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RESEARCH ARTICLE
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STUDYING THE IMPACT OF PLACENTA PREVIA (PP) ON MOTHERS AND NEWBORNS

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ABSTRACT

Background: Placenta previa is a condition that has been associated with pregnancy where the placenta may cover the cervix and has been identified as the improper placement of placenta in the lower region of the uterus and may cover the cervix of expecting mothers. Globally, it affects approximately 3-5 of every 1000 pregnancies. In Asia, approximately 30% of maternal deaths are caused by severe obstetric bleeding associated with placenta previa, which is becoming more common as the number of cesarean births increases. Several risk factors for placenta previa have been clearly recognized through research.

Objectives: The aim of this study is to assess the impact of placenta previa (PP) on infant and maternal health, as well as to identify and analyze the risk factors involved.

Study design: cross-sectional study

Place and Duration: This study was conducted in Pir Abdul Qadir Shah Jillani Institute of Medical Science Gambat Khairpur Mirs from January 2023 to January 2024

Methodology: The study included pregnant women who had been hospitalized to the obstetrics department for labor and had a confirmed diagnosis of placenta previa, including partial or total placenta previa as assessed by clinical assessment and ultrasound results. During face-to-face interviews, pregnant individuals were asked to complete structured questionnaires. These surveys asked about demographic information, medical history, prenatal therapy, and self-reported experiences with placenta previa. Furthermore, standardized data collecting forms were utilized to conduct comprehensive evaluations of participants' medical records, assuring the collection of

clinical data such as placenta previa diagnosis, type, location, maternal and neonatal outcomes, and pertinent risk factors.
Results: There were a total of 80 participants of this research. The average age was 32.1 years. The mean gestational age was 34.8 weeks. Majority of the participants had an emergency C-section. Overall 58 patients had previous history of placenta previa. Our study identified that type IV placenta previa was most dominant in our test group, while 32.0% of the women were classified as type II and 26.7% as type III. In this study, neonatal outcomes revealed that 53.7% of infants were delivered prematurely, 53.7% had low birth weights, and 4% required NICU care
Conclusion: This study demonstrated the importance of placenta previa on both maternal and newborn health, with Type IV being the most common kind identified.

Keywords: placenta previa, pregnancy, newborn, outcome

INTRODUCTION

Placenta previa is a condition that has been associated with pregnancy where the placenta may cover the cervix and has been identified as the improper placement of placenta in the lower region of the uterus and may cover the cervix of expecting mothers [1]. Globally, it affects approximately 3-5 of every 1000 pregnancies [2]. In Asia, approximately 30% of maternal deaths are caused by severe obstetric bleeding associated with placenta previa, which is becoming more common as the number of cesarean births increases [3]. In placenta previa, the placenta partially or completely blocks the cervix's internal opening [4, 5, 6]. Placenta previa can be classified into four types: low-lying, marginal, partial, and complete [7, 8, 9].

The most major risk factor for placenta previa is a previous cesarean section (LSCS), which occurs owing to poor decidualization around the uterine scar [10]. This illness, which is frequently discovered early by ultrasound or painless vaginal bleeding in the second or third trimester, needs cesarean birth and raises the risk of complications such as postpartum hemorrhage, hysterectomy, and the requirement for blood transfusions. Women with complete placenta previa are more likely to experience serious problems such as placenta accreta, hemorrhagic shock, premature labor, and low-birth-weight children. Local studies show frequent bleeding, anemia, and postpartum hemorrhage, as well as a high rate of blood transfusions and hysterectomies.

Placenta previa is a serious concern because of the dangers to maternal and fetal health. Despite this, the literature contains contradictory findings, and there is a notable lack of local research. However, a recent study was undertaken to determine the impact of placenta previa on neonatal and maternal health, as well as to identify and analyze the related risk factors [11].

The aim of current study is to assess the impact of placenta previa (PP) on infant and maternal health, as well as to identify and analyze the risk factors involved

METHODOLOGY

The study included pregnant women who had been hospitalized to the obstetrics department for labor and had a confirmed diagnosis of placenta previa, including partial or total placenta previa as assessed by clinical assessment and ultrasound results. All of the people who were a part of this study were 18 years and above.

Exclusion criteria: Individuals with inadequate medical records or insufficient information to validate the diagnosis of placenta previa were eliminated from the study, as were those who refused to participate.

During face-to-face interviews, pregnant people were asked to complete structured questionnaires. These surveys asked about demographic information, medical history, prenatal therapy, and self-reported experiences with placenta previa. Furthermore, standardized data collecting forms were utilized to conduct comprehensive evaluations of participants' medical records, assuring the collection of clinical data such as placenta previa diagnosis, type, location, maternal and neonatal outcomes, and pertinent risk factors. All participants provided informed consent before conducting

interviews or acquiring medical information. Participants were told of the study's goal, the confidentiality of their information, and the ability to withdraw at any time. All data were entered and analyzed with SPSS version 26.

RESULTS

There were a total of 80 participants of this research. The average age was 32.1 years. The mean gestational age was 34.8 weeks. Table number 1 is an identifier for the demographic and clinical data of the test group chosen for this study.

Table No. 1: demographic and clinical data of the test group chosen for this study.

Features	**n**	**%**
Booking status		
● **Booked**	66	82.5
● **Unbooked**	14	17.5
Parity		
● **Parity 1-3**	46	57.5
● **Parity ≥4**	31	38.7
● **Nulliparous**	3	3.8
Mode of delivery		
● **NVD**	26	32.5
● **Emergency C-section**	53	66.2
● **Elective C-section**	1	1
Previous C-section		
● **Yes**	64	80
● **No**	16	20
Previous history of placenta previa		
● **Yes**	58	72.5
● **No**	22	27.5
Smoking History		
● **Yes**	24	30
● **No**	56	70

Table number 2 shows the consequences of maternal health.

Table No. 2: consequences of maternal health.

Maternal Outcomes	**n**	**%**
Blood transfusion		
● **Yes**	64	80
● **No**	16	20
Referred to ICU		
● **Yes**	6	7.5
● **No**	74	92.5
Renal failure		
● **Yes**	6	7.5
● **No**	74	92.5
Major hemorrhage of mothers		
● **Yes**	14	17.5
● **No**	66	82.5
Hysterectomy		
● **Yes**	8	10
● **No**	72	90
PPH		
● **Yes**	53	66.2
● **No**	27	33.8

Table number 3 shows the neonatal outcomes.

Table No. 3: neonatal outcomes

Neonatal Outcomes	**n**	**%**
Low birth weight		
● **Yes**	43	53.7
● **No**	37	46.3
Referred to NICU		
● **Yes**	3	3.8

• **No**	77	96.2
Preterm birth		
• **Yes**	43	53.7
• **No**	37	46.3

DISCUSSION

Studies have defined the inappropriate placement of the placenta as placenta previa, which is caries a grave risk to the health of newborns and their mothers [12, 13, 14]. This study aims to investigate the problems and risk factors connected with placenta previa in order to provide useful information to healthcare providers. The individuals' average age was around 32.1 years, with an average gestational age of 34.8 weeks. A total of 82.5% of the mothers were scheduled, whereas 17.5% were not. A high proportion (66.2%) underwent emergency cesarean sections, with 1% elective cesarean sections and 32.5% normal vaginal births (NVDs).

Our study identified that type IV placenta previa was most dominant in our test group, while 32.0% of the women were classified as type II and 26.7% as type III. In comparison, Afzal S et al. found that type I accounts for 16.1% of cases, type II for 22.6%, type III for 12.9%, and type IV for 16.1% [14]. Furthermore, 12.9% of our patients were diagnosed with placenta increta using ultrasonography. Patokar G et al. discovered that type IV was the most common kind of placenta previa, with type I (low lying placenta) accounting for 5.3% of cases and the other 94.6% (types II, III, and IV) [15].

A study included 75 patients with placenta previa, the most common maternal result was serious hemorrhage, which required blood transfusions for 80% of mothers [16]. In 10.7% of patients, a hysterectomy was done, and 8% developed renal failure. Postpartum hemorrhage occurred in 33.3% of patients, with 8% requiring ICU hospitalization, emphasizing the substantial maternal health risks associated with placenta previa. Similar findings from other research highlight the high incidence of blood transfusions, surgical treatments such as hysterectomy, and serious consequences such as hypovolemic shock and death [17].

In this study, neonatal outcomes revealed that 53.7% of infants were delivered prematurely, 53.7% had low birth weights, and 4% required NICU care. In comparison, Salim NA et al. observed 25% NICU admissions for respiratory distress syndrome and preterm, with a 5.8% fatality rate [18]. Afzal S et al. discovered a reduced rate of low birth weight at 16%, but Maqsud M et al. reported NICU hospitalization for 25.0% of newborns, 7.5% intrauterine deaths, and 3.5% stillbirths [19]. This data demonstrates the impact that placenta previa has on mothers and the health of their babies, emphasizing the importance of specialized care and management measures [20].

CONCLUSION

The results have emphasized on the importance of placenta previa which plays an important role in the health of mothers and their newborns. This study and resulting literature has identified Type IV as the most common type.

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This study was conducted without receiving financial support from any external source.

Conflict in the interest

The authors had no conflict related to the interest in the execution of this study.

Permission

Prior to initiating the study, approval from the ethical committee was obtained to ensure adherence to ethical standards and guidelines.

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