



## **EFFECTIVENESS OF UPRIGHT POSITION AND SIM POSITION ON ACCELERATION OF ACTIVE PHASE OF FIRST STAGE LABOR**

**Herviza Wulandary Pane\*, Rina Armaya, Joharmi**

Sekolah Tinggi Ilmu Kesehatan As Syifa Kisaran, Kisaran Naga, Kec. Kota Kisaran Timur, Kabupaten Asahan,  
Sumatera Utara 21211, Indonesia

[\\*hwulandarypane@gmail.com](mailto:hwulandarypane@gmail.com)

### **ABSTRACT**

Labor in a woman begins when the uterus experiences contractions with increasing intensity. One of the easy preventive measures is mobilization during labor with upright position and sim position. The purpose of this study was to determine the effectiveness of upright position and sim position to overcome accelerated labor in the first stage at the Rahmawati clinic in 2024. This type of research uses the Quasy Experimental method with One Group Pre-test Post-test. The population in this study were all mothers giving birth at the Rahmawati Clinic. The sample taken was all mothers giving birth who came to the Rahmawati clinic totaling 30 people. The sampling technique used accidental sampling. Measurement of the length of the first stage uses the duration of minutes since the mother giving birth was diagnosed with active phase I labor. Data analysis used the Wilcoxon test. The results of the study conducted on 30 mothers giving birth showed a significant change in the acceleration of active phase I labor after the intervention was carried out. Before the intervention, only 9 out of 30 mothers gave birth experienced rapid labor, while the other 21 mothers experienced slower labor. However, after the intervention, the number of mothers who experienced rapid labor increased drastically to 28 out of 30, while only 2 mothers still experienced slow labor. The results of the statistical test showed a Z value of -4.359, which indicated a significant difference between the conditions before and after the intervention. The p-value of 0.000 ( $p < 0.05$ ) indicates that this result is very statistically significant, so there is a difference in the acceleration of active phase I labor before and after using the upright position and sim position.

Keywords: acceleration of first stage of labor active phase; upright position; sim position

### **INTRODUCTION**

According to data from WHO, the maternal mortality rate (MMR) in Indonesia is 5.2 times higher than in Thailand. Every year, 180-200 million pregnancies are recorded in the world and 585 thousand deaths in pregnant women. The causes of death of pregnant women and childbirth are always related to complications, including 24.8% bleeding 14.9% infection 12.9% eclampsia 6.9% dystocia during labor 12.9% unsafe abortions and the rest are related to other causes (WHO, 2019). The maternal mortality rate (MMR) in ASEAN is 235 per 100,000 live births (ASEAN Secretariat, 2020). Indonesian Demographic and Health Survey (SDKI) AKI in Indonesia in 2019 was 4,221 cases (Kementerian Kesehatan RI, 2020). Maternal mortality rate in North Sumatra based on local monitoring of maternal and child health (PWSKIA). MMR in 2020 was 187 cases out of 299,198 target births, so that MMR was 65.50 per 100,000 live births, while IMR was 715 cases out of 299,198 target live births, so that IMR was 2.39 per 1000 live births (Dinkes Sumut, 2020) *in* (Nasution, 2023). The maternal mortality rate (MMR) in Indonesia based on research shows that almost 33.8% of mothers experience prolonged labor (Rendra, 2019).

Labor in a woman begins when the uterus experiences contractions with increasing frequency (Wulandary et al., 2024). Changes in position can also affect changes in the size and shape of the mother's pelvis, so that the fetus' head can move optimally during labor. With an upright position, this can affect the frequency, duration and efficiency of uterine contractions (WHO, 2019). The sideways position (Sim position) is a good resting position, which is used to regulate the speed of the second stage, making it easier to rest between contractions during the end of the first stage and the second stage of labor (Ijabah,

2023). The aim of the research is to determine effectiveness of Upright Position and SIM Position on Accelerating the First Stage. Based on the background, the author is interested in conducting a study entitled "Effectiveness of Upright Position and SIM Position on Accelerating the First Stage of Active Labor at Rahmawati Clinic".

## METHOD

This research is a type of semi-accidental sampling research with a One Group design. In this design, there is one group to determine the differences in initial conditions. The population in this study was 30 mothers giving birth at the Rahmawati S.Keb Clinic.. The sample taken was all mothers giving birth who came to the Rahmawati S.Keb clinic. Inclusion Criteria: All mothers give birth; Primigravida and multigravida pregnant women. Exclusion Criteria: Pregnant women are not willing to be respondents to do the upright position and sim position. The sampling technique used was the sample taken from mothers giving birth who came to the Rahmawati Midwife clinic. This research will be conducted at the Rahmawati midwife clinic in the area. Research in July – September found that there were mothers who wanted to give birth at the Rahmawati Midwife clinic in the area who experienced accelerated active phase I labor.

## RESULT

Based on Table 1. it can be explained that the characteristics of respondents based on age, the majority of respondents are between 20-35 years old, as many as 19 respondents (63.3%), with the majority of respondents' education level being high school graduates (SMA) as many as 13 respondents (43.3%), and seen from the occupation, the majority of respondents are housewives (not working) as many as 15 respondents (50.0%). Seen from the parity of respondents with primigravida parity as many as 15 people (50.0%) and multigravida 15 people (50.0%).

Table 1.  
Respondent Characteristics Based on Majority Age

Demographic Data	f	%
Age		
<20 year	3	10,0
20-35 year	19	63,3
>35 year	8	26,7
Education		
SD	0	0,0
SMP	11	36,7
SMA	13	43,3
D-III/ S-1	6	20,0
Work		
IRT	15	50,0
Self-employed	9	30,0
Private employees	2	6,7
PNS	4	13,3
Parity		
Primigravida	15	50,0
Multigravida	15	50,0

## Frequency of Prolonged Labor in the First Stage Before Using Upright Position and Sim Position

Data on the frequency of prolonged labor in the first stage before using the upright position and sim position at the Rahmawati Clinic in 2024 can be seen in Table 2 below:

Table 2.

## Frequency of Prolonged Labor in the First Stage before using Upright Position and Sim Position

Frequency of Prolonged Labor in the First Stage (Pre)	f	%
Fast	9	30,0
Not Fast	21	70,0

Based on table 2, it shows that the frequency of long labor in the first stage before using the upright position and sim position was known to be 9 pregnant women (30%) whose labor met the criteria for fast (labor duration <12 hours for primigravida, <8 hours for multigravida) and 21 pregnant women (70%) whose labor met the criteria for not fast (labor duration >12 hours for primigravida, >8 hours for multigravida).

**Frequency of Prolonged Labor in the First Stage After Using Upright Position and Sim Position**

Data on the frequency of prolonged labor in the first stage after using the upright position and sim position at the Rahmawati Clinic in 2024 can be seen in Table 3 below.

Table 3.

## Frequency of Prolonged Labor in the First Stage After Using Upright Position and Sim Position

Frequency of Prolonged Labor in the First Stage (Post)	f	%
Fast	28	93,3
Not Fast	2	6,7

Based on table 3, it shows that the frequency of long labor in the first stage after using the upright position and sim position is known to be 28 pregnant women (93.3%) whose labor meets the criteria for fast (labor duration <12 hours for primigravida, <8 hours for multigravida) and 2 pregnant women (6.7%) whose labor meets the criteria for not fast (labor duration >12 hours for primigravida, >8 hours for multigravida).

Table 4.

## Effectiveness of Upright Position and SIM Position on Accelerating the First Stage of Active Labor at Rahmawati Clinic.

Data	N	Acceleration of First Stage of Labor Active Phase		Z	p value
		Fast	Not Fast		
Before	30	9	21	-4,359	0,000
After	30	28	2		

The results of the statistical test showed a Z value of -4.359, which indicated a significant difference between the conditions before and after the intervention. The p-value of 0.000 ( $p < 0.05$ ) indicates that this result is very statistically significant, so that there is a difference in the acceleration of active phase I labor before and after using the upright position and sim position. Thus, it can be concluded that changes in position during labor (upright position and sim position) have a very positive impact on the acceleration of active phase I labor.

**DISCUSSION**

Based on the results of the study, it was shown that the frequency of long labor in the first stage before using the upright position and sim position was known to be 9 pregnant women (30%) whose labor met the criteria for fast (labor duration <12 hours for primigravida, <8 hours for multigravida) and 21 pregnant women (70%) whose labor met the criteria for not fast (labor duration >12 hours for primigravida, >8 hours for multigravida). This finding is in line with several theories stating that the position of the mother during labor can affect the duration and effectiveness of labor. According to (Rinda et al., 2021), the upright sitting position allows gravity to help the labor process, thereby accelerating the opening of the cervix and reducing the length of the first stage. In addition, a study published by the national health journal in Indonesia also shows that the side-lying position (sim

position) can increase blood flow to the uterus, improve fetal oxygenation, and reduce muscle tension, all of which contribute to accelerated labor.

When viewed from the characteristics of the respondents in this study, there are various factors that influence the acceleration of active phase I labor after intervention in the form of using upright position and sim position. Respondent characteristics including age, occupation, and education level play a significant role in the process and outcome of labor. Research shows that younger pregnant women, especially those in the 20-35 age group, tend to have more optimal physical abilities in dealing with labor. In this study, the majority of respondents were in this age group, known as the ideal reproductive age, where the elasticity of body tissue and physical ability to deal with labor are better compared to older age groups (Rinda et al., 2021).

Education is also a characteristic that influences labor outcomes. Most pregnant women in this study had secondary education or higher, which allows them to have a better understanding of the importance of body position during labor and their active role in the process. Better health literacy allows respondents to more easily accept education about the importance of position during labor and implement it more effectively. Previous studies by also showed that pregnant women with higher education levels tend to be more active in practicing techniques taught by health workers, including changing positions during labor, which contributes to accelerating the labor process. Emotional instability experienced by pregnant women, such as anxiety and stress, can have a negative impact on labor progress. Thus, researchers assume that the implementation of better positioning techniques, such as upright position and sim position, can increase the frequency of rapid labor and provide a more positive labor experience.

### **Frequency of Prolonged Labor in the First Stage After Using Upright Position and Sim Position**

In addition, with only 2 pregnant women (6.7%) experiencing slow labor, the researchers noted that this condition may be influenced by other factors, such as medical complications or psychological factors that have not been fully resolved. Therefore, it is important to conduct a thorough evaluation of the condition of pregnant women before and during labor, in order to identify the need for more appropriate interventions. Several studies have shown that standing or sitting positions can utilize gravity to support the labor process, leading to shorter labor duration. According to (Fitriana & Nurwiandani, 2021), changing positions during labor can increase blood flow to the uterus, strengthen contractions, and facilitate the cervical dilation process, all of which contribute to the acceleration of the labor process. The results of this study support these findings, showing that the use of upright position and sim position techniques significantly affects labor outcomes. The results of the statistical test showed a Z value of -4.359, indicating a significant difference between conditions before and after the intervention. The p-value of 0.000 ( $p < 0.05$ ) indicates that these results are very statistically significant, so that there is a difference in the acceleration of active phase I labor before and after using upright position and sim position. Thus, it can be concluded that changes in position during labor (upright position and sim position) have a very positive impact on the acceleration of active phase I labor. Upright position facilitates the mother to move, helps the mother to feel in control, can reduce labor pain and help her to take a comfortable position more easily. Adopting an upright position in labor is useful for reducing time and maintaining the fetal heart rate pattern in normal conditions (Macdonald & Cuerden, 2013)

## **CONCLUSIONS**

The conclusions of this study are as follows:

1. The frequency of long labor in the first stage before using the upright position and sim position was found that 9 pregnant women (30%) whose labor met the criteria for fast (labor duration <12 hours

- for primigravida, <8 hours for multigravida) and 21 pregnant women (70%) whose labor met the criteria for not fast (labor duration >12 hours for primigravida, >8 hours for multigravida).
2. The frequency of prolonged labor in the first stage after using the upright position and sim position was known to be 28 pregnant women (93.3%) whose labor met the criteria for rapid (labor duration <12 hours for primigravida, <8 hours for multigravida) and 2 pregnant women (6.7%) whose labor met the criteria for not rapid (labor duration >12 hours for primigravida, >8 hours for multigravida).
  3. There is a difference in the acceleration of the first stage of active labor before and after using the upright position and sim position, with a p value  $(0.000) < \alpha (0.05)$ . These results prove that changes in position during labor (upright position and sim position) have a very positive impact on the acceleration of the first stage of active labor.

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