



# Characteristics of Mothers Undergoing Caesarean Section at Swadana Tarutung Regional General Hospital

Urhuhe Dena Siburian<sup>1</sup>, Paruhum Tiruon Ritonga<sup>1</sup>

<sup>1</sup>Politeknik Kesehatan Kementerian Kesehatan Medan

Email correspondence: [denasiburian2019@gmail.com](mailto:denasiburian2019@gmail.com)

<p><b>Track Record Article</b></p> <p>Revised: 13 April 2026 Accepted: 23 June 2026 Published: 29 June 2026</p> <p><b>How to cite :</b> Siburian, U. D., &amp; Ritonga, P. T. (2026). Characteristics of Mothers Undergoing Caesarean Section at Swadana Tarutung Regional General Hospital. <i>Contagion: Scientific Periodical of Public Health and Coastal Health</i>, 8(2), 434–447.</p>	<p style="text-align: center;"><b>Abstract</b></p> <p><i>Caesarean section (CS) delivery remains high in referral hospitals and requires continuous monitoring to support maternal health service planning. This study aimed to describe the characteristics of mothers undergoing CS at Swadana Tarutung Regional General Hospital in 2024. This study employed a retrospective descriptive design with a cross-sectional approach. The population consisted of 1,250 mothers who delivered by CS from January to December 2024. A total of 303 medical records were selected using systematic random sampling. Secondary data were obtained from medical records and delivery registers, including maternal age, gravidity, parity, education, and occupation. Data were analyzed using SPSS version 23.0. Univariate analysis was used to describe frequency distributions, while the Chi-square goodness-of-fit test was used to assess differences in the distribution of each characteristic, with a significance level of <math>p &lt; 0.05</math>. The results showed that most mothers undergoing CS were aged 20–35 years (75.2%), multigravida (41.4%), multipara (50.8%), had completed senior high school education (66.7%), and worked as farmers (39.3%). The distribution of maternal age, education, occupation, gravidity, and parity among CS cases showed statistically significant differences. These findings indicate that CS cases were concentrated in certain maternal characteristic groups. However, because this study did not include non-CS deliveries as a comparison group, the findings should not be interpreted as determinants of CS incidence. Future studies are recommended to include both CS and non-CS deliveries and analyze clinical indications to identify factors associated with CS delivery.</i></p> <p><b>Keywords:</b> <i>Caesarean Section, Maternal Characteristics, Gravidity, Parity, Medical Records.</i></p>
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## INTRODUCTION

The incidence of Caesarean sections (CS) continues to increase globally and in Indonesia, driven by both medical factors, such as pregnancy complications including preeclampsia, breech presentation, premature rupture of membranes, and non-medical factors, such as the perception of CS as safer and more comfortable, suboptimal gestational age, and high parity. This trend raises concerns about unnecessary health risks when CS is performed without clear medical indications, particularly given the increased risk of infection, hemorrhage, and other complications (Ayuningtyas et al., 2018).

According to the World Health Organization (WHO), the recommended incidence of CS is approximately 5-15%. However, data from the 2021 Global Survey on Maternal and Perinatal Health reported that 46.1% of all births are by CS (WHO, 2021). In Indonesia, the 2023 national health survey recorded that 17.6% of deliveries were by CS. The

indications for CS were predominantly due to complications, accounting for 23.2% of cases, including transverse or breech fetal position (3.1%), hemorrhage (2.4%), eclampsia (0.2%), premature rupture of membranes (5.6%), prolonged labor (4.3%), umbilical cord entanglement (2.9%), placenta previa (0.7%), retained placenta (0.8%), hypertension (2.7%), and other complications (4.6%) (Kemenkes RI, 2023).

The rising number of Caesarean section (CS) deliveries has become a significant phenomenon both globally and nationally. A systematic review by Devy et al. (2024) reported that, in Indonesia, CS delivery is influenced by maternal demographic characteristics and clinical conditions, including age, gravidity/parity, pregnancy complications, and obstetric history. Women aged <20 years and  $\geq 35$  years face a higher risk of undergoing CS compared with those aged 20–35 years, particularly when complications are present (Devy et al., 2024; Amalia & Aslina, 2025). Regarding gravidity and parity, primigravida or primiparous women are more likely to undergo CS due to prolonged labor, cephalopelvic disproportion, or fetal distress, whereas multigravida or grand multiparous women are more vulnerable when complications such as hypertension, pre-eclampsia, previous CS, or other high-risk conditions occur (Devy et al., 2024; Rahmadani & Rupilu, 2025). Therefore, the decision to perform CS should not be attributed to a single factor but understood as the result of interactions among maternal age, gravidity/parity, obstetric history, and medical indications. Caesarean section (CS), as a major obstetric surgical procedure, carries the risk of several post-operative complications, including excessive hemorrhage, thrombophlebitis, embolism, surgical site infection, postpartum endometritis, urinary tract infection, and wound infection. Among these, infection is one of the most common forms of post-operative morbidity, potentially involving the uterine lining, bladder, surgical wound, or intra-abdominal organs. If not promptly diagnosed and appropriately managed, post-caesarean infection can delay maternal recovery, prolong hospitalization, and progress to severe infection or sepsis, thereby contributing to maternal morbidity and mortality. Therefore, although CS can be life-saving when medically indicated, it also entails post-operative risks that necessitate vigilant prevention, early detection, and effective clinical management (Handayany, 2022).

In addition to medical and obstetric factors, non-medical determinants also influence the likelihood of Caesarean section (CS). Mothers residing in urban areas, those with formal employment, and those of higher socioeconomic status tend to have greater access to health services and are more likely to undergo CS compared with mothers in rural settings. These disparities may be linked to differences in antenatal care utilization, availability of health facilities, health insurance coverage, and maternal preferences regarding mode of delivery.

Therefore, the rising rate of CS should be understood not only in terms of clinical indications, but also within the broader context of social and health service factors that shape maternal decision-making and access to obstetric care (Devy et al., 2024; Pristya et al., 2018).

The rising rate of Caesarean section (CS) has become a global public health concern, particularly when performed without clear medical indication. While CS is an essential and life-saving procedure in certain obstetric conditions, medically unnecessary or unsafe CS exposes mothers and newborns to avoidable short- and long-term health risks. These include excessive hemorrhage, infection, delayed post-partum recovery, difficulties in initiating breastfeeding and skin-to-skin contact, and an increase risk of complications in subsequent pregnancies. The World Health Organization reported that CS already accounts for more than one in five births worldwide and is projected to approach one-third of all births by 2030. Therefore, the rising CS rate should be addressed not merely as an increase in surgical delivery, but as a maternal health issue requiring appropriate clinical indication, safe surgical practice, and careful monitoring to prevent unnecessary procedures (WHO, 2021; Betran et al., 2021).

To address this issue, a comprehensive understanding of its determinants, including demographic factors (age, parity), obstetric factors (pregnancy complications, history of CS), and socioeconomic factors (location of residence, occupation), is essential for formulating a rational CS rate control strategy. Evidence from studies such as Devy et al., (2024), confirms that the risk of CS does not arise from a single factor, but from a complex interaction between maternal characteristics and the context of obstetric services.

Nationally, the proportion of Caesarean section (CS) deliveries in Indonesia has continued to rise, with analyses of the Indonesian Demographic and Health Survey showing a consistent upward trend over time. At the local level, previous research at RSUD Swadana Tarutung indicated that CS delivery rates were already high. Hutabalian (2011) examined internal and external maternal factors associated with CS indications at this hospital, while subsequent studies reported that CS deliveries accounted for approximately 70%–80% of assisted deliveries in 2008–2009. However, these studies relied on older data and primarily focused on selected maternal or antenatal care-related factors. Updated evidence is therefore needed to describe current pattern and determinants of CS delivery in this referral hospital, particularly in light of changes in obstetric service utilization and referral practices. Preliminary surveys of medical records of RSUD Swadana Tarutung revealed 1,525 CS cases out of 2,055 deliveries in 2023 (74.2%) and 1,250 CS cases out of 1,773 deliveries in 2024 (70.5%). These figures demonstrated that the proportion of CS deliveries remains very high

and relatively stable over the past two years. Thus, this study aims to analyze the determinants of CS delivery at RSUD Swadana Tarutung using recent hospital-based data, thereby providing updated local evidence to inform clinical evaluation, referral management, and maternal health service planning.

## METHODS

This study employed a retrospective descriptive design with a cross-sectional approach. The study population comprised all mothers who delivered by Caesarean section (CS) at Swadana Tarutung Regional General Hospital between January to December 2024, totaling 1,250 CS cases out of 1,773 deliveries. The sample size was determined using the Slovin formula with a 5% margin of error, yielding 303 medical records.

The inclusion criteria comprised medical records of mothers who delivered by CS at Swadana Tarutung Regional General Hospital between January and December 2024 that contained complete information on study variables, including maternal age, gravidity, parity, education, and occupation. The exclusion criteria were incomplete or duplicated records, records with unclear delivery status, and records with missing data on the primary variables analyzed in this study.

The sampling technique applied was systematic random sampling, whereby samples were selected from the CS delivery register at fixed intervals according to the order of records in the population list. The data used in this study were secondary, obtained from medical records and patient delivery registers. The variables analyzed maternal age, gravidity, parity, education, and occupation.

Data were analyzed using SPSS version 23.0. Univariate analysis was performed to describe the frequency and percentage distribution of each variable. The Chi-square goodness-of-fit test was applied to assess whether the distribution of categorical variables differed significantly across categories. Statistical significance was determined at a threshold of  $p < 0.05$ . Findings were presented in frequency distribution tables.

## RESULTS

The characteristics of the 303 respondents taken from medical records of deliveries during January to December 2024 are presented in following table:

**Table 1. Respondent Characteristics (n=303)**

Characteristics	n	%
Age		
< 20	5	1,7

20 – 35	228	75,2
> 35	70	23,1
<b>Gravida</b>		
Primigravida	85	28
Multigravida	125	41,4
Grand multigravida	93	30,7
<b>Parity</b>		
Primipara	97	32
Multipara	154	50,8
Grand multipara	52	17,2
<b>Education</b>		
Elementary School	9	3
Junior High School	40	13,1
Senior High School	202	66,7
College	52	17,2
<b>Occupation</b>		
Self Employed	42	13,9
Employee	50	16,5
Farmer	119	39,3
Unemployee	92	30,4

Based on Table 1, most mothers undergoing Caesarean section (CS) were aged 20–35 years, accounting for 228 respondents (75.2%). By gravidity, the largest proportion was multigravida, with 125 respondents (41.4%), while by parity, the majority were multipara, totaling 154 respondents (50.8%). In terms of education, most mothers had completed senior high school, with 202 respondents (66.7%). Regarding occupation, the largest proportion were farmers (119 respondents, 39.3%), followed by unemployed mothers (92 respondents, 30.4%). The Chi-square goodness-of-fit test was applied to determine whether the distribution of maternal characteristics among mothers undergoing Caesarean section (CS) differed significantly across categories. This test was not used to assess associations between independent variables and CS incidence, as all respondents in this study were mothers who delivered by CS.

**The results are presented in Table 2**

Variable	Chi-square value	Df	p-value
Age	260.455	2	<0.001
Education	293.554	3	<0.001
Occupation	51.970	3	<0.001
Gravidity	8.871	2	0.012
Parity	51.743	2	<0.001

Based on Table 2, the distribution of maternal age, education, occupation, gravidity, and parity among mothers undergoing Caesarean section was statistically significant. Age, education, occupation, and parity showed p-values of <0.001, while gravidity showed a p-value of 0.012. Since all p-values were below 0.05, these findings indicate that the characteristics of

mothers undergoing CS were not evenly distributed across categories. However, these results should not be interpreted as determinants or factors associated with the incidence of CS, because this study did not include mothers with non-CS delivery as a comparison group.

## DISCUSSIONS

This study found that among 303 mothers who underwent Caesarean section (CS) at Swadana Tarutung Regional General Hospital in 2024, most were aged 20–35 years, multigravida, multipara, had completed senior high school, and worked as farmers. The Chi-square goodness-of-fit test indicated that the distributions of age, gravidity, parity, education, and occupation differed significantly across categories. However, these results should be interpreted as variations in the distribution of characteristics among mothers undergoing CS, rather than as determinants of CS incidence, since this study did not include mothers with non-CS deliveries as a comparison group.

The majority of mothers undergoing Caesarean Section (CS) in this study were aged 20–35 years. This finding contrasts with several previous studies reporting that women aged >35 years have a higher likelihood of CS due to the increased risk of obstetric complications at older maternal ages. For example, Ananda et al., (2025) found that maternal age above 35 years was significantly associated with a higher risk of CS in Indonesia. In this study, however, the predominance of the 20–35-year age group reflects that this age range represents the most active reproductive period, contributing the largest number of deliveries at the hospital. Thus, the high proportion of CS among mothers aged 20–35 years should not be interpreted as indicating that this age group carries the greatest risk of CS, but rather that most CS cases occurred within this reproductive age group.

Based on gravidity and parity, most mothers in this study were multigravida and multipara. This finding aligns with previous studies indicating that parity and obstetric history are important factors in CS delivery. A systematic review by Devy et al. (2024) reported that parity, previous CS, pregnancy complications, hypertension, pre-eclampsia, premature rupture of membranes, and fetal distress are among the key determinants of CS decisions in Indonesia. The high proportion of multiparous mothers observed here may suggest that repeated pregnancies and prior delivery experiences play an important role in the clinical decision-making process for CS, particularly when accompanied by previous CS history or obstetric complications. However, since this study did not analyze specific medical indications, the influence of previous CS or pregnancy complications cannot be confirmed

from the present data.

Regarding education, most mothers undergoing Caesarean Section (CS) in this study had completed senior high school. This finding is partially consistent with national evidence showing that women with higher educational attainment tend to have greater access to health information, antenatal care, and health services, which may increase the likelihood of CS delivery. Yunitawati et al., (2024) reported that higher maternal education was a significant factor associated with CS in Indonesia. However, within the context of this hospital-based study, the predominance of senior high school education may simply reflect the general educational profile of mothers utilizing services at Swadana Tarutung Regional General Hospital. Therefore, education in this study should be interpreted as a descriptive characteristic of CS cases rather than a confirmed causal determinant.

In terms of occupation, the largest proportion of mothers undergoing Caesarean Section (CS) in this study were farmers. This finding contrasts with several previous studies that associated CS more strongly with formal employment, urban residence, and higher socioeconomic status. Devy et al. (2024); Pristya et al., (2018) reported that women living in urban areas or those with better access to antenatal care and health facilities were more likely to undergo CS. The predominance of farmers in the present study may be explained by the local context of North Tapanuli, where agricultural work is common among the population served by the hospital. Therefore, the high proportion of farmers among CS cases reflects the demographic and occupational structure of the hospital's catchment area rather than suggesting that farming itself increases the risk of CS.

Overall, the findings of this study provide updated local evidence on the characteristics of mothers undergoing Caesarean Section (CS) at Swadana Tarutung Regional General Hospital. The results indicate that CS cases were concentrated among mothers aged 20–35 years, multigravida, multiparous, those with senior high school education, and those working as farmers. These findings may be useful for hospital planning, maternal health monitoring, and further evaluation of CS indications. Future studies should include both CS and non-CS deliveries and analyze medical indications such as previous CS, fetal distress, pre-eclampsia, premature rupture of membranes, placenta previa, and cephalopelvic disproportion to identify the actual determinants of CS incidence.

### **Maternal age among mothers undergoing Caesarean section**

The results of this study showed that most mothers undergoing Caesarean section (CS) were aged 20–35 years, accounting for 228 respondents (75.2%). The Chi-square goodness-of-fit test indicated that the distribution of maternal age among CS cases was statistically

significant ( $p < 0.001$ ), demonstrating that CS cases were not evenly distributed across age groups. However, this finding should not be interpreted as a relationship between maternal age and CS incidence, as the study only included mothers who delivered by CS and did not include a non-CS comparison group. The predominance of mothers aged 20–35 years may reflect the fact that this age range represents the most active reproductive period, resulting in a larger number of deliveries in this group. Biologically, ages of 20–35 years are generally considered the optimal reproductive period, as maternal physical and reproductive conditions are more favorable for pregnancy and childbirth. In contrast, pregnancy at younger ages may be associated with biological and psychosocial immaturity, while advanced maternal age may be associated with reduced reproductive function and a higher risk of obstetric complications, such as hypertension, pre-eclampsia, placenta previa, fetal distress, and labor complications. These conditions may increase the likelihood of obstetric intervention, including CS, when clinically indicated (Komarijah et al., 2023).

This finding differs somewhat from previous studies reporting likelihood of CS among mothers at high-risk reproductive ages, particularly those aged  $<20$  years or  $>35$  years. In this study, the largest proportion of CS cases occurred among mothers aged 20–35 years. This difference may be explained by the hospital-based nature of the data, where the majority of mothers giving birth were in the normal reproductive age group. Therefore, the high number of CS cases in this age group does not necessarily indicate that ages 20–35 years increase the risk of CS, but rather that most CS deliveries in this hospital occurred among mothers in the most common reproductive age range.

In contrast, Komarijah et al., (2023) reported that maternal age was not significantly associated with CS delivery. This suggests that maternal age alone may not be the main factor determining the mode of delivery. Clinical conditions such as previous CS, fetal distress, cephalopelvic disproportion, pre-eclampsia, premature rupture of membranes, placenta previa, and other obstetric complications may play a more direct role in the decision to perform CS. Therefore, maternal age should be interpreted together with clinical indications and obstetric history rather than as an independent explanation for CS delivery.

### **Gravidity among mothers undergoing Caesarean section**

The results of this study showed that most mothers undergoing Caesarean section were multigravida, accounting for 125 respondents (41.4%), followed by grand multigravida with 93 respondents (30.7%) and primigravida with 85 respondents (28.0%). The Chi-square goodness-of-fit test showed that the distribution of gravidity among CS cases was statistically significant ( $p = 0.012$ ), demonstrating that CS cases were not evenly distributed across

gravidity groups. However, this result should not be interpreted as a relationship between gravidity and CS incidence, as the study did not include mothers with non-CS deliveries as a comparison group.

The predominance of multigravida mothers may reflect the reproductive profile of women utilizing obstetric services at Swadana Tarutung Regional General Hospital. Clinically, gravidity can influence obstetric risk through different mechanisms. Primigravida mothers may face a higher likelihood of labor complications such as prolonged labor, dystocia, or fetal distress due to lack of prior childbirth experience, which can necessitate emergency CS. Conversely, grand multigravida mothers may be at increased risk of complications such as placenta previa, placental abruption, uterine atony, malpresentation, or adverse obstetric history, which may also require CS when clinically indicated.

This finding is consistent with previous studies highlighting gravidity and parity as obstetric factors in CS decision-making. Devy et al., (2024) reported that parity, pregnancy complications, pre-eclampsia, premature rupture of membranes, fetal distress, and previous CS history were among the key determinants of CS decisions in Indonesia. Similarly, studies on labor complications have shown that prolonged labor or labor dystocia is a common indication for unplanned CS. However, unlike studies that directly analyze determinants of CS, the present study only describes mothers who underwent CS. Therefore, the significant result here should be understood as a significant difference in the distribution of gravidity among CS cases, not as evidence that gravidity independently increases the risk of CS.

### **Parity among mothers undergoing Caesarean section**

The results of this study showed that most mothers undergoing Caesarean section were multiparous, accounting for 154 respondents (50.8%), followed by primiparous mothers with 97 respondents (32.0%) and grand multiparous mothers with 52 respondents (17.2%). The Chi-square goodness-of-fit test indicated that the distribution of parity among CS cases was statistically significant ( $p < 0.001$ ), demonstrating that CS cases were not evenly distributed across parity groups. However, this finding should not be interpreted as a relationship between parity and CS incidence, as the study did not include mothers with non-CS deliveries as a comparison group.

The predominance of multiparous mothers may reflect the obstetric profile of women receiving delivery services at Swadana Tarutung Regional General Hospital. Parity is an important obstetric characteristic because previous birth history may influence clinical decision-making during labor. In multiparous or grand multiparous mothers, CS may be considered when there is a history of previous CS, placenta previa, malpresentation, uterine

atony risk, placental abruption, fetal distress, or other obstetric complications. Previous studies have reported that parity, pregnancy complications, history of previous CS, premature rupture of membranes, fetal distress, hypertension, and pre-eclampsia are important factors considered in CS decisions. Therefore, the high proportion of multiparous mothers in this study may be explained by the accumulation of obstetric histories and clinical indications with repeated pregnancies and deliveries.

This finding is in line with the systematic review by Devy et al. (2024), which reported that parity and obstetric complications are among the determinants considered in CS decision-making in Indonesia. However, not all studies show the same pattern. Lopian et al., (2023), found no significant association between parity and caesarean delivery, while Dasa et al., (2022), reported that grand multiparity was not significantly associated with CS in their study population. These contrasting findings suggest that parity alone may not be sufficient to explain CS delivery. Instead, parity should be interpreted together with other clinical factors, such as previous CS, fetal distress, pre-eclampsia, placenta previa, cephalopelvic disproportion, and prolonged labor. Thus, the results of the present study add local hospital-based evidence that most CS cases occurred among multiparous mothers, although further analytic studies involving both CS and non-CS deliveries are needed to determine whether parity is truly associated with CS incidence.

### **Maternal education among mothers undergoing Caesarean section**

The results of this study showed that most mothers undergoing Caesarean section had completed senior high school, namely 202 respondents (66.7%), followed by college education with 52 respondents (17.2%), junior high school with 40 respondents (13.1%), and elementary school with 9 respondents (3.0%). The Chi-square goodness-of-fit test showed that the distribution of maternal education among CS cases was statistically significant ( $p < 0.001$ ). This indicates that CS cases were not evenly distributed across educational categories. However, this finding should not be interpreted as a relationship between maternal education and the incidence of CS because this study only included mothers who underwent CS and did not include mothers with non-CS delivery as a comparison group.

The predominance of mothers with senior high school education may reflect the educational profile of women receiving delivery services at Swadana Tarutung Regional General Hospital. Education can influence maternal health behavior by improving the ability to understand health information, recognize pregnancy warning signs, attend antenatal care, and follow medical advice during delivery. Mothers with higher educational attainment may also have better access to information and greater confidence in communicating with health

workers, which can affect decision-making regarding the mode of delivery when obstetric complications occur.

This finding is in line with previous studies showing that maternal education is associated with the utilization of maternal health services and the choice of delivery method. Umam et al., (2022), reported that education may influence mothers' ability to access information and recognize complications during pregnancy and childbirth. Similarly Yanti et al., (2022), found that mothers with higher education were more likely to utilize obstetrician services and choose Caesarean section, including in some cases based on preference, comfort, and trust in the physician. These findings suggest that education may shape both health service utilization and maternal decision-making regarding childbirth.

Nevertheless, education should not be interpreted as the sole explanation for CS delivery. In this study, CS cases may have occurred due to clinical indications such as premature rupture of membranes, previous CS history, fetal distress, malpresentation, or other obstetric complications. Therefore, the high proportion of mothers with senior high school education among CS cases is likely related not only to educational background, but also to the interaction between maternal knowledge, access to health services, antenatal care utilization, physician recommendation, and clinical indications. Further studies involving both CS and non-CS deliveries are needed to determine whether maternal education is independently associated with the incidence of CS.

### **Maternal occupation among mothers undergoing Caesarean section**

The results of this study showed that the largest proportion of mothers undergoing Caesarean section worked as farmers, namely 119 respondents (39.3%), followed by unemployed mothers with 92 respondents (30.4%), employees with 50 respondents (16.5%), and self-employed mothers with 42 respondents (13.9%). The Chi-square goodness-of-fit test showed that the distribution of maternal occupation among CS cases was statistically significant ( $p < 0.001$ ). This indicates that CS cases were not evenly distributed across occupational categories. However, this finding should not be interpreted as a relationship between maternal occupation and the incidence of CS because this study did not include mothers with non-CS delivery as a comparison group.

The predominance of farmers in this study may reflect the occupational structure of the population served by Swadana Tarutung Regional General Hospital, especially considering that North Tapanuli is an area where agricultural work is common among the community. Therefore, the high proportion of farmers among CS cases does not necessarily mean that farming directly increases the risk of CS. Instead, occupation in this study should be understood

as a maternal sociodemographic characteristic that may be related to broader factors, such as socioeconomic condition, access to antenatal care, distance to health facilities, referral patterns, and the timing of seeking obstetric services.

Previous studies have shown different patterns regarding the role of maternal occupation in CS delivery. Some studies reported that working mothers or mothers with better socioeconomic conditions may have greater access to health services, more frequent antenatal care, and stronger decision-making capacity in choosing delivery services. Yanti et al. (2022) reported that working mothers may be influenced by their social and professional environment in choosing a delivery method, including CS. In contrast, the present study found that most CS cases occurred among farmers. This difference may be explained by the local hospital context and the characteristics of the hospital's catchment area, rather than by occupation alone.

Therefore, maternal occupation should not be considered an independent determinant of CS based on the present study. The decision to perform CS is more directly influenced by clinical indications, such as previous CS, premature rupture of membranes, fetal distress, malpresentation, pre-eclampsia, placenta previa, cephalopelvic disproportion, or other obstetric complications. Since this study only analyzed maternal characteristics among CS cases, further analytic studies involving both CS and non-CS deliveries are needed to determine whether occupation is significantly associated with CS incidence after controlling for clinical and obstetric factors.

## CONCLUSIONS

Most mothers who underwent Caesarean section at Swadana Tarutung Regional General Hospital in 2024 were aged 20–35 years, multigravida, multipara, had completed senior high school education, and worked as farmers. The distribution of maternal age, gravidity, parity, education, and occupation among Caesarean section cases showed statistically significant differences. However, these findings describe the characteristics of mothers undergoing Caesarean section and should not be interpreted as determinants of Caesarean section incidence because this study did not include non-Caesarean deliveries as a comparison group.

Midwives and obstetricians are encouraged to strengthen antenatal and delivery care by considering maternal characteristics such as age, gravidity, parity, education, and occupation in identifying potential obstetric risks. Hospitals should also improve medical record documentation, especially regarding clinical indications for Caesarean section. Future studies are recommended to include both Caesarean and non-Caesarean deliveries and analyze clinical

factors such as previous Caesarean section, premature rupture of membranes, fetal distress, pre-eclampsia, placenta previa, and cephalopelvic disproportion to determine the actual factors associated with Caesarean section delivery.

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