.

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