

Determinant Factors of Maternity Mother with Action Sectio Caesarea in Military Tk. III Wirasakti Hospital Kupang

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ABSTRACT

Introduction: World Health Organization (WHO) sets the rate of sectio caesarean births as much as 15% of the total number of deliveries, while the Indonesian Ministry of Health (KemenKes) sets 20% of the total deliveries. This shows that the number of caesarean section in Indonesia is quite high. This is a concern about the delivery of sectio caesarea which was originally carried out on medical indications, but in reality is also done without medical indications. Therefore it is necessary to know the factors of maternal influences in labor with sectio caesarea.

Material and methods: This research uses observational analytic study with case control research design and purposive sampling technique. The number of samples was 120 mothers with 60 case samples and 60 control samples. The study uses primary and secondary data, conducted in April-June 2020. The analysis used is univariate analysis, bivariate analysis using chi-square and multivariate analysis using multiple logistic regression test.

Result: The results showed parity, birth spacing, previous disease history, nutritional status, antenatal care, family support, stress, anxiety, and culture had a significant relationship with cesarean section. The risk factors that simultaneously affect sectio caesarea include parity (OR = 23,217), nutritional status (OR = 13,439), ANC services (OR = 11,708).

Conclusion: As health workers required to conduct or provide education related to the regulation of the number of children, fulfillment of nutrition during pregnancy, routine antenatal checks in accordance with the provisions and periodic health checks. If parity is not at risk, adequate nutrition is fulfilled, regular visits or antenatal examinations and no risky diseases can reduce labor with sectio caesarea.

Keywords: Sectio Caesarea, Maternity Mother

childbirth measures through cesarean section is fairly high especially in developed countries.

In addition to developed countries, the prevalence of cesarean section births in developing countries is quite high. As in Indonesia, the incidence of cesarean in 2000, the number of women giving birth with cesarean section was 47.22%, in 2001 amounted to 45.19%, in 2002 amounted to 47.13%, in 2003 amounted to 46.87%, in 2004 amounted to 53,2%, in 2005 it was 51.59%, in 2006 it was 53.68% and in 2007 there were no significant data, in 2009 around 22.8%.⁴ Based on the 2017 Indonesian Demographic and Health Survey (SDKI) report, it showed that in 5 years, before survey, there were 17 percent of births by women aged around 15-49 years giving birth by cesarean section.⁵

Cesarean section is a medical procedure that is needed to help with labor that cannot be done normally due to maternal health problems or fetal conditions. This action is interpreted as surgery to give birth to the fetus by opening the abdominal wall and the wall of the uterus or vagina or a hysterotomy to give birth to the fetus from the womb. However, cesarean section is no longer done solely because of medical considerations, but also includes the request of the patients or the advice from the doctor.⁶ As C-section patients increase, so do the number of surgical complications such as bleeding, infection, and abdominal or bladder adhesions.⁷ Psychological risk is also unavoidable because of the longer postoperative cesarean pain and the risk to the baby.

The results of secondary data obtained from the Medical Record of Tk. III Wirasakti Military Hospital Kupang for the last three years, in 2017 there were 453 births in total. The number of mothers with an indication of cesarean section was 239 people, which carried out cesarean section measures totaling 201 maternity mothers. In 2018 there will be a total of 370 deliveries. The number of mothers with cesarean section indications was 261 people, who performed cesarean section amounted to 215 people. In 2019, a total

INTRODUCTION

The World Health Organization (WHO) sets the average standard for cesarean section in a country is around 5-5% per 1000 births in the world.¹ Based on the WHO global survey conducted in 9 (nine) Asian countries in 2007 and 2008, in Cambodia, China, Nepal, Philippines, Sri Lanka, Thailand, and Vietnam, it is known that the percentage of C-section deliveries is around 27,3%. This survey examined nearly 108.000 deliveries in 122 hospitals.² In 2004, the average rate of cesarean section deliveries in the United State increased by 29,1%, in England and Wales also reaching 21,4%, a 5-fold increase since 1971. Other than that, also recorded from 2001 to 2003, the incidence of cesarean section in Canada was 22.5%.³ This shows that globally, the number of

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of 420 deliveries were delivered. The number of mothers with cesarean sections was 305 people, which carried out a cesarean section totaling 284 maternity mothers. The most dominant indications of cesarean section in 2019 were fetal distress (45%), history of cesarean delivery (27%), prolonged labor (20%), maternal demand (8%). Therefore, the purpose of this study was to determine the determinants of maternal delivery by cesarean section at the Wirasakti Hospital Kupang.

MATERIAL AND METHODS

This type of research is an observational analytic study using a case-control approach to determine the measures of the cesarean section by comparing the risk factors or determinants in the case group and the control group. The population of this study was maternity mothers with indications of cesarean section treated at the Tk.III Wirasakti Military Hospital Kupang totaling 420 respondents. The sample in this study is some parts of the population determined according to the criteria of the researcher (purposive sampling) obtained 120 respondents consisting of 60 case samples and 60 control samples.

The study was conducted at the Tk.III Wirasakti Military Hospital Kupang in April - July 2020. The study used primary and secondary data, with independent variables used were parity, birth spacing, nutritional status, antenatal care, family support, stress, and culture, while the dependent variable is the cesarean section measures. The data collection in this study was conducted by interview using a questionnaire and checklist sheet. The analysis used in this study are univariate analysis, bivariate analysis using chi-square, and multivariate analysis using multiple logistic regression tests.

RESULTS

The univariate and bivariate analysis results in the distribution, frequency, and characteristics of respondents and the p-value of the independent variables (parity, birth spacing, nutritional status, antenatal care, family support) and dependent variables (cesarean section), as in the following table:

In table-1 it is known that parity factor is mostly in the risk parity category as much as 85% with cesarean section labor and normal parity with cesarean section labor as much as 15%. Chi-square test results showed the probability value (p-value) obtained was 0.000 meaning that there was a significant relationship between parity and cesarean section measures. A value of OR = 11.333 means that the first pregnant woman was 11.333 times at risk of labor with cesarean section compared with mothers who were pregnant with their second or fourth child. The proportion of respondents with risk birth spacing (<2 years) through cesarean section delivery was 78.3% greater than the proportion of respondents with normal birth intervals (> 2 years) which was 21.7%. The opportunity of respondents who were at risk of cesarean section labor was 9,145 times normal parity. Chi-square test results indicated the probability value (p-value) obtained was 0,000, where $p < 0.05$ meaning that there was a

significant relationship between birth spacing with cesarean section measures. In the nutritional status factor, most of the mothers with cesarean section delivery were in the category of underweight/overweight nutritional status (56,7%) while mothers with normal nutritional status were 43.3%. Chi-square test results indicated the probability value (p-value) obtained was 0,000, meaning that there was a significant relationship between nutritional status with cesarean section. A value of OR = 9.564 means that women who were pregnant with overweight / underweight nutritional status were 9.564 times at risk of having labor with cesarean section compared to women who had normal nutritional status. Access to antenatal care, in this case antenatal services, for the majority of mothers with cesarean section delivery who did an incomplete antenatal examination was 70%, while complete antenatal care was 30%.

Chi-square test results showed the probability value (p-value) obtained was 0,000, where $p < 0.05$ meaning that there was a significant relationship between access to antenatal services with cesarean section. The value of OR = 9.333 means that there was 9.333 times the risk of labor with the cesarean section with incomplete antenatal examination compared to mothers with complete antenatal care. In the family support factor, most of the mothers received full support from the family, as many as 60% had a cesarean section labor, while 40% of the mothers who did not get support had a cesarean delivery. Chi-square results showed the probability value (p-value) obtained was 0,000, where $p < 0.05$ which means that there was a significant relationship between family support with cesarean section. From the stress factor, it was found that the majority of mothers with normal/unstressed conditions experienced delivery of cesarean section as much as 70% while mothers who experienced stress as much as 30%. Chi-square results showed the probability value (p-value) obtained was 0,000, where $p < 0.05$ which means that there was a significant relationship between stress with cesarean section measures. OR value = 2.429, which means that mothers with stress conditions were 2.429 times at risk through the cesarean section delivery compared to mothers with normal conditions. Whereas in the culture factor, the proportion of respondents at risk through cesarean section delivery was 63.3%, greater than the proportion of normal respondents through cesarean section delivery as much as 36.7%. The opportunity for mothers at risk of cesarean section delivery was 6.909 times compared with normal mothers or who do not follow the customs / habits. Chi-square test results showed the probability value (p-value) obtained was 0,000, where $p < 0.05$, meaning that there was a significant relationship between culture and sectio caesarea. The following results of multivariate analysis are presented in the following table 2:

Furthermore, the final modeling from the multivariate analysis showed that the variables with a p value > 0.05, namely the birth spacing, family support, culture, and stress variables, had a p value > 0.05 so they could not be included in the next multivariate analysis.

The latest results from multivariate analysis modeling,

Characteristic	Cesarean Section Measures				P Value	OR	95% CI for Exp (B)	
	Case n	%	Control n	%			Lower	Upper
Parity								
Risk (Parity1 and>4)	51	85,0	20	33,3	0,000	11,333	4,659	27,570
Normal (2-4)	9	15,0	40	66,7				
Total	60	100	60	100				
Birth Spacing								
Risk(< 2 years)	47	78,3	17	28,3	0,000	9,145	3,979	21,018
Normal (> 2 years)	13	21,7	43	71,7				
Total	60	100	60	100				
Nutritional Status								
Risk(Underweight and overweight)	34	56,7	5	8,3	0,000	9,564	3,822	23,420
Normal	26	43,4	55	91,7				
Total	60	100	60	100				
Antenatal Care								
Incomplete Antenatal	42	70	12	20	0,000	9,333	4,031	21,612
Complete Antenatal	18	30	48	80				
Total	60	100	60	100				
Family Support								
Less supportive	24	40	2	21,7	0,000	19,333	4,308	86,754
Supportive	36	60	58	78,3				
Total	60	100	60	100				
Stress								
Experience stress	18	30	0	0	0,000	2,429	1,926	3,063
No stress	42	70	60	100				
Total	60	100	60	100				
Culture								
Risk	38	63,3	12	20	0,000	6,909	3,037	15,720
Normal	22	36,7	48	80				
Total	60	100	60	100				

Table-1: Characteristics of Respondents in Research

Variable	B	S.E	Wald	df	Sig.	Exp(B)	95% C.I for EXP (B)	
							Lower	Upper
Parity	3,398	1,195	8,089	11	,,004	29,907	2,876	311,01
Spacing	-,086	,969	,008	11	,,929	,918	,137	6,137
Nutrition	4,624	1,852	6,235	11	,,013	101,888	2,703	3840,7
ANC	2,666	1,260	4,477	11	,,034	14,384	1,217	170,02
Support	3,079	1,619	3,616	11	,,057	21,726	,910	518,78
Stress	0,729	6783,73	,000	11	,,998	1005512874,013	,000	.
Culture	4,136	1,423	4,453	11	,,054	22,573	,849	617,14
Constant	-108,81	34788,7	,000	11	,,998	,000		

Table-2: Multivariate Logistic Regression

Variable Name	B	P Value	OR	95%CI for EXP (B)
Parity	3,145	,000	23,217	5,087 – 105,961
Nutrition	2,598	,008	13,439	1,985 – 90,969
ANC Service	2,460	,002	11,708	2,535 – 54,070

Table-3: Final Modeling of Multivariate Analysis

showed that parity, nutritional status, and antenatal care, still remain significantly related when it analyzed together with the order of strength of the relationship from the largest to the smallest was Parity (OR = 23,217), Nutritional status (OR = 13,439), ANC Services (OR = 11,708). Out of the three determinant factors, the most dominant factor directly affecting the action of the cesarean section in maternity mothers was the parity variable because this factor had the

largest odds ratio (OR) of 23,217. (Table3)

DISCUSSION

Parity

Parity is the number of fetuses that weighing more than 500 grams who have been born, alive or dead, if the weight is unknown, it is used for pregnancies of more than 24 weeks.⁸ Based on the results of the study, cesarean section is more

common in mothers with parity at risk for primigravida and multi grande. This study also found mothers with normal parity (2-4) with cesarean section delivery due to other medical indications. Medical indications include maternal indications (CPD, eclampsia) and fetal indications (fetal distress, abnormalities, macrosomia). To preventing this, the efforts made are to immediately end the pregnancy to ensure the safety of the mother and fetus through induction or cesarean section. This research also conducted by Nurak (2012), who found that the majority of mothers with cesarean section measures were multiparous parity of 196 people (73.96). This is related to the risk factors that cause danger of childbirth complications such as having failed pregnancy, a history of vaccination, previous history of cesarean section.⁹ Parity 2 to 3 is the safest parity from the point of view of maternal death. Mothers with high parity more than 3 have high maternal numbers because there will be endometrial disorders.¹⁰

Nutrition Status

Nutritional status is a measure of a person's body condition that can be seen from the food consumed and the use of nutrients in the body. Nutritional status is divided into three categories; poor nutritional status, normal nutritional status, and over nutritional status.¹¹ Based on the results of the research, there are group of mothers with normal nutritional status but with sectio caesarean delivery. This is due to other medical indications both mother and fetus that have not been studied as a whole, such as fetal distress, premature rupture of membranes. This study is relevant to Kasminawati's research (2017) that there is a significant relationship between the nutritional status of mothers with cesarean section delivery, where mothers with underweight nutritional status are 2,862 times experiencing cesarean section compared to mothers with good nutritional status.¹² In a European study observing > 200,000 deliveries, women with a BMI > 40 kg / m² were 4 times at risk for cesarean section because there was no progress in labor, even if there was a normal delivery, the progress of labor was slower compared to normal women. %. These risks are closely related to the complications of obesity in pregnancy such as infant macrosomia, IUGR, Diabetes Mellitus, and Hypertension. Sectio caesarea in obesity is also very risky related to the occurrence of uterine rupture, placenta previa, placenta accreta including incidences of peri operative morbidity such as trauma during surgery, bleeding, increased care in the ICU (Intensive Care Unit) and the need for transfusion.¹³

Antenatal Care

Antenatal care aims to reduce maternal and infant mortality rates. Pregnancy complications that are often the main causes of maternal death are bleeding, sepsis, hypertension, unsafe abortion and dystocia.¹⁴ Based on the results of the study also found that some respondents who have been obedient to do ANC still experience complications due to several other factors that accompany. If there are medical indications for both the mother and the fetus, then delivery with cesarean section must be performed. These indications include fetal

distress, parturition not progressing, and narrow pelvis. This is the importance of health workers providing education and cross-sector collaboration both with posyandu cadres and community leaders to build the awareness of pregnant women to increase compliance with ANC so that pregnancy complications can be prevented as much as possible. A relevant study was conducted by Novianti Sihombing (2012) who stated there was a relationship between antenatal care and cesarean section. Pregnancy checks (antenatal care) that are not as recommended (K4) are more likely to experience labor in cesarean section surgery than mothers who make antenatal care visits as recommended.¹⁵ Antenatal care plays a role in improving maternal health conditions and the position of the fetus in the womb that is not yet right, to prepare for the delivery process, so that if it can be improved, labor with cesarean section does not occur.¹⁶

Family Support

The success of the normal delivery process is not solely in the hands of the mother. Support from the people around is also important, starting from husband, parents, parents-in-law, and relatives.¹⁷ In this study, it was found that most mothers who gave birth by cesarean section got lots of supports from their husbands in labor, due to certain medical indications of both mother and fetus. It was found that most of the medical indications were maternal indications, and those were indicative of the fetus as well as some mothers who agreed to labor with cesarean section because of certain indications. Relevant research was also conducted by Putinah (2014) which stated that there was a relationship between family support and cesarean section. Family support is very important for mothers who have gone through a long process, from pregnancy to cesarean section and the puerperium or breastfeeding.¹⁸ In contrast to the research conducted by Ahsan (2017) which stated that there was no relationship of external factors (family support) in maternity mothers with cesarean section.¹⁹ Family support is the attitude, action and acceptance of its family members. So, support is a form of interpersonal relationships that include attitudes, actions, and acceptance of family members, so that family members feel that someone is paying attention. Family members believe that people who are supportive are always ready to provide help and assistance if needed.²⁰

Stress

Birth through cesarean section can be at risk of causing psychological disorders, especially in unplanned cesarean sections. In this study, it was found that mothers with non-stress conditions contributed the most to cesarean section delivery, this occurred in mothers who had risky indications such as maternal indications (prolonged labor, history of complications, preeclampsia / eclampsia) and fetal indications (fetal distress, premature rupture of membranes, abnormalities and even monochorionic pregnancy).

While mothers with stress conditions are associated with cesarean section delivery due to several factors, which are environmental factors, problems in the family and workload. Environmental factors are one of the stressors that cause

psychosocial stress in pregnancy which is a risk factor for complications in labor. The home environment is one of the psychosocial stressors aspects that greatly affects the work of the maternal endocrine system, that will affect gestational age which results in labor complications. Stress can significantly endanger human pregnancy which interferes with the physiological function of the body but if it continues it will cause abnormalities in the organ itself.²¹ The results of this study are in line with the research conducted by Iskandar, et al (2019) which shows that stressors have a significant relationship with childbirth complications associated with cesarean section delivery, where mothers who have psychosocial stress have 8,229 times risk to experience labor complications. The majority of women during pregnancy and postnatal experience a lot of depression or psychological disorders that are influenced by social, physical, and psychological factors.²²

Culture

One of the factors that influence someone's behavior is social and cultural. Ethnic groups are part of the culture which will certainly affect behavior in using health services including services in pregnancy or childbirth and each tribe has a different culture and tradition in dealing with women who are pregnant.²³ In reality, there are some respondents who support the culture that is done during pregnancy. Among them are taboos and suggestions for pregnant women such as pregnant women should carry scissors and porcupine sharp quills when leaving the house, pregnant women should not eat bananas and cucumbers, pregnant women should not see the full moon eclipse, but this does not threaten the safety of mother and child. While the culture in the family that threatens the safety of mother and baby is a family culture that makes the habit of giving birth in a *dukun* or at home, drinking coconut oil to accelerate birth resulting in premature delivery, drinking *labisia pumila* grass immersion without based on knowledge of signs of giving birth resulting uterine contractions before the time of delivery, massage/sequence to change the position or location of the fetus. In accordance with research conducted by Haidah (2018) that there is a relationship between culture and childbirth with a significant level of α 5% with p value = 0.039 < 0.05. Likewise with the research conducted by Muhammad Y (2013), culture is closely related to the incidence of cesarean section as proven by the p value of 0,000 < 0.05. According to GM Foster (1973) in the book Murdiyanto and Herlina (2016), cultural aspects can affect health due to the influence of tradition in society that can affect both negative and positive health conditions, the influence of norms and values prevailing in society influential on health behavior.²⁴

CONCLUSION

The results of this study showed that parity, birth spacing, nutritional status, antenatal care, family support, stress, and culture had a significant relationship with cesarean section measures at the Tk.III Wirasakti Military Hospital in Kupang. With some characteristics that are factors with

medical indications that cesarean section must be performed, then as health workers need to conduct or provide education related to the regulation of the number of children, fulfillment of nutrition during pregnancy, routine antenatal checks in accordance with the provisions and periodic health checks. If parity is not at risk, adequate nutrition is fulfilled, there are routine antenatal visits or examinations and there is no risky disease, labor with cesarean section can be reduced.

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