



# Mother's Perception on Childbirth: Cesarean Section vs Normal Birth

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## **Authors' contributions**

*This work was carried out in collaboration between both authors. Author IM designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript. Author Zuraidah managed the analyses of the study and the literature searches. Both authors read and approved the final manuscript.*

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## **ABSTRACT**

**Background:** Cesarean section has increased from year to year. The 2018 Indonesia Basic Health Research found that the percentage of cesarean deliveries was 17.6% of 78.736 deliveries. It has almost twice from the 2013 Indonesia Basic Health Research of 9.8%. Various reasons were given by mothers for choosing cesarean section.

**Aims:** To explore differences in mothers' perceptions of cesarean section and normal birth. Here clearly write the aims of this study.

**Study Design:** This study used a comparative study.

**Place and Duration of Study:** This study was conducted in Simalungun Regency (North Sumatera, Indonesia) between July and September 2022.

**Methodology:** We conducted on 106 women after 24 hours of labor (normal labor and cesarean section). Sampling was done by consecutive sampling. Data were collected using the Perception of Birth Scale/PBS questionnaire (29 questions) with a Likert scale of 1-5 and the Labor Agency Scale/LAS (10 questions) with a Likert scale of 1-7 that had been translated and validated. Statistical test using Mann-Whitney U.

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**Results:** The mean PBS scores in the normal labor vs cesarean section group were  $105.68 \pm 10.95$  and  $109.09 \pm 8.79$  ( $p=0.026$ ). The mean LAS score in the normal labor vs cesarean section group was  $34.57 \pm 5.27$  vs  $31.51 \pm 4.37$  ( $P$  value 0.000).

**Conclusion:** Mothers who gave birth by cesarean section had a positive perception. Mothers who gave birth normally had high birth control. Education and information about the risks of the cesarean section should be promoted and mothers are supported to give birth naturally.

*Keywords: Perception; cesarean section; normal birth.*

## 1. INTRODUCTION

The latest data from 150 countries show cesarean delivery to be 18.6% of all births and varies from 6% to 27.2% from the least developed to the most developed countries [1]. Cesarean delivery has increased over the years. The 2018 Indonesian Basic Health Research found that the percentage of cesarean deliveries was 17.6% of 78,736 deliveries. It has almost doubled from the 2013 Indonesian Basic Health Research of 9.8%. North Sumatra has the third highest rate of cesarean delivery at 23.9% after Special Capital Region of Jakarta and Bali [2]. The cesarean section rate continues to increase in both developed and developing countries for various reasons. The WHO has recommended a cesarean section rate limit in the range of 10-15% and rates above 15% may be unnecessary, inappropriate, and not reflect a better health outcome. The cesarean section of more than 10% is not associated with a reduction in maternal and neonatal mortality [3]. Cesarean delivery has been one of the cases that have seen a significant increase in financing from year to year. In 2019, there were 608,994 cesarean sections in hospitals, while normal deliveries at first-level health facilities recorded 1,066,559 procedures. In total, out of 1,675,553 delivery procedures, 36% were cesarean deliveries [4]. This is more than the maximum limit set by WHO.

Various reasons were cited forward for choosing cesarean delivery, including the mother feeling that vaginal delivery was more painful than cesarean, avoiding damage to the genital organs, sexual pleasure, and preventing cystocele, rectocele, and perineal relaxation [5]. Other mothers' perceptions said cesarean section was dangerous, fear of labor pain, easier in the delivery process, and comfort [6]. Although the cesarean section is the last alternative in childbirth, various maternal perceptions can be encountered when undergoing it as well as perceptions of vaginal delivery. Vaginal delivery is safer for mother and baby, causes fewer

complications, and heals faster than cesarean section. In addition, vaginal delivery also improves mother-infant bonding. Vaginal delivery is a manifestation of strength and the ability to achieve the role of motherhood [5]. The high number of cesarean deliveries will increase state spending in the future. Apart from that, it will reduce the role of midwives in assisting normal childbirth. This needs to be prevented by knowing the mother's perception of caesarean section and normal delivery so that health workers can provide a correct explanation regarding this perception.

So far, research on differences in maternal perceptions of normal delivery and cesarean section has not been conducted in Simalungun Regency. A large number of cesarean sections and various perceptions about the cesarean delivery became the basis for us to conduct a study on the differences in maternal perceptions of normal delivery and cesarean section. Our hypothesis was that mothers who gave birth naturally have more positive perceptions and better control than mothers who gave birth by cesarean section. The aim of this study was to compare the differences in mothers' perceptions of giving birth by cesarean section and normal delivery.

## 2. METHODOLOGY

This study used an observational design with comparative study. This study was conducted in Simalungun Regency (North Sumatera, Indonesia) from July 1, to September 30, 2022. The population in this study were all 24-hour postpartum mothers. The sample of this study were mothers of normal labor in midwife's independent practice place and cesarean section in Karya Husada Hospital, Simalungun, Indonesia, at term gestation, maternal age 18-49 years, able to read and Indonesian fluently. Sampling was done by a consecutive sampling technique. The sample size in the study was determined based on Lemeshow's formula for the mean difference in two independent populations, namely [7]:

$$n1 = n2 = 2 \left\{ \frac{(Z\alpha + Z\beta)S}{(x1 - x2)} \right\}^2$$

$$n1 = n2 = 2 \left\{ \frac{(1.96+0.842)12.9}{(7)} \right\}^2 = 53$$

Where S is the standard deviation of the two groups = 12.9 (based on previous research [8]);  $x1 - x2$  is the desired clinical difference = 7 (defined by the researcher);  $Z\alpha$  is type-1 error ( $\alpha$ ) = 5% = 1.96;  $Z\beta$  is type-2 error ( $\beta$ ) = 20% = 0.842. The sample size in this study was 106 (53 samples in the normal delivery group and 53 in the cesarean delivery group).

Data were collected using the *Perception of Birth Scale* (PBS) questionnaire developed by Barber [9] and the Labor Agency Scale (LAS) developed by Hodnett [10]. The PBS questionnaire consists of 29 questions (Likert scale 1-5) that have been tested for validity and reliability with Cronbach's Alpha 0.824. A high score indicates that the perception of childbirth is positive (the mother has a positive perception of her labor process). The LAS questionnaire consists of 10 questions (Likert scale 1-7) with six positive and four negative questions. The Cronbach's alpha coefficient is reported to be 0.98 [10]. A high score indicates that the mother's control over labor is good. Both questionnaires were translated into Indonesian by the Language Institute of the University of North Sumatra.

We used the Mann Whitney-U test to analyze the differences between the two groups. Data processing and analysis used *Statistical Package and Service Solution* (SPSS) version 25.0 for Windows.

### 3. RESULTS AND DISCUSSION

The mean participant age, parity, and gestational age in the cesarean section group were higher than the normal delivery group,  $28.36 \pm 5.51$  years;  $2.26 \pm 1.16$ ; and  $38.55 \pm 1.67$  weeks, respectively. There were no differences in age, parity, and gestational age between the two groups. The education level of the normal delivery and cesarean section groups is mostly high school, 86.8%, and 98.1% respectively. The employment status of the normal delivery and cesarean section groups was mostly housewives (92.5% and 100%). There were no differences in education level and employment status between the two groups. The most indication for cesarean section was a previous cesarean section (see Table 1).

Table 2 shows the mean score of the *Perception of Birth Scale* (PBS) score in the cesarean section group was higher ( $109.09 \pm 8.79$ ) than the normal delivery group ( $105.68 \pm 10.95$ ). The mean score of the Labor Agency Scale score in the normal delivery group was higher ( $34.57 \pm 5.27$ ) than in the cesarean section group ( $31.51 \pm 4.37$ ). Statistical test results stated that there were differences in perception of labor and ability to control labor,  $P=0.03$  and  $P<0.005$ , respectively.

In this study, we found differences in perceptions between normal birth and cesarean section. Cesarean delivery participants had a positive perception of childbirth characterized by a higher mean score compared to normal delivery participants. Control over labor was better in mothers who had normal delivery compared to cesarean section. Positive and negative perceptions of normal delivery and cesarean section are expressed in various studies. Positive perceptions of cesarean delivery were expressed by the results of the study of Zakerihamidi et al. The results of Zakerihamidi et al. concluded that mothers who choose cesarean delivery think that cesarean section is a safe, painless way of delivery, and still maintains the integrity of the reproductive organs [5]. Cesarean-section delivery is also considered safer for the mother/baby, avoids the fear of childbirth, is informed, and has control over the cesarean-section process. Cesarean delivery is a pleasant experience, enjoys the presence of the baby safely, and can perform tubal ligation if desired at the same time [11,12]. Positive experiences of cesarean section were also associated with a faster process and being able to arrange the date of surgery. Cesarean section satisfaction is based more on psychosocial aspects than clinical aspects or information about risks [11,13,14]. Naa Gandau's research revealed positive perceptions about caesarean sections if necessary to save the mother and baby [15].

Meanwhile, other women who have positive perceptions about normal childbirth believe that normal childbirth is a safe method because it does not cause complications associated with cesarean section. Another benefit of normal labor is improving maternal feelings and the mother-child relationship through labor pain [5]. Positive perceptions of normal labor are associated with satisfaction, less suffering, faster recovery, less care, less pain after delivery, faster return to daily activities, and faster discharge from the hospital. Labor pain was perceived as a strength for the

**Table 1. Characteristic of participants**

Variables	Normal birth (n=53)	Cesarean section (n=53)	P
<b>Age (year)</b>			
- Mean ± SD	27.21 ± 5.76	28.36 ± 5.51	.31
- Median (min-max)	27 (18 – 40)	28 (18 – 44)	
<b>Parity</b>			
- Mean ± SD	2.25 ± 1.19	2.26 ± 1.16	.90
- Median (min-max)	1.41 (1 – 5)	2.00 (1 – 5)	
<b>Age of pregnancy (weeks)</b>			
- Mean ± SD	38.51 ± 0.77	38.55 ± 1.67	.15
- Median (min-max)	39.00 (37 – 40)	38.00 (36 – 42)	
<b>Education</b>			
- Junior High School	5 (9.4%)	0 (0%)	.06
- Senior High School	46 (86.8%)	52 (98.1%)	
- Diploma/university	2 (3.8%)	1 (1.9%)	
<b>Employment status</b>			
- Work	4 (7.5%)	0 (0%)	.12
- Housewife	49 (92.5%)	53 (100%)	
<b>Indications for CS</b>			
- PROM		7 (13.2%)	
- Breech presentation		5 (9.4%)	
- Transverse lie		1 (1.9%)	
- Oblique presentation		5 (9.4%)	
- Severe PE		2 (3.8%)	
- Postdate		7 (13.2%)	
- Previous CS		24 (45.3%)	
- Prolonged labor		2 (3.8%)	

*SD=standard deviation; CS=cesarean section; PROM=premature rupture of membranes; PE=preeclampsia*

**Table 2. Differences in participants' perceptions of normal delivery and cesarean section**

Variables	N	Mean ± SD	Mean rank	Median (min – max)	P*
<b>PBS score</b>					
- Normal birth	53	105.68 ± 10.95	60.11	107 (82 – 149)	.03
- Cesarean section	53	109.09 ± 8.79	46.89	114 (86 – 119)	
<b>LAS score</b>					
- Normal birth	53	34.57 ± 5.27	42.39	36 (23 – 47)	.000
- Cesarean section	53	31.51 ± 4.37	64.61	29 (24 – 45)	

*\*Mann-Whitney U test; PBS = perception of Birth Scale; LAS=Labor Agency Scale; SD=standard of deviation*

mother, increased satisfaction, and confidence in motherhood [11]. The study found the perception that normal childbirth makes them complete women and an acceptable part of the culture. The “whole woman” should be able to experience labor pain regardless of how long it lasts and ultimately be able to deliver a healthy baby [14].

Negative perceptions of normal childbirth were associated with a painful process, unexpected procedures related to childbirth, fear, a bad feeling that something would happen during labor, possible complications to the baby, or fear of death or the baby's death. Dissatisfaction with the birth experience was associated with a lack of attention from health personnel, complications

with the baby, prolonged labor, and little or no control [13,16,17]. In addition, negative perceptions of normal childbirth can be caused by loss of internal control, imbalance in external control, and an unsupportive environment [18]. Negative perceptions of cesarean section were related to pain in the postpartum period, difficulty in recovery, risk of surgery, concern about previous experience with anesthesia, higher level of fear compared to normal delivery, and difficulty with sexual activity after delivery [5,11,13,14,19]. Negative perceptions of cesarean deliveries were found in the people of Ngora District, Uganda who perceived cesarean deliveries as curse/punishment from God to the individual or family. They also perceived the use of

contraceptives as causing cesarean delivery, reducing women's fertility, and limiting the number of children. In addition, women who give birth by surgery are considered lazy women because they do not make an effort to deliver their babies normally. She becomes the laughingstock of society [5].

A study in Iran found that women's perceptions of the choice of delivery mode were influenced by the medicalized ethos of childbirth. This medicalized reality results in a preference for cesarean section [20]. The best type of delivery is the safest for both mother and baby. Every pregnant woman has the right to choose how to give birth to her child. Thus, health workers provide autonomy for pregnant women, guaranteeing their respect and dignity [21]. The most effective strategy for creating a positive birth experience is to provide support to the mother during childbirth, intrapartum care with minimal intervention, and preparation for birth [22].

#### **4. CONCLUSION**

Mothers who underwent cesarean section and those who gave birth naturally had different perceptions about their experience. Contrary to our hypothesis, mothers who had a cesarean section had a more positive perception than mothers who gave birth naturally. However, mothers who gave birth naturally felt that they had greater control over their labor compared to those who had a cesarean section. While the study showed a positive perception of cesarean delivery, it is important to provide information and education about the risks associated with this procedure. Pregnant women should be encouraged to give birth naturally, as this can lead to greater satisfaction. Our study had limitations. Our result didn't confirm with mother via interview. Interviewing will strengthen the answer in the questionnaire. We suggest mixed method research for the further study.

#### **CONSENT**

Before filling out the questionnaire, participants were explained the research. Potential participants who were willing to participate in the study were asked to sign an informed consent.

#### **ETHICAL APPROVAL**

This research has received ethical approval from the Research Ethics Committee of the Medan Health Polytechnic of Ministry of Health No.

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#### **COMPETING INTERESTS**

Authors have declared that no competing interests exist.

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