

MOTHERS' SELF-CONTROL AND SELF-EFFICACY AND CHILDBIRTH COMPLICATIONS: A STUDY AT AN INDONESIAN GENERAL HOSPITAL

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ABSTRACT

Childbirth complications are still a big problem in developing countries, especially in Indonesia and are one of the causes of high maternal mortality. This study aims to identify the relationship between self-control and self-efficacy as an indirect cause of maternal death with the incidence of childbirth complications. An analytical descriptive design with a cross sectional method was used. 175 mothers in their maternity phase were selected using the consecutive sampling technique. Self-control was measured using the Labour Agency Scale (LAS), while self-efficacy was measured using the Childbirth Self-Efficacy Inventory (CBSEI) which had been tested for validity and reliability, and data on the incidence of childbirth complications were obtained from hospital medical records. Univariate, bivariate, and multivariate analysis with the help of computer software. The results showed that the variables of self-control and self-efficacy had a very significant relationship with the incidence of childbirth complications (p value 0.000, α : 0.05). Mothers with poor self-control are at risk of developing complications of childbirth by 9,014 (CI 95%: 0.929 – 87,487) times greater than those with good self-control. Poor self-efficacy is at risk of developing childbirth complications 3,815 (CI 95%: 1,851 – 7,862) times greater than those with good self-efficacy. This study proves that self-control and self-efficacy are variables that influence the existence of labor complications. Antenatal care staff need to prepare mothers from pregnancy and childbirth to have the ability to control themselves and have good self-efficacy in undergoing the delivery process.

INTRODUCTION

Complications of childbirth are still a big problem in developing countries, especially in Indonesia. WHO estimates that every day, around 810 women died in 2017 from preventable causes related to pregnancy and childbirth and 94% occurred in developing and low-income countries (WHO, 2019). Although pregnancy and childbirth are among the leading causes of death for women of productive age, most developing countries have not considered the health problems of pregnant women and maternity as priority issues. Based on data from the Directorate of Maternal and Child Health Development in Indonesia, in 2016 the number of mothers who died due to pregnancy, childbirth, and puerperium was 2,019 cases (Melani & Nurwahyuni, 2022).

Childbirth is a natural and challenging experience that includes both positive and negative psychological responses. The psychological response of the mother to birth is largely determined by retrospective assessment of the birth process, interpretation, thoughts, and emotions during and after birth (Ayers, 2017). Natural childbirth events can be complications that endanger both mother

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and baby, where the complication of childbirth is a process of childbirth and birth that deviates from normal, which can cause the morbidity and mortality rate of both mother and baby to increase.

The causes of maternal death due to complications of childbirth can be divided into two groups, namely the direct causes of maternal death which are closely related to the mother's health condition since the process of pregnancy and childbirth and indirect causes related to social, economic, geographical, and cultural conditions of the community. Indirect causes that originate from within (intrinsic factors) are self-control and self-efficacy which have an impact on decreasing the strength and ability of the mother to undergo childbirth. The risk of maternal death can occur from the beginning of pregnancy to postpartum with the highest risk of occurring in the period of childbirth (WHO, 2019).

The experience of traumatic birth due to complications of childbirth is painful for mothers and their families (Ayers et al., 2015) and can even cause postpartum post traumatic stress disorder (PTSD). A recent meta-analysis states that mothers with poor experiences in childbirth, surgical delivery and mothers who lack family support, are risk factors associated with PTSD and depression (Almagro et al., 2019). Traumatic childbirth due to complications of childbirth can affect the mother's ability to care for and breastfeed her baby, as well as result in poor mother-child bonding (Goodman et al., 2004).

Self-control is the ability of the individual to move and master oneself, directing desires, and adaptive behaviors that allow to give rise to desired results (Hagger & Hamilton, 2020). Pain is one of the causes of the loss of maternal self-control during childbirth. Pain in childbirth occurs due to physiological factors due to uterine contractions and cervical opening, and psychological factors, namely stress, fear, and anxiety (Siyoun & Mekonnen, 2019).

To what extent the mother can control labor pain is an important indicator of the psychological well-being of the mother during childbirth (Hodnett & Simmon, 1987). Based on the results of a study in Sweden, as many as 41% of participants reported labor pain as a very bad event they had experienced. Labor pains that cannot be properly controlled lead to negative or traumatic childbirth experiences (Siyoun & Mekonnen, 2019).

Self-efficacy is the belief in achieving an ability that influences every event in a person's life. Self-efficacy determines how people feel, think, motivate themselves, and behave (Aquino et al., 2022). Mothers who already have previous childbirth experience have better self-efficacy in subsequent deliveries. Mothers who have given birth have higher self-efficacy than those who give birth for the first time (Tanglakmankhong et al., 2011).

Mothers with good self-efficacy in going through the labor process are usually able to control themselves effectively which can reduce their fear (Ramie et al., 2014). Excessive fear will decrease self-control and lack of strength in overcoming childbirth difficulties. This can happen to mothers who have not received education about the delivery process in prenatal classes, it can even happen to mothers who have had previous childbirth experience. The fear of birth usually occurs in nulipara, however mothers with traumatic birth experiences have a fear of up to five or more times in subsequent pregnancies (Størksen et al., 2013).

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The self-efficacy of childbirth in the perinatal period is able to produce a positive labor process and the realization of maternal expectations in the process. On the other hand, if expectations are not carried out, it will be risky and interfere with self-assessment and interaction with others, so that it can be the cause of problems in the labor process (Tilden et al., 2016). Good self-control and self-efficacy in childbirth have an impact on the final result of a good labor process as well. This phenomenon became the basis in this study, namely the relationship between self-control and self-efficacy with the incidence of complications of childbirth in maternity mothers. Therefore, the researchers would like to analyze the very aspect to contribute to the knowledge of self-control, self-efficacy, childbirth complications, and mothers in their maternity phase.

METHOD

This study used a cross-sectional approach that included 175 normal and postpartum mothers with complications selected by the consecutive sampling method. The data collection procedure began with selecting prospective respondents who met the sample criteria, namely normal maternity mothers and childbirth with complications (For example, induction delivery, early rupture amniotic, hypertension, preeclampsy, vacuum extraction delivery and sectional saesaria delivery) in the delivery room and postpartum room of the district general hospital in South Kalimantan Province, Indonesia.

The researchers conducted data collection using the Indonesian version of the Labour Agency Scale (LAS) self-control questionnaire to collect primary data with a Cronbach's α value of 0.917. Measurement of self-efficacy of childbirth using the inventory of self-efficacy of childbirth that has been used in Indonesia with reliability test results of 0.918 (Ramie et al., 2014).

The univariate analysis outlined variables of respondents' demographic characteristics including age, level of education, and parity as well as catatogenic data on self-control, self-efficacy and incidence of childbirth complications. Bivariate data analysis to prove the research hypothesis whether there is a relationship between self-control, self-efficacy, and respondents' characteristics with the incidence of labor complications. Multivariate data analysis was used to determine the relationship of self-control and self-efficacy with the incidence of labor complications after being controlled by confounding variables with risk factor modeling. Statistical test of this study using computer software.

RESULT AND DISCUSSION

Univariate Analysis

Characteristics of Respondents

The age range of respondents was mostly low risk age (20-35 years) as much as 94 (53.7%). A total of 104 (59.4%) of the respondents were multiparity. Table 1 summarizes the demographic characteristics of respondents.

Table 1. Characteristics of Respondents for Childbirth ($n = 175$)

Characteristic Variables	<i>n</i>	%
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Risk Age Based on Labor Risk		
Low Risk (20 – 35 years old)	94	53,7
High Risk (< 20 years or > 35 years)	81	46,3
Education Level		
Lower Secondary Education (Junior High School)	63	36,0
Higher Secondary Education (Senior High School, University)	112	64,0
Parity		
Primiparity	71	40,6
Multiparity	104	59,4

Self-Control, Self-Efficacy, and Incidence of Labor Complications

In this study, most respondents had good self-control of 55.4%. Respondents who had good self-efficacy of 51.4%. Childbirth with complications was experienced by 53.1% of respondents whose data can be seen in table 2.

Table 2. Self-Control, Self-Efficacy, and Incidence of Labor Complications (*n* = 175)

Variable	<i>n</i>	%
Self-control		
Good	97	55,4
Not good enough	78	44,6
Self-efficacy		
Good	90	51,4
Not good enough	85	48,6
The incidence of complications of childbirth		
No complications of childbirth	93	53,1
There are complications of childbirth	82	46,9

Bivariate Analysis

The correlation between self-control, self-efficacy, and characteristics of respondents with the incidence of childbirth complications shenalysis with Chi-square. Table 3. contains the correlation coefficient between self-control, self-efficacy and characteristics of respondents with the incidence of labor complications and the OR (Odds Ratio) value.

Table 3. Correlation of Self-Control, Self-Efficacy, and Characteristics of Respondents with the Incidence of Labor Complications (*n* = 175)

Variable	Incidence of Childbirth		Total	Odds Ratio (95% CI)	P Value
	Complications				
	No	Yes			

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	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%		
Self-control								
Good	68	70.1	29	29.9	97	100	4.97	0.000
Not good enough	25	32.1	53	67.9	78	100	(2.61-9.46)	
Self-efficacy								
Good	65	72.2	25	27.8	90	100	5.29	0.000
Not good enough	28	32.9	57	67.1	85	100	(2.774-10.098)	
Age Based on Labor Risk								
Low Risk (20 – 35 years old)	64	68.1	30	31.9	94	100	3.82	0.000
High Risk (< 20 or > 35 years old)	29	35.8	52	64.2	81	100	(2.041-7.168)	
Education Level								
Lower secondary education	29	46	34	54	63	100	0.64	0.209
Upper secondary education	64	57.1	48	42.9	112	100	(0.344-1.190)	
Parity								
Primiparity	30	43.7	41	56.3	71	100	0.52	0.055
Multiparity	62	59.6	42	40.4	104	100	(0.285-0.967)	
Note: significant statistics on $\alpha \leq 0.05$								

Multivariate Analysis

Statistical analysis of multiple logistic regression in this study found that significant factors influencing the incidence of childbirth complications were self-control, self-efficacy, age of risk, level of education and number of children born (Parity). Based on the value of the Odds Ratio (OR) of the five factors, it can be concluded that the most dominant factor influencing the incidence of childbirth complications is the self-control factor. Mothers who have poor self-control are at risk of developing birth complications 9,014 (CI 95%: 0.929 – 87,487) times greater than mothers who have good self-control, after being controlled by variables of self-efficacy, age of risk, level of education, and parity (Table 4).

Table 4. Final Modeling Results of Main Variables and Confounding Variables with Incidence of Labor Complications (*n* = 175)

Variable	B	Wald	P-Value	OR (CI 95%)
Self-control	2.199	3.596	0.058	9.014 (0.929-87.487)
Good				
Not good enough				
Self-efficacy	1.339	13.162	0.000	3.815 (1.851-7.862)
Good				

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Not good enough				
Risk age	-1.151	0.988	0.320	0.316 (0.033- 3.060)
Low Risk (20-35 years)				
High Risk (<20 years old or >35 years old)				
Education Level	-0.441	1.469	0.226	0.643 (0.315- 1.313)
Lower secondary education				
Upper secondary education				
Parity	-0.676	3.562	0.059	0.509 (0.252-1.026)
Multiparity				
Primiparity				
Constant	-1.850	3.668	0.055	0.157

In this study, self-control and incidence of labor complications had a meaningful relationship (p value 0.000, α : 0.05) with OR 4.97 (CI 95%: 2.61 – 9.46), which showed that self-control contributed to the presence of labor complications. This is in line with the findings of a study in the USA that reported that self-control was a significant predictor of total labor satisfaction (P = 0.0045). Where traumatic childbirth due to complications of childbirth will reduce the satisfaction of the mother in undergoing childbirth (Goodman et al., 2004). Complications of childbirth often end with cesarean section, which adds to the painful condition for the mother and baby. Based on research that has been carried out in Nigeria found that childbirth by cesarean section tends to increase every year with both maternal and fetal indications, where Cesarean delivery intervention is a bad experience for the mother (Geidam et al., 2009). Supported by the results of a study involving 496 postpartum mothers with saesaria section in Sweden, concluded that childbirth with complications is a negative childbirth experience that is important to get postnatal support (Wiklund et al., 2008).

Complications of childbirth are a state of deviation from normal, which causes pain and death of both mother and baby due to direct and indirect causes. The direct cause of maternal death due to childbirth is usually closely related to the state of health of the mother since the process of pregnancy and childbirth itself. While the indirect causes are more related to social, economic, geographical conditions as well as the cultural behavior of the community (WHO, 2020).

A systematic review of the predictors and outcomes of the childbirth experience identified that the degree of control felt during childbirth and the presence of pregnancy psychopathology are risk factors for the existence of traumatic childbirth experiences leading to post-traumatic childbirth syndrome (McKelvin et al., 2021). Pain during labor and birth is a very individual and most severe pain event in a woman's life. The feeling of control over labor pains is influenced by internal and external factors. Internal factors such as attitudes towards pain experiences, motivation to give birth, attitudes towards officers, and birth-related training affect the degree of pain and self-control (Siyoum & Mekonnen, 2019).

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Maternity mothers who have good self-control during childbirth, can cope with pain by regulating breathing, are able to refrain from maladaptive behavior in enduring pain, appear more calm and cooperative (Ramie et al., 2014). Self-control is used to move and control oneself, so that it can adapt to pain in labor (Hagger et al., 2010). A person who faces difficulties, feels suffering or experiences pain can use the ability to overcome problems adaptively through an action (Stevens et al., 2012).

Research in Belgium has found that mothers who receive a state of labor pain and have self-control in dealing with pain influence the possible use of labor painkillers thus reducing the impact of the use of postpartum medicines (Christiaens et al., 2010). The mother's ability to control herself during childbirth has an effect on increasing the ability to adapt to pain and accept discomfort and feel satisfied with the experience of childbirth (Hagger et al., 2010). Thus the labor self-control variable is essential to improve through prenatal education.

This study has also found that self-efficacy and the incidence of childbirth complications have a significant relationship (p value 0.000, α : 0.05), OR 5.29 (2.774-10.098) which indicates that self-efficacy contributes to the incidence of labor complications. This means that increased self-efficacy of labor is associated with better perinatal outcomes. The results of this study are comparable to the results of studies in Thailand that have found that maternity mothers with good self-efficacy are able to exercise self-control effectively. Self-control has been shown to lower maternal fear during childbirth (Tanglakmankhong et al., 2011).

Excessive fear can decrease self-control and inability to adapt to pain and unable to cope with problems in childbirth as taught by the ministry staff. The results of another study revealed that complications of childbirth resulted in the mother avoiding the next pregnancy, asking for saesar surgery in the upcoming delivery that could give rise to pathological conditions in subsequent deliveries (Larkin et al., 2009).

Research in Queensland Australia has found that increased self-efficacy during childbirth can support women to become more positive mothers, improve general well-being, and have an effect on reducing unnecessary birth interventions, and can add to postnatal psychological health (Schwartz et al., 2015). Meanwhile, the results of the synthesis and criticism of quantitative literature involving 23 publication articles concluded that the self-efficacy of a woman's childbirth has an effect on antepartum, intrapartum, and postpartum events. Interventions to improve the self-efficacy of childbirth can positively affect perinatal outcomes so that this factor becomes urgent to pay attention to (Tilden et al., 2016).

CONCLUSION

The results of the study proved that self-control and self-efficacy are meaningful variables to the incidence of childbirth complications. Statistical analysis showed a significant association between self-control and self-efficacy with the incidence of labor complications. Maternity mothers who have poor self-control are at 9,014 times higher risk of developing labor complications compared to mothers who have good self-control. Maternity mothers with poor self-efficacy are at 3,815 times greater risk of childbirth complications compared to mothers who have

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good self-efficacy. Antenatal care staff need to prepare mothers for antenatal classes so that mothers have the ability to control themselves and have good self-efficacy in undergoing the delivery process. In addition, to complete the gaps left in this study, future research are expected to fulfill them. For example, next research may discuss about how mothers can control themselves during the maternity phase and how they deal with childbirth complications.

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