

Article

The Relationship Of The Characteristics Of The Mother With The Type Of Delivery

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A B S T R A C T

The incidence of deliveries by cesarean section is reported to have increased worldwide and exceeded the range recommended by the World Health Organization (WHO) which is 10-15% as an effort to save the lives of mothers and babies. Latin America and the Caribbean region were the highest contributors at 40.5%. Riskesdas data in 2018 shows that the prevalence of delivery by cesarean section in Indonesia is 17.6%. This type of research is cross sectional with secondary data sources. The study was conducted from May to November 2021 at the Padang City Government and Private Hospital. The population was all mothers who gave birth during the survey period from January 1 to December 31, 2020 at hospitals in the city of Padang (dr. Reksodiwiry Hospital, Andalas University Hospital, and Ibu Sina Islamic Hospital) with samples of all populations that met the inclusion and exclusion criteria. Data were collected in a data collection format, analyzed by univariate analysis and bivariate analysis. Most (82.7%) deliveries were performed by cesarean section, a small percentage (23.2%) were high risk mothers (< 20 years and > 35 years), a small percentage (37.9%) gave birth to their first child. and more than 4 children, a small percentage (18.6%) of maternity mothers had education at the middle school level and below, there was a relationship between maternal age and the type of delivery performed, and there was no relationship between parity and maternal education with the type of delivery performed. Health workers, especially midwives, are expected to further improve health promotion related to the impact and dangers of sectio caesarea with non-medical indications and increase the provision of midwifery care to pregnant women to optimize the position of the fetus so that mothers can give birth normally vaginally.

I. INTRODUCTION

The incidence of cesarean section has increased rapidly throughout the world in recent decades and has become a global concern (Wang, et al, 2017). The incidence of deliveries by cesarean section has been reported to have increased worldwide and exceeds the range recommended by the World Health Organization (WHO), which is 10-15% as an effort to save the lives of mothers and babies (Li WY, Liabsuetrakul T, Pedersen, 2014). Latin America and the Caribbean region contributed to the number of delivery methods with the highest caesarean section at 40.5%, followed by Europe 25%, Asia 19.2% and Africa 7.3% (Singh P, Hasmi G, Swain PK, 2018). Based on data from the 2018 Basic Health Research (Riskesdas) shows that the prevalence of delivery by sectio caesarea in Indonesia is 17.6%, the highest incidence occurs in the DKI Jakarta area (31.3%) and the lowest in Papua (6.7%) (Ministry of Health RI, 2018).

Sectio caesarea is one of the most common major surgical procedures performed to save the lives of mothers and newborns if medically indicated. However, cesarean section can result in both mother and baby experiencing relevant short- and long-term health risks, potentially affecting the course and outcome of subsequent pregnancies. The main obstetric complications associated with cesarean section include maternal death, postpartum infection, uterine rupture, bladder injury, abnormal placentation, ectopic pregnancy, stillbirth, premature birth, and others. Furthermore, there is growing evidence that cesarean section can alter the hormonal and microbiological physiology of infants, harm intestinal flora and potentially increase the risk of allergies by interfering with the development of the child's immune system. These changes also play a role in the increased risk of asthma and obesity in childhood later in life (Cegolon, et al, 2020).

The term sectio caesarea comes from the Latin caedere which means to cut or slash. In obstetrics, the term refers to a surgical procedure that aims to give birth to a baby by opening the walls of the mother's abdomen and uterus (Todman, 2007; Lia et.al, 2010). Delivery by sectio caesarea is intended for certain medical indications, which are divided into indications for mothers and indications for babies. Sectio caesaria delivery or caesarean section must be understood as an alternative to childbirth when normal delivery can no longer be carried out (Patricia, 2005; Irwan, 2009; Lang, 2011). Although 90% of deliveries are in the category of normal or uncomplicated deliveries, if complications occur, the treatment will always adhere to the priority of the safety of the mother and baby. Sectio caesarea is the last choice of delivery after considering how vaginal delivery cannot be carried out (Akhmad, 2008; Asamoah et.al., 2011).

Sectio caesarea is a major health problem that can have a negative impact on the lives of women of childbearing age. Sectio caesarea is not only associated with an increased risk of morbidity and mortality in mothers and newborns, but also poses a social and economic burden as well as the health care system (Hajizadeh, S, et al, 2016). Delivery by sectio caesarea is a surgical process that has been commonly performed to deliver babies through incisions in the abdominal wall and uterus (Oxorn H, Forte WR, 2010). This method is used when vaginal delivery cannot be performed, such as prolonged labor, fetal distress or because the baby is in an abnormal position. If vaginal delivery is still carried out in these conditions, it is feared that it will pose a more fatal risk to the mother and baby (WHO, 2015).

Zhegib's study in Lebanon, of 29,270 women who became pregnant during the period 2000-2015, 49% of them gave birth by caesarean method. Factors causing the increasing number of caesarean deliveries in the country are maternal age, multiple pregnancies, prolonged labor, and fetal distress (Zgheib SM, Kacim M, Kostev K, 2017). Meanwhile in Indonesia, according to the results of research conducted by Sulistianingsih and Bantas (2019), the most significant factor associated with the use of the caesarean method in childbirth in Indonesia is economic status, with multivariate results showing that the higher a person's economic status, the more likely they are to use the method. Caesarean is also higher. Sulistianingsih also explained that the opportunity to use the caesarean method for each individual varies according to the characteristics (sociodemographic factors, history of pregnancy and childbirth) they have. Caesarean delivery is not only done based

on medical indications but many factors affect the possibility of someone using the caesarean method of delivery.

This study aims to determine the relationship between maternal characteristics with the type of delivery at Padang City Hospital.

II. METHODS

The type of research used is cross sectional with secondary data sources at the research site. The study was conducted from May to November 2021 at the Padang City Government and Private Hospital. The population in this study were all mothers who gave birth during the last 1-year survey period, from January 1 to December 31, 2020 at hospitals in the city of Padang (dr. Reksodiwiryo Hospital, Andalas University Hospital, and Ibu Sina Islamic Hospital). The samples in this study were all populations that met the inclusion criteria, namely mothers who were registered to give birth during the survey period and live births, and the exclusion criteria were incomplete maternal data. Data was collected using a data collection format in accordance with the required information. The secondary data in this study obtained the results of the recap of the hospital or the medical record data of each research sample. Data were analyzed by univariate analysis (looking at the frequency distribution and percentage of each variable) and bivariate analysis (looking at two variables that were thought to have a relationship using the chi-square statistical test).

III. RESULT

Type of Delivery

Table 1. Frequency Distribution of Type of Delivery at Padang City Hospital

Type of Delivery	n	%
Caesarean Delivey	569	82,7
Vaginal Delivey	119	17,5
Total	688	100

Table 1. shows that of the 688 deliveries, 569 (82.7%) of them were performed by cesarean section.

Maternal Age

Table 2. Frequency Distribution of Maternal Age at Delivery at Padang City Hospital

Maternal Age (years)	n	%
<20	23	3,3
20-35	528	76,6
>35	137	19,9
Total	688	100

Table 2. shows that from 688 deliveries, 23 (3.3%) of them gave birth at the age of < 20 years and 137 (19.9%) mothers gave birth at the age of > 35 years.

Parity

Table 3. Frequency Distribution of Maternal Parity in Padang City Hospital

Parity	n	%
Risk	261	37,9
No Risk	427	62,1
Total	688	100

Table 3. shows that out of 688 deliveries, 261 (37.9%) of them were mothers who gave birth to their first child and more than 4 children.

Maternal Education

Table 4. Distribution of Maternal Education Frequency at Padang City Hospital

Maternal Education	n	%
≤ Middle School	128	18,6
High School	371	53,9
≥ Bacelor's Degree	189	27,5
Total	688	100

Table 4. shows that of the 688 deliveries, 128 (18.6%) of them had an education at the middle school level and below.

Relationship of Maternal Age with Type of Delivery

Table 5. Relationship of Maternal Age with Type of Delivery at Padang City Hospital

Maternal Age (Years)	Type of Delivery				Total		p value
	Caesarean Delivey		Vaginal Delivey		n	%	
	n	%	n	%			
<20	14	60,9	9	39,1	23	100	0,01
20-35	445	84,3	83	15,7	528	100	
>35	110	80,3	27	19,7	137	100	
Total	569	82,7	119	17,5	688	100	

Table 5. shows that, from 23 respondents aged <20 years (at risk), 14 respondents (60.9%) gave birth by sectio caesarea and 9 respondents (39.1%) gave birth vaginally. In addition, of 137 respondents aged > 35 years (at risk), 110 respondents (80.3%) gave birth by sectio caesarea and 27 respondents (19.7%) gave vaginal delivery.

After carrying out the Chi-Square statistical test, it was found that p value = 0.01 ($p < 0.05$), meaning H_a was accepted and H_o was rejected, so it was concluded that there was a relationship between maternal age and the type of delivery performed.

Relationship of Parity with Type of Delivery

Table 6. Relationship of Parity with Type of Delivery at Padang City Hospital

Parity	Type of Delivery				Total		p value
	Caesarean Delivey		Vaginal Delivey		n	%	
	n	%	n	%			
Risk	212	81,2	49	18,8	261	100	0,01
No Risk	357	83,6	70	16,4	427	100	
Total	569	82,7	119	17,5	688	100	

Table 6. shows that, of the 261 respondents who gave birth to their first child and more than 4 children, 212 respondents (81.2%) gave birth by sectio caesarea and 49 respondents (18.8%) gave birth vaginally.

After carrying out the Chi-Square statistical test, it was found that p value = 0.42 ($p > 0.05$), meaning H_a was rejected and H_o was accepted, so it was concluded that there was no relationship between maternal parity and the type of delivery performed.

Relationship of Maternal Education with Type of Delivery

Table 7. Relationship of Maternal Education with Type of Delivery at Padang City Hospital

Maternal Education	Type of Delivery				Total		p value
	Caesarean Delivey		Vaginal Delivey		n	%	
	n	%	n	%			
≤ Middle School	100	78,1	28	21,9	128	100	0,01
High School	306	82,5	65	17,5	371	100	
≥ Bacelor's Degree	163	86,2	26	13,8	189	100	
Total	569	82,7	119	17,5	688	100	

Table 7. shows that, of 128 respondents who had a middle school level and below, 100 respondents (78.1%) gave birth by sectio caesarea and 28 respondents (21.9%) gave birth vaginally. In addition, out of 189 respondents who had a Bacelor's Degree level, 163 respondents (86.2%) gave birth by sectio caesarea and 26 respondents (13.8%) gave birth vaginally.

After carrying out the Chi-Square statistical test, it was found that p value = 0.17 (p 0.05), meaning Ha was rejected and Ho was accepted, so it was concluded that there was no relationship between maternal education and the type of delivery performed.

IV. DISCUSSION

Relationship of Maternal Age with Type of Delivery

Table 5. shows that, from 23 respondents aged <20 years (at risk), 14 respondents (60.9%) gave birth by sectio caesarea and 9 respondents (39.1%) gave birth vaginally. In addition, of 137 respondents aged > 35 years (at risk), 110 respondents (80.3%) gave birth by sectio caesarea and 27 respondents (19.7%) gave vaginal delivery.

After carrying out the Chi-Square statistical test, it was found that p value = 0.01 (p <0.05), meaning Ha was accepted and Ho was rejected, so it was concluded that there was a relationship between maternal age and the type of delivery performed.

This is in line with the research conducted by Wahyuni and Rohani (2019) which found that there was a relationship between maternal age and sectio caesarea. Likewise with the research conducted by Cury, et al, in 2017, which obtained the result that p value = 0.02, so it was stated that there was a relationship between maternal age and delivery by cesarean section.

Based on the results of the research that has been done, it can be seen that the percentage of deliveries by cesarean section is mostly carried out on mothers with a productive age range, namely the age of 20-35 years. Of the 445 mothers of reproductive age, 217 (48.8%) of them gave birth by caesarean section for indications of complications, 212 (47.6%) with a history of sectio caesarea in previous deliveries, and 16 (3.6%)) without any indication.

Relationship of Parity with Type of Delivery

Table 6. shows that, of the 261 respondents who gave birth to their first child and more than 4 children, 212 respondents (81.2%) gave birth by sectio caesarea and 49 respondents (18.8%) gave birth vaginally.

After carrying out the Chi-Square statistical test, it was found that p value = 0.42 (p 0.05), meaning Ha was rejected and Ho was accepted, so it was concluded that there was no relationship between maternal parity and the type of delivery performed.

In line with the research conducted by Cury, et al, in 2017, which obtained the results that there was no relationship between maternal parity and cesarean section delivery with p value = 0.07. This is different from the results of research conducted by Wahyuni and Rohani (2019) which found that there was a relationship between maternal parity and sectio caesarea, with the percentage of deliveries by sectio caesarea being mostly carried out in mothers who gave birth for the first time and more than 5 times.

Based on the results of research that has been carried out, the number of deliveries to mothers with risk parity amounted to 261 people, consisting of 221 mothers who gave birth to their first child and 40 mothers who gave birth to more than 4 children. Of the 221 mothers who gave birth to their first child, 177 people (80.1%) gave birth by sectio caesarea, and 44 people (38.2%) gave birth vaginally. Of the 40 mothers who gave birth to more than 4 children, 35 (87.5%) gave birth by sectio caesarea, and 5 (12.5%) gave birth vaginally, and of 427 mothers who gave birth with parity 2-4. children, 357 people (83.5%) gave birth by sectio caesarea, and 70 people (16.4%) gave birth vaginally.

Overall, it can be seen that the percentage of deliveries by cesarean section is more common in conditions of all maternal parity categories, from first parity, second parity, to parity more than 4.

Relationship of Maternal Education with Type of Delivery

Table 7. shows that, of 128 respondents who had a middle school level and below, 100 respondents (78.1%) gave birth by sectio caesarea and 28 respondents (21.9%) gave birth vaginally. In addition, out of 189 respondents who had a Bachelor's Degree level, 163 respondents (86.2%) gave birth by sectio caesarea and 26 respondents (13.8%) gave birth vaginally.

After carrying out the Chi-Square statistical test, it was found that p value = 0.17 ($p > 0.05$), meaning H_a was rejected and H_o was accepted, so it was concluded that there was no relationship between maternal education and the type of delivery performed.

The proportion of mothers with higher education (\geq High School) is higher than mothers with low education ($<$ High School) which is 560 (81.4%) out of 688 deliveries, and of the 560 mothers who gave birth, 469 (83.75%) of them gave birth. by caesarean section.

Sihombing, Saptarini and Putri in 2017 in their research concluded that the driving factors for the incidence of cesarean section are maternal characteristics, maternal and fetal health status variables with complications, pregnancy and delivery complications, parity and complete ANC history have a greater chance of having a cesarean delivery. . Mothers with a higher level of education (OR: 3.28) had a greater chance of having a cesarean delivery, whereas based on the health status of the mother, a greater chance of having a cesarean delivery were those who had risk factors such as age $>$ 35 years (OR) :1.68) and with parity of 1 birth (OR:2.49).

The probability of using a cesarean delivery method with maternal age $>$ 35 years, wealth index quintile 5, having a history of complications, and giving birth in a private hospital is 71.2%. While the chance of using the cesarean method based only on medical indications in this case the presence or absence of complications is 34.2% (Sulistianingsih and Bantas, 2018). This study concludes that the probability of a woman using the cesarean method varies according to the characteristics, history of pregnancy and childbirth of each individual. Based on the 2017 IDHS data analysis, the use of the cesarean delivery method is not only based on the presence or absence of medical indications but many other factors that play a role in the selection of this method.

Research conducted by Mulyawati, Azam, and Ningrum in 2011 suggested that other factors related to SC decisions include maternal age, parity, and the incidence of anemia as well as demographic changes, women's choice in childbirth, and doctor's advice. Meanwhile, Sitorus and Purba in their research on factors related to the selection of sectio caesarea without indications in 2019 found that there was an influence of education (95% CI = 4.93: 1.27-19.1) on the selection of sectio labor. caesarea without indication. Hijriani, Rahim and Hengky in their research in 2020 found that pregnant women who performed sectio caesarea based on the age of 20-35 were 25 people, high school education was 18 people, parity 1-2 times were 23 people. Pregnant women are advised to carry out pregnancy control in an effort to prevent complications in pregnancy.

Based on the results of research conducted by Rezeki and Sari in 2018 it is known that the majority of respondents who performed sectio caesarea were 73.8% and the minority in

spontaneous vaginal delivery was 26.2%, the majority of respondents who performed sectio caesarea were aged >20 -35 years as many as 82.3% and minorities at <20 years as much as 3.0%.

V. CONCLUSION

Based on the research that has been done, it can be concluded that the majority (82.7%) of deliveries were carried out by sectio caesarea at the Padang City Hospital, a small percentage (23.2%) of high-risk mothers (< 20 years and > 35 years). at the Padang City Hospital, a small percentage (37.9%) of mothers gave birth to their first child and more than 4 children at the Padang City Hospital, a small percentage (18.6%) of mothers who gave birth had education at the middle school level and below at the Padang City Hospital. , there is a relationship between maternal age and the type of delivery performed, and there is no relationship between parity and maternal education with the type of delivery performed.

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