

## Relationship between Incidence of Placenta Previa and Characteristics Of Pregnant Women in Lhokseumawe

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### Abstrak

Kelainan letak plasenta yang berada di bagian bawah rahim, yang dapat menutupi sebagian atau seluruh pembukaan jalan lahir, dikenal dengan istilah plasenta previa. Hal ini dapat menyebabkan perdarahan kritis pada ibu hamil di Indonesia. Terdapat beberapa faktor risiko seperti usia, paritas, riwayat operasi seksio sesarea, riwayat pendidikan, riwayat pekerjaan, tempat tinggal, dan latar belakang budaya. Tujuan dari penelitian ini adalah untuk mengetahui hubungan kejadian plasenta previa dengan karakteristik ibu hamil di Kota Lhokseumawe. Penelitian ini dilakukan di RSIA Abby Kota Lhokseumawe. Metode penelitian ini bersifat observasional analitik dengan desain penelitian cross sectional. Teknik pengambilan sampel penelitian ini menggunakan teknik total sampling dengan jumlah sampel sebanyak 41 sampel. Seluruh proses pengolahan dan analisis informasi menggunakan SPSS.26. Hasil penelitian ini didapatkan karakteristik pasien sebagai berikut: usia 17-35 tahun (53,7%), usia >35 tahun (46,3%), nulipara (19,5%), primipara (29,3%), sekundipara (24,4%), multipara (26,8%), pernah menjalani operasi seksio sesarea (39%), dan tidak pernah menjalani operasi seksio sesarea (61%). Hasil uji statistik didapatkan hubungan antara usia dengan paritas ( $p = 0,001$ ), hubungan antara usia dengan riwayat operasi seksio sesarea ( $p = 0,279$ ), dan hubungan antara paritas dengan riwayat operasi seksio sesarea ( $p = 0,018$ ). Kesimpulan dari penelitian ini adalah mayoritas ibu hamil yang terdiagnosis plasenta previa di Kota Lhokseumawe adalah ibu hamil dengan faktor risiko rendah.

*Kata kunci: plasenta previa; karakteristik; ibu hamil; faktor risiko; rumah sakit*

### Abstract

Abnormalities in the location of the placenta, which is in the lower part of the uterus, which can cover part or all of the opening of the birth canal, are known as placenta previa. This can cause critical bleeding in pregnant women in Indonesia. There are several risk factors such as age, parity, cesarean section surgery history, education history, employment history, residence, and cultural background. The purpose of this study was to determine the relationship between the incidence of placenta previa with the characteristics of pregnant women in the city of Lhokseumawe. This research was conducted at RSIA Abby Lhokseumawe city. This research method is observational analytic with a cross-sectional research design. The sampling technique of this study used the total sampling technique with a total sample of 41 samples. The entire process of information processing and analysis uses SPSS.26. The results of this study obtained the following patient characteristics: age 17-35 years (53.7%), age >35 years (46.3%), nulipara (19.5%), primipara (29.3%), sekundipara (24.4%), multipara (26.8%), had experienced cesaria section surgery (39%), and had never had cesaria section surgery (61%). The results of statistical tests found a relationship between age and parity ( $p = 0.001$ ), number relationship between age and cesaria section surgery history ( $p = 0.279$ ), and a relationship was found between parity and cesaria section surgery history ( $p = 0.018$ ). The conclusion of this study is that the majority of pregnant women diagnosed with placenta previa in the city of Lhokseumawe are pregnant women with low risk factors.

*Keywords: plasenta previa, pregnant women; characteristics, risk factors; hospital*

### Introduction

Placenta previa is defined as a condition that shows the placenta directly covering the cervix or the placenta attached close to the cervical os (1). Placenta previa is characterized by abnormal implantation of placental tissue over the endocervical os. World Health

Organization reports that in 2020 around 287,000 pregnant women died due to complications during and after pregnancy and childbirth. Bleeding after childbirth, one of the main causes of 75% of maternal deaths, is placenta previa. (2). The worldwide incidence of placenta previa is estimated at 1 in every 200 pregnancies (3). In Indonesia, placenta previa occurs in 2.4 to 3.65 percent of all pregnancies, with a frequency of 0.3 to 0.6% of all deliveries. In developed countries, the prevalence of placenta previa is 0.26 to 2.00 percent of all pregnancies. (4). Placenta previa itself accounts for 3% of the total maternal deaths due to bleeding in Indonesia (5).

Placenta previa itself is not a rare problem in Aceh province. Regional General Hospital dr. Zainoel Abidin (RSUDZA) Banda Aceh in 2019 noted that out of 330 patients who underwent cesarean section operations, there were 21 patients (6.4%) who experienced placenta previa (6). This indicates an increase in the number of patients experiencing placenta previa when compared to 2011 where there were 4.35% of all cesarean section patients at the Regional General Hospital, dr. Zainoel Abidin (RSUDZA) Banda Aceh for the period February 2011 to March 2011 (7). The incidence is reported to increase by 2% at 20 weeks of gestation and decreases to approximately 4-6 per 1000 births between 34 and 39 weeks of gestation and the risk of recurrence in subsequent pregnancies is reported to be 4-8% (8).

Maternal age during pregnancy, maternal parity, and history of cesarean section are several risk factors (characteristics of pregnant women) that increase the possibility of developing placenta previa. If the mother is pregnant and gives birth before the age of 17 years or at an earlier age, and if the mother is over 35 years old, incomplete development of the endometrium causes placenta previa. Because fundal fertility will decrease after a previous pregnancy, the placenta will seek a more fertile location to implant during pregnancy due to increased parity. In addition, endometrial abnormalities in the surgical wound caused by cesarean section in a previous birth increase the likelihood of placenta previa threefold compared with vaginal birth (9–11).

## **Methods**

This type of research is observational analytic using a cross sectional approach. Bener Meriah Regency. This research was conducted at RSIA ABBY, Lhokseumawe city. The research took place in June-September 2023. Total sampling was the technique used. Information of analysis was carried out using univariate and bivariate analysis using the chi square test.

**Result**

Of the 1,698 pregnant women world health organization underwent cesarean section surgery, the number of pregnant women diagnosed with placenta previa in this study was 41 pregnant women.

**a. Age Characteristics of Pregnant Women**

**Table 1. Description of the Age of Pregnant Women**

Age of Pregnant Women	Frequency (n)	Percentage (%)
20-35 years	22	53,7
> 35 years	19	46,3
Total	41	100

Table 1 shows that the most common age of pregnant women is 20-35 years old, as many as 22 people (53.7%).

**b. Parity Characteristics of Pregnant Women**

**Table 2. Description of Parity of Pregnant Women**

Parity	Frequency (n)	Percentage (%)
Nuliparous	8	24,2
Primipara	12	29,3
Sekundipara	10	24,4
Multiparous	11	26,8
Total	41	100

Table 2 shows that the highest number of pregnant women is primipara, 12 people (29.3%).

**c. Characteristics of Caesarean Section Operation History of Pregnant Women**

**Table 3. Characteristics of Pregnant Women's History of Sectio Caesarea Operations**

History of Cesarean Section Operation	Frequency (%)	Percentage (%)
Once	16	39.0
Never	25	61.0
Total	41	100

Table 3 shows the history of the most caesarean section operations, namely never, as many as 25 people (61.0%).

**d. The relationship between age and parity of pregnant women**

**Table 4. Relationship between Age and Parity**

Usia	Paritas									P-Value
	Nullipara		Primipara		Sekundipara		Multipara		Total	
	n	%	n	%	n	%	n	%	%	
20-35 years	7	17	10	24	4	9	1	2	53.6	0,001
> 35 years	1	2	2	4	6	14	10	24	46,4	

Based on table 4, it shows that the parity of respondents aged 20-35 years is the highest, namely 10 people who are primiparas and those aged >35 years who are the most numerous, namely multiparas, who are 10 people. Based on the Chi Square test between age and parity in table 4.4, it was found that the Pearson Chi Square P-value was 0,001, meaning it was smaller than the significance level of 5% (0,05).

**Discussion**

**The relationship between age and the incidence of placenta previa**

Based on the results of this study, it can be seen that the majority of pregnant women diagnosed with placenta previa in Lhokseumawe City have an age range of 20-35 years, with an average age of around 34 years. These findings indicate that pregnant women who experience placenta previa tend to be in the low risk category. Although there is a theory that states that gestational age under 20 years and over 35 years is a risk factor for placenta previa, the results of this study show that in the 20-35 year age range there are also significant cases of placenta previa. However, it is important to remember that the age factor, whether under 20 years or over 35 years, can still be a consideration in the risk of placenta previa. For example, pregnant women under 20 years of age may be more susceptible due to incomplete endometrial formation, while pregnant women over 35 years of age may be at risk due to decreased endometrial development (12).

Placenta previa appears when the mother is more than 35 years old. This is caused by aging and decreased flexibility of the uterine blood vessels. Ultimately, the cardiovascular vessels lose their flexibility to control the pressure of passing blood, so the placenta seeks a more fertile and suitable attachment for implantation (13).

The results of this study are not consistent with research conducted by Nengah R. et al. in 2018 at Sanglah Hospital Denpasar, Bali (14). Confounding factors, different types of

research designs in previous studies which cause differences in results from each other, and different population variables in each location can be the cause of differences in the results of this study.

### **The relationship between parity and the incidence of placenta previa**

The results of this study revealed that the majority of pregnant women diagnosed with placenta previa in Lhokseumawe City had low risk parity, such as secundipara, primipara and nullipara. Although in theory, placenta previa tends to be more risky in multiparous and grandemultiparous pregnant women, the results of this study show that the potential for placenta previa is not limited to this group. Pregnant women with low risk parity, as mentioned previously, can also experience placenta previa. Therefore, understanding and monitoring the potential risk of placenta previa needs to be considered in all parity groups, including those at low risk, such as nulliparas, primiparas and secundiparas. (15).

The results of this research are different from research conducted by Styan Wahyu in 2018 at the Panembahan Senopati Bantul Regional General Hospital. In this study, the results of multivariate analysis showed that there was an influence between parity and the incidence of placenta previa ( $p$  value = 0.002) (16). The differences in the results of this study cannot be separated from the existence of other factors or confounding variables that influence the results of this study. The existence of other factors that are outside this research, such as nutrition of pregnant women, smoking habits, history of curettage surgery or previous history of placenta previa also greatly influence the occurrence of placenta previa.

### **The relationship between a history of cesarean section surgery and the incidence of placenta previa**

The results of this study show that the majority of pregnant women diagnosed with placenta previa in Lhokseumawe City had never previously undergone cesarean section surgery. Compared with placenta previa patients who were able to undergo cesarean section, patients who were unable to undergo such surgery had a significantly increased incidence of unintentional organ injury, blood transfusion of 4 units or more, fresh frozen plasma transfusion, uterine artery ligation, and hysterectomy. peripartum. This shows that the possibility of placenta previa occurring in pregnant women who have previously undergone cesarean section surgery is higher compared to those who have never undergone this operation (17).

The results of this research are in accordance with research conducted by Wan Anita (2017) at the Arifin Achmad Pekanbaru Regional General Hospital. This research, in a multivariate analysis, shows that there is no relationship between a history of cesarean section surgery and the incidence of placenta previa (P value = 0.052), which shows that a history of cesarean section surgery which is the cause of placenta previa in pregnant women is also related to other factors such as parity, history of curettage, and previous history of placenta previa (18).

### **The relationship between age and parity of pregnant women diagnosed with placenta previa**

The results of bivariate analysis showed that there was a relationship between age and parity in pregnant women diagnosed with placenta previa, with a P value of 0.001. In this study, it appears that pregnant women over 35 years of age tend to have secundiparous parity as many as 6 people and multiparas as many as 10 people. On the other hand, among pregnant women aged 20-35 years, the majority are nulliparous, 7 people and 10 primiparas. These results show that the higher the age of the pregnant woman, the higher the parity, which indicates that older pregnant women may have had more than one birth experience, compared to younger pregnant women.

However, the mother's age is not always directly proportional to the mother's high parity. There are other factors that influence this, one of which is education. Maternal education also influences a mother's parity. Mothers with lower levels of education tend to have fewer children than mothers with higher levels of education. This is in line with the theory that women's higher education levels are correlated with lower fertility levels. This is because women with higher education have more mature attitudes and greater opportunities for economic activity, which in turn reduces the number of children born. (19).

### **The relationship between parity and cesarean section surgery**

Based on the results of bivariate analysis, it was found that there was a significant relationship between parity (number of births) and history of cesarean section in pregnant women suffering from placenta previa in Lhokseumawe City, with a P value of 0.018. These results indicate that mothers with higher parity have a greater likelihood of undergoing cesarean section. This can be caused by increased weakness in the uterus during pregnancy and childbirth, especially in mothers who have given birth several times (multipara) or many

times (grandemultipara). Therefore, understanding the relationship between parity and the decision to perform caesarean section could be important in the management of labor in mothers with placenta previa in this city. (20). The results of this research are in accordance with research conducted by Fatmawati in 2020 at the Bahagia Makassar General Hospital. In this study, a relationship was found between parity and cesarean section surgery ( $P = 0.031$ ).

### **The relationship between cesarean section surgery and age**

The results of bivariate analysis to examine the relationship between caesarean section and age in pregnant women suffering from placenta previa in Lhokseumawe City show that the Pearson Chi Square P-value is 0.279, which means there is no significant relationship between age and history of caesarean section in pregnant women who suffered from placenta previa in that city. It was found that mothers whose age is considered not at risk (20-35 years) are considered the ideal age range for planning a healthy and safe pregnancy and birth. However, it is not uncommon for caesarean sections to occur in mothers of this age, which may be caused by complications during the birth process which can pose a risk of illness or even death for the mother and baby (21).

The research results show differences with research conducted by Fitri in 2017 at Rantauprapat Regional Hospital. The researcher himself believes that these different results are not in line with theory, perhaps caused by external factors not included in the scope of the research, which influenced the results of this study. One factor that may play a significant role is the interaction with other complications that arise during the pregnancy process. For example, some pregnant women may experience complications that make vaginal delivery impossible. Therefore, it is important to identify these additional factors and understand how they may influence study results, so that future research can deepen the understanding of the relationship between placenta previa and maternal characteristics.

### **Conclusions and recommendations**

The conclusion of this study is that the incidence of placenta previa in pregnant women is 2.41% of all pregnancies, there is no relationship between the incidence of placenta previa in pregnant women and age, parity, and history of cesarean section surgery. Age has a relationship with the parity of pregnant women diagnosed with placenta previa, age has no relationship with a history of cesarean section surgery in pregnant women diagnosed with placenta previa, parity has a relationship with a history of cesarean section surgery in



pregnant women diagnosed with placenta previa in Lhokseumawe city . It is hoped that this research can be used as a reference, support, guideline and comparison. Apart from that, it is hoped that this research will add additional variables that can be used as indicators in further research.

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