

# The Impact of His Frequency and Religiosity toward Prolonged Second Stage and its Impact of the Placenta Separation in Maternity at Siti Fatimah Hospital Makassar

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## Abstract

**BACKGROUND:** The impact of his frequency and religiosity toward the prolonged second stage and its impact of the placenta separation in maternity at Siti Fatimah Mother and Children Hospital of Makassar.

**AIM:** This research is conducted in which health and normal factors result in the labor process will take place spontaneous.

**METHODS:** This study used observational analytic research in a cross-sectional study design. A total sample in this study was 60 respondents using the Lemeshow sample size formula and the sampling technique used consecutive sampling. Data analysis used path analysis with SPSS version 22.00.

**RESULTS:** The results showed that the frequency of his had an impact on the prolonged second stage with  $p = 0.046$ , the frequency of his had no direct impact on the placenta separation with a value of  $p = 0.313$ , and the frequency of his had the largest indirect effect on the placenta separation through the prolonged second stage of  $-0.132$  or only  $-13.2\%$ . Religiosity affected prolonged second stage with a  $p = 0.037$ . Religiosity did not have a direct impact on the placenta separation with a value of  $p = 0.991$  and religiosity had the largest indirect effect on the placenta separation through prolonged second stage only  $-0.148$  or  $-14.8\%$ . In addition, the prolonged second stage had a significant impact on the placenta separation with a value of  $p = 0.000$ .

**CONCLUSION:** His frequency and religiosity affect prolonged second stage but do not directly affect the placenta separation in primigravida at Siti Fatimah Mother and Children Hospital of Makassar.

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## Introduction

Labor is a process of expulsion from the conception (fetus and URI) that has been enough months or can live outside the womb through the birth canal or other means by helping or without helping (own strength). While the labor of the second stage starting from the complete opening (10 cm) until the birth of the baby, the process takes 90 min in primigravida and 30 min in multigravida [1]. Principally, the delivery process is physiological, but there are still many labors that are accompanied by complications. The incidence of complications is still quite high, at 20% of the number of labor, but the number of obstetric cases handled is still below 10% [2], [3].

Maternal mortality is an indicator of the success of health services, especially midwifery services. Obstetric complications are very influenced by maternal mortality rates (MMR), including prolonged parturition (the length of the second stage) [4], [5], [6]. By maternal mortality rate of 34–45% results from bleeding, around

1–3% incidence of post-partum hemorrhage due to placental retention. Placental retention is a cause of obstetric morbidity. It is diagnosed when the placenta fails to separate spontaneously during the third stage of labor when a mother experiences excessive bleeding without placenta separation. This causes post-partum hemorrhage and surgery [7], [8].

The process of labor for the prolonged second stage was very influenced by various factors including passage (birth canal/vaginal labor), power such as his (contraction of the uterine muscles and psychological factors from mother) including the form of husband support and religiosity [9], [10]. While factor of the baby are, passenger (fetus and placenta) and a factor of helper [11]. When prolonged labor of the second stage is not treated quickly, it will cause prolonged fatigue and dehydration so that it will impact on uterine contractions when removing the placenta and eventually cause disruption of placenta separation. The placenta is not separated during 30 min after newborn; there will be retention of the placenta, and eventually, cause post-partum hemorrhage so that it can cause the mother

death. This research is conducted in which health and normal factors result in the labor process will take place spontaneous [12].

## Materials and Methods

This study used observational analytic research in a cross-sectional study design. Exogenous variable was the frequency of his and religiosity. The endogenous variables were the Prolonged Second Stage and placental separation. Furthermore, carried out the analysis of impact independent variable (exogenous) and dependent variable (endogenous). This research was conducted at Siti Fatima Mother and Children Hospital of Makassar, South Sulawesi.

The population in this study was all mothers who gave birth or labor at Siti Fatima Mother and Children Hospital of Makassar when the study was running. The total sample in this study was some of the mothers who gave birth at Siti Fatima Mother and Children Hospital of Makassar; they were 60 respondents as a sample. Furthermore, the analysis used was path analysis to establish the exact paths traversed by exogenous variables to affect endogenous variables using path analysis computerized system with SPSS version 22.00.

## Results

The results of the bivariate analysis were conducted to find out whether there was an impact between exogenous variables on endogenous. The results of the analysis used path analysis were as follows:

Table 1 showed that there was an impact of his frequency on the prolonged second stage with a value of  $p = 0.046$ , it was smaller than  $\alpha = 0.05$ , it can be concluded that there was an impact of his frequency on the prolonged second stage and the effect was  $-0.259$ .

**Table 1: The impact of determinant factors toward prolonged second stage at Siti Fatimah Mother and Children Hospital of Makassar**

Exogenous variable	Standardized coefficients beta	t	Sig.
(Constanta)		0.504	0.616
Frequency of His	-0.259	-2.045	0.046
Religiosity (Islamic)	-0.290	-2.139	0.037

Statistical test results on religiosity with a value of  $p = 0.037$  was smaller than  $\alpha = 0.05$ , it can be concluded that there was an impact of religiosity prolonged second stage with the value and magnitude of the impact of  $-0.290$ . Negative impact indicated that the better the level of religiosity, the less prolonged the second stage.

Table 2 showed that there was an impact of the prolonged second stage on placenta separation with  $p = 0,000$ . The positive effect showed that the more time needed for the prolonged second stage, the longer time needed for placenta separation. The result of the statistic test on his frequency with  $p = 0.313$  was larger than  $\alpha = 0.05$ , it can be concluded that his frequency did not have a direct influence of the placenta separation.

**Table 2: Impact of each exogenous variable direct on placenta separation at Siti Fatimah Mother and Children Hospital of Makassar**

Exogenous variable	Standardized coefficients beta	t	Sig
(Constanta)	-	0.411	0.682
Frequency of His	-0.121	-1.019	0.313
Religiosity (Islamic)	0.001	0.011	0.991
Prolonged second stage	0.51	4.166	0.000

The result of the statistic test on religiosity with  $p = 0.991$  was larger than  $\alpha = 0.05$ , it can be concluded that religiosity did not have a direct influence on the separation of the placenta.

Table 3 showed that the frequency of his had the largest indirect effect on placental separation (through the prolonged second stage) of  $-0.132$  or  $-13.2\%$ . Statistic test results on religiosity had the largest indirect effect on the placenta separation through a prolonged second stage of only  $-0.148$  or only  $-14.8\%$ .

**Table 3: The largest impact exogenous variable indirect on placenta separation through prolonged second stage at Siti Fatimah Mother and Children Hospital of Makassar**

Exogenous variable	Multiple of Standardized coefficient (beta) and variable of prolonged second stage	large Indirect impact
Frequency of His	$-0.259 \times 0.51$	$-0.132$
Religiosity (Islamic)	$-0.290 \times 0.51$	$-0.148$
Prolonged second stage	0.51	

## Discussion

The arising of his is an indication of the start of labor, if his arising was weak, short, and the consequences were rare, it will affect the decline of the head and cervical opening which is often called as coordinating uterine muscle contractions, finally it will affect the labor process of the prolonged second stage. It caused fatigue in the mother so that it will affect the contraction of the uterus in the process of the placenta separation [13], [14].

The results of the first hypothesis test were the frequency of his had an impact on the prolonged second stage with  $p = 0.046$ , the frequency of his had no direct effect on placenta separation with a value of  $p = 0.313$  and so did the frequency of his had the largest indirect effect on placenta separation through the prolonged second stage of  $-0.132$  or only  $-13.2\%$ .

The arising of his is an indication of labor start, if his arise was not strong and regular, it would have impacted the process of the head down and the

opening of the cervix would ultimately affect the labor process, especially in the prolonged second stage and finally experienced long parturition [15]. The prolonged second stage will cause fatigue in the mother, so it again influenced uterine contractions when the placenta was separated [16].

Serenity (calmness) in facing childbirth (labor) is needed by every mother. One of the efforts to avoid excessive anxiety is to increase their religiosity. The role of religion is required to overcome the level of anxiety in facing childbirth [17]. Stress in facing childbirth/labor would have an impact on his contractions so that prolonged labor. Mothers who experienced prolonged fatigue would have an impact on the process of placenta separation in the third stage [18], [19].

The results of the second hypothesis test were religiosity had an effect on the prolonged second stage with  $p = 0.037$ . Religiosity did not have a direct effect on the placenta separation with a value of  $p = 0.991$  and religiosity had the largest indirect effect on the placenta separation through prolonged second stage only  $-0.148$  or  $-14, 8\%$ .

According to researchers that the results of the hypothesis test were proven (significant) because someone who had good religiosity would obtain inner peace so that it did not induce the tension of smooth muscles and blood vessels, its manifestation in patients will experience the prolonged second stage which was relatively safe [20].

The result of the fifth hypothesis test showed that prolonged second stage had an influence on the placenta separation with a value of  $p = 0,000$ . The impact of the prolonged second stage on the separation of the placenta was positive; it meant that the longer time needed for the second stage, the longer time needed for placental separation.

According to researchers that the results of the hypothesis test were proven (significant) because labor in the prolonged second stage could cause weak uterine contractions due to the prolonged fatigue so that it can have an impact to the detachment process of the placenta or slowdown in the process of the placenta separation [15]. With the presence of uterine muscle retraction, the placenta was separated to its attachment in the Nitabuch layer. The entire placenta is separated within 15 min, pushed toward the vagina, and will be born spontaneously or with a slight push from above the symphysis. His frequency is getting lower, but can still survive so that the blood vessels were pinched. Separation and removal of the placenta as if squeezed from the uterine fundus into opened cervix [21], [22].

### Recommendation

It is expected that top management can make policies related to the determinants of the prolonged second stage of labor and its impact on placenta

separation in maternity at Siti Fatimah Mother and Children Hospital.

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