



Comparative Study of Fetomaternal Outcome in Abruption Placenta and Placenta Previa

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: Abruption placenta and placenta previa are obstetric complications associated with significant risks for both the fetus and the mother, potentially leading to severe hemorrhage, preterm birth, and maternal shock. Early detection and prompt medical intervention are crucial for optimizing outcomes and reducing maternal and fetal morbidity and mortality.

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Objective: The study aims to analyze the maternal and perinatal outcomes of APH cases due to placenta previa and abruptio placenta.

Methods: This prospective study conducted at Ad Din Akij Medical College, Boyra, Khulna July 1, 2021, to June 30, 2023, included 150 APH cases, with 109 meeting inclusion criteria for comparison between placenta previa and abruptio placenta. Data collection encompassed maternal demographics, obstetric history, severity of hemorrhage, and neonatal outcomes. Diagnosis was based on clinical evaluation and ultrasound. Statistical analysis was performed using MS Excel.

Results: In our Study, the distribution of causes of placental issues reveals that Placenta Previa accounts for the majority, comprising 71.55% of cases, while Abruptio Placentae represents 28.44% of instances. Placenta Previa predominantly affects individuals aged 26-30 years and over 35 years, with the highest occurrence among those with 2 pregnancies. Conversely, Abruptio Placentae shows a varied distribution across age groups, with the highest incidence among those aged 31-35 years and with gravidity of 1 pregnancy. Gestationally, the majority of Abruptio Placentae cases present between 31-33 weeks, while Placenta Previa cases peak at 34-36.6 weeks. Preterm births are prevalent in both conditions, with Placenta Previa leading in preterm deliveries. Placenta Previa is associated with a history of abortion and dilation and curettage (D&C), while hypertension is a significant risk factor for Abruptio Placentae. Maternal complications include anemia, postpartum hemorrhage (PPH), and shock, with Placenta Previa being associated with anemia and PPH, while Abruptio Placentae correlated with shock.

Conclusion: Placenta previa emerged as the primary cause of APH, affecting multiparous women, while abruptio placenta correlated with hypertension and primigravida. Both conditions posed significant risks of maternal and perinatal morbidity and mortality, highlighting the importance of prompt diagnosis and intervention.

Keywords: Antepartum hemorrhage; placenta previa; abruptio placenta; maternal outcomes; perinatal outcomes.

1. INTRODUCTION

Even in the most advanced obstetrics practices of today, antepartum hemorrhage (APH) remains a significant contributor to the morbidity and death rates of both mothers and their newborns in South Asian Countries like Bangladesh. With a prevalence of between 0.5 and 5%, it is one of the most common types of crises that might arise in the field of obstetrics [1]. The term "antepartum haemorrhage" refers to bleeding that occurs per vaginam after the fetus has reached the period of viability but before to the delivery of the infant. This indicates that bleeding from the vaginal tract occurs from 20 weeks of gestation till birth in rich nations, and after 28 weeks in countries with poor resource settings.

It is important to note that malpresentation, postpartum hemorrhage, shock, blood transfusion, peripartum hysterectomy, premature birth, and maternal and perinatal death are among problems that might arise in the event of antepartum hemorrhage. Antepartum haemorrhage (APH). It is possible to categorize the causes of antepartum bleeding into three primary categories: placenta previa, placental abruption, placental abruption and vasa previa [1].

It is estimated that around one percent of deliveries are complicated by placental abruption, which is defined as the early separation of the placenta [1]. Abruption is a key factor in the occurrence of vaginal bleeding during the second half of pregnancy, and it is also linked to a large amount of perinatal death and morbidity [2]. Placenta previa, a significant contributor to antepartum hemorrhage, is believed to be present in between 0.31% and 0.60% of pregnancies as the baby is being delivered. The condition known as placenta previa occurs when the placenta is implanted into the lower section of the uterus, either in its whole or in part [3].

Malpresentation, preterm labor, postpartum hemorrhage, shock, and retained placenta are some of the issues that might arise for mothers after an APH. In addition to this, it is associated with increased incidence of caesarean sections, peripartum hysterectomies, coagulation failure, and even mortality [1].

A preterm delivery, a low birth weight, an intrauterine death, congenital deformities, and birth asphyxia are all examples of difficulties that may occur during pregnancy. The condition

called abruptio placenta is caused by the separation of the placenta or by hypotension in the mother as a consequence of hemorrhage. A low birth weight is a common consequence of antepartum hemorrhage, which may occur in pregnant women. It is possible that this is the result of premature labor or recurrent minor occurrences of hemorrhage, which may lead to chronic placental insufficiency and fetal development retardation. The total perinatal death rate rises to between 4 and 8 percent after birth. [4]:

1.1 Objective

Primary/General Objective:

- To assess: The general objective of the study is to analyze and compare the maternal and perinatal outcomes of cases of antepartum hemorrhage (APH) attributed to placenta previa and abruptio placenta.

Secondary/Specific Objectives:

- To identify/investigate the demographic status of the study group
 - To detect causes of APH with and obstetric history and characteristics associated risk factors. with cases of placenta previa and abruptio placenta, including age distribution, gravidity, and gestational age at admission and delivery.
1. To assess the maternal and perinatal complications arising from placenta previa and abruptio placenta, including preterm birth rates, maternal complications such as anemia and postpartum hemorrhage, and neonatal outcomes such as fetal distress and stillbirths.

2. METHODS

This prospective study, conducted at the Department of Obstetrics and Gynaecology in Ad Din Akij Medical College, Boyra, spanned from July 1, 2021, to June 30, 2023. A total of 150 cases of APH were identified, of which 109 met the inclusion criteria for comparing placenta previa and abruptio placenta concerning maternal and perinatal outcomes. The study encompassed cases of antepartum haemorrhage occurring at or beyond 28 weeks of gestation, with either placenta previa or abruptio placenta, while excluding cases below 28 weeks of

gestation and patients with other bleeding disorders. Patients eligible for the study met specific criteria for inclusion, which encompassed individuals diagnosed with antepartum hemorrhage (APH) attributable to either placenta previa or abruptio placenta. These patients received prenatal care at the Tertiary Hospital during the study period. Furthermore, they provided informed consent to participate in the research. Finally, patients' diagnoses of placenta previa or abruptio placenta were confirmed through clinical evaluation and ultrasound examinations. Admitted cases with clinical findings and ultrasound-confirmed placenta previa or abruptio placenta underwent data collection, including maternal age, parity, gestational age, presentation, booking status, education, occupation, residential address, and severity of haemorrhage. Diagnosis was based on history, clinical evaluation, and ultrasound findings. Neonatal intensive care unit (NICU) facilities were available for preterm infants in the Pediatric unit of the institution. Data collected was organized into an MS Excel sheet for further analysis. The IRB meticulously reviewed the study protocol to ensure that the research procedures aligned with ethical standards, safeguarding the rights, dignity, and confidentiality of the participants. Prior to the commencement of data collection, informed consent was obtained from all participants, emphasizing their voluntary participation and right to withdraw from the study at any stage. Patient confidentiality was strictly maintained throughout the study process, with all collected data utilized solely for research purposes. Ethical approval underscores the commitment to conducting research in a responsible and morally upright manner, promoting the integrity and trustworthiness of the study outcomes.

The study adhered to rigorous ethical standards, ensuring that all participants provided informed consent before their inclusion. To safeguard patient privacy, confidentiality protocols were strictly enforced throughout the study duration. The study protocol underwent thorough review and approval by the Institutional Review Board (IRB) of the Tertiary Hospital. All collected data were used exclusively for research purposes and handled in accordance with established ethical guidelines.

Several limitations were acknowledged in the study. Firstly, the reliance on a single-center setting may restrict the broader applicability of

the findings to diverse populations. Additionally, data collection relied on the accuracy of medical records and reporting, which may inherently introduce limitations. The study's duration might not have captured all potential cases of APH, as it was confined to a specific timeframe. Moreover, external factors such as variations in patient management protocols or healthcare resources could have influenced outcomes and comparisons between groups.

3. RESULTS

Based on the data provided, in Fig. 1 the distribution of causes of placental issues reveals that Placenta Previa accounts for the majority, comprising 71.55% of cases, while Abruption Placentae represents 28.44% of instances.

In Table 1 the data provided delineates the distribution of cases of Abruption Placentae and Placenta Previa across different age groups and gravidity levels. It reveals that while Abruption

Placentae shows a varied distribution across age groups, with the highest incidence among those aged 31-35 years and with gravidity of 1 pregnancy, Placenta Previa predominantly affects individuals aged 26-30 years and over 35 years, with the highest occurrence among those with 2 pregnancies.

In Table 2, the data provided illustrates the distribution of cases of Abruption Placentae and Placenta Previa concerning gestational age at admission and delivery. For Abruption Placentae, the majority of cases present between 31-33 weeks gestation, while for Placenta Previa, the highest incidence occurs at 34-36.6 weeks gestation. Regarding gestational age at delivery, a significant proportion of cases for both conditions are preterm, with the highest prevalence observed between 34-36.6 weeks for Placenta Previa and 42 cases. Notably, all cases of term deliveries belong to the Placenta Previa group.

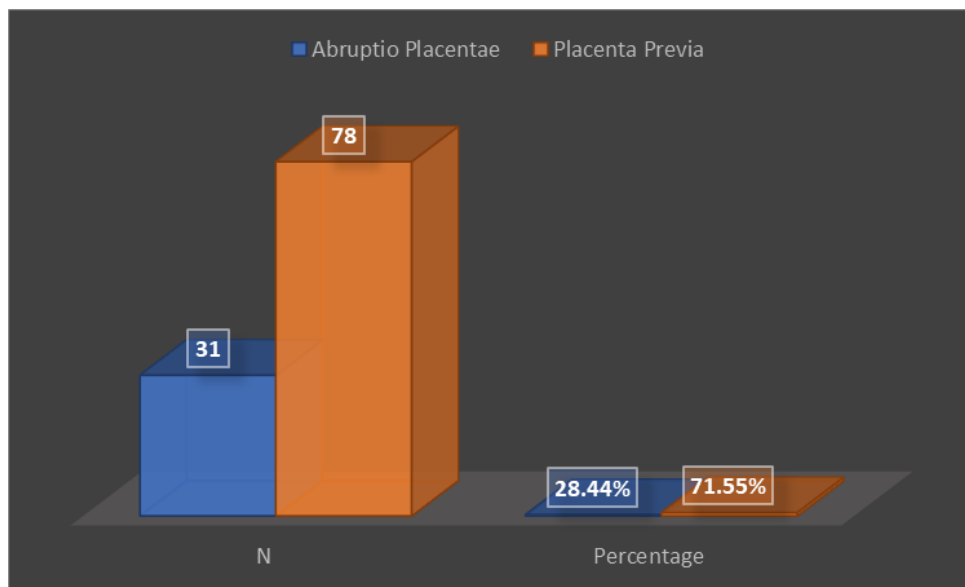


Fig. 1. Causes of APH

Table 1. Distribution of causes of APH with age, gravidity and booking status

Age (Years)	Age distribution (Years)	Abruption placentae	Placenta previa
<20	4	1(25.0%)	3(75.0%)
20-25	36	15(41.0%)	21(58.0%)
26-30	46	7(15.0%)	39(84.0%)
31-35	16	7(43.7%)	9(56.0%)
>35	7	1(14.0%)	6(85.0%)
Gravidity			
1	32	17(44.7%)	15(39.47%)
2	40	7(13.2%)	33(62.2%)
3	22	5(9.4%)	17(70.8%)
≥ 4	15	2(11.1%)	13(72.22%)

Table 2. Distribution of gestational age with cause of APH

Gest Age at admission	No. of Cases	28-30w	31-33w	34-36.6w	>=37w
Abruptio Placentae	31	6(19%)	11(35%)	7(29%)	7(16%)
Placenta Previa	78	11(14%)	23(33%)	14(42%)	30(10%)
Gest Age at delivery					
Preterm	72	12 (16%)	18 (25%)	42 (58.3%)	0 (0.0%)
Term	37	0 (0.0%)	0 (0.0%)	0 (0%)	37(34%)

Table 3. Distribution of causes of APH with obstetric history and associated risk factors

Previous history	No. of Patients	Abruptio placentae	Placenta previa
Abortion	19	4 (21%)	15 (79%)
Abortion and D&C	10	1 (10%)	9 (90%)
LSCS	13	3 (23.08%)	10 (76.92%)
Abortion, LSCS and D&C	2	1 (50.00%)	1 (50.00%)
Risk Factors			
Hypertension	21	15 (71%)	6 (19%)
Multiparity	7	1 (14.29%)	6 (85.7%)
Twins	4	3 (75%)	1 (25%)
Malpresentations	5	0 (0.00%)	5 (100%)
IUGR	4	2 (50%)	2 (50%)
Polyhydramnios	4	4 (100%)	0 (0.00%)
Hypothyroidism	5	3(75%)	2 (25%)
Elderly	3	0(0.00%)	3 (100%)
Triplet	1	1(100%)	0 (0.00%)

In Table 3 the data provides insights into the previous history and risk factors associated with Abruptio Placentae and Placenta Previa cases. Among patients with previous abortion, Placenta Previa is notably higher at 79% compared to 21% for Abruptio Placentae. Additionally, patients with a history of abortion and dilation and curettage (D&C) predominantly present with Placenta Previa at 90%, while those with a history of lower segment cesarean section (LSCS) show a higher incidence of Placenta Previa at 76.92%. Notably, hypertension appears to be a significant risk factor for Abruptio Placentae, accounting for 71% of cases, whereas multiparity and twins are associated more with Placenta Previa, constituting 85.7% and 75% of cases, respectively.

In Table 4 the data outlines the mode of delivery and postpartum hemorrhage (PPH) occurrences among patients with Abruptio Placentae and Placenta Previa. In cases of Abruptio Placentae, the majority of patients undergo Lower Segment Cesarean Section (LSCS), with 28% of them experiencing preterm delivery and 14% term delivery, while in Placenta Previa cases, LSCS is more prevalent, accounting for 72% of cases, with 41% preterm and 15% term deliveries. Vaginal deliveries occur in both groups, with 29% in Abruptio Placentae cases and 70% in Placenta Previa

cases. PPH is present in a significant portion of cases for both conditions, with 27% in Abruptio Placentae cases and 65% in Placenta Previa cases.

Table 5 presents fetal and maternal complications associated with Abruptio Placentae and Placenta Previa cases. In cases of Preterm birth, Placenta Previa is predominant, accounting for 79%, compared to 21% for Abruptio Placentae. Stillbirths are exclusively associated with Abruptio Placentae, representing 100% of cases, while Asphyxia is slightly higher in Placenta Previa cases at 71%. Maternal complications such as Anemia and Postpartum Hemorrhage (PPH) are prevalent in both conditions, with 36% and 68% in Abruptio Placentae cases, and 64% and 32% in Placenta Previa cases, respectively. Anemia with Pyrexia is exclusively associated with Placenta Previa, accounting for 100% of cases.

The Table 6 presents the distribution of birth weight among newborns affected by Abruptio Placentae and Placenta Previa. Across various weight categories, the percentage distribution varies between the two conditions. Notably, in the >3 kg category, all cases belong to Abruptio Placentae, constituting 100%, while Placenta Previa shows no occurrences in this range. In the 1-1.5 kg category, Placenta

Previa has a slightly higher percentage at 48% compared to Abruption Placentae at 32%. Similarly, in the 1.6-2 kg and 2.1-2.5 kg categories, Placenta Previa presents higher percentages at 70% and 63% respectively, compared to Abruption Placentae at 23% and 18% for Abruption Placentae. Conversely, in the 2.6-3 kg category, Abruption Placentae has a higher percentage at 20% compared to Placenta Previa at 55%.

Table 4. Mode of delivery

Mode of delivery	No of Patients	Abruption	Placenta Previa
LSCS	78	N=22 (28%); Preterm 14 term 8	N=56 (72%); Preterm 41 Term 15
Vaginal Delivery	31	N=9 (29%); Preterm- 6 Term -3	N=22 (70%); Preterm 11 Term 11
PPH		N, %	N, %
Present	51	15(27%)	36(65%)

Table 5. Maternal and fetal complications

Fetal Complication	No. of Cases	Abruption placentae	Placenta previa
Preterm	33	7(21%)	26(79%)
Asphyxia	14	4(29%)	10(71%)
IUD	10	5(50%)	5(50%)
Jaundice	8	4(50%)	4(50%)
Distress	3	2(75%)	1(25%)
Still Birth	8	4(100%)	0(0%)
Fever	3	2(67%)	1(33%)
Hypoglycemia	1	0(0%)	1(100%)
NO complications	34	10(29%)	24(81%)
Maternal complications			
Anemia	38	14 (36%)	24 (64%)
PPH	44	30(68%)	14(32%)
Anemia, Shock	4	2 (50%)	2(50%)
HELLP	2	1(50%)	1(50%)
Anemia, Pyrexia	4	0 (0%)	4(100%)
Shock, Myocardial infraction, Anemia	1	1 (100%)	0 (0%)
Shock, DIC, pyrexia	1	1 (100%)	0 (0%)
Maternal Death	0	0	0

Table 6. Birth weight of new born

Birth Weight	No. of Cases	Abruption placentae	Placenta previa
<1	2	1(50%)	1(50%)
1-1.5	20	8(32%)	12(48%)
1.6-2	28	7(23%)	21(70%)
2.1-2.5	32	7(18%)	24(63%)
2.6-3	30	8(20%)	22(55%)
>3	2	2(100%)	0(0%)

Table 7. Fetal outcome

Outcome	Total	Abruption	Placenta Previa
Live	90	24(24%)	76(76%)
IUD	10	4(45%)	6(55%)
Still Birth	8	4(50%)	4(50%)
Expired in NICU	6	2(22%)	7(78%)
Cause of death			
RDS	2	1(50%)	1(50%)
Sepsis	2	1(50%)	1(50%)
Shock	18	12(66%)	6(34%)
Pulmonary Haemorrhage	2	0(0.00%)	2(100%)
Total	24	11(58%)	10(42%)

The Table 7 outlines the fetal outcomes associated with Abruption Placentae and Placenta Previa cases. Among live births, Placenta Previa is predominant, accounting for 76% of cases, while Abruption Placentae represents 24%. Conversely, in cases of intrauterine death (IUD) and stillbirth, both conditions exhibit a more balanced distribution. However, in NICU-related fatalities, Placenta Previa is notably higher at 78% compared to 22% for Abruption Placentae. Among the causes of death, Shock is more prevalent in Abruption Placentae cases, constituting 66% of fatalities.

4. DISCUSSION

Placenta previa accounts for 1.15 percent of all instances, while abruption accounts for 0.46.5 percent of all cases, according to our research. From two to five percent of all pregnancies are affected by the presence of APH. The variance in incidence that is seen may be explained by the demographic variation as well as the prevalence of illiteracy, socioeconomic position, and anemia in the community. In the research carried out from India by Bhide A et al. [5] and Arora A et al. [6], the incidences of APH were found to be comparable, with 2.5% and 1.2% respectively. In their study, Adekanle DA and colleagues [8] found that the rate of antepartum hemorrhage was 1.5%. 33.3 percent of cases of placenta previa were found to be present.

Placenta previa was the most common cause of abruption placentae, accounting for 28.5% of all cases of postpartum hemorrhage (APH). The findings of our study were in agreement with those of the research carried out by Maurya et al. [7], which revealed that 71% of the cases were placenta praevia and 27% were abruption placentae. Additionally, the findings of Adekanle DA et al. [8] showed that the percentage of instances of placenta previa and abruption placentae were 55.6% and 33.3%, respectively.

Across all age categories, there is a prevalence of APH disease. The majority of patients, or forty percent, were in the age category of twenty-six to thirty years old, with eighty-four percent of instances of placenta previa and fifteen percent of abruption placenta. The mean age of women experiencing APH in our research was 26.7 years plus 4.5 years. 33% of patients were in the age bracket of 20-25 years old. Both Tyagi P et al. [9] and Adekanle DA et al. [8] performed studies in which they found that between the

ages of 26 and 30, respectively, 61% and 40% of instances of APH were seen. This finding is in agreement with their findings.

71% of the women who were diagnosed with APH were multigravidae, whereas 29% were females who had never given birth before. The standard deviation was +1.17, and the mean parity was 2.24. With regard to multigravida, the incidence of placenta previa was 66.2%, whereas the incidence of abruption placentae was 33.3% throughout pregnancy. This was in agreement with the findings of the research carried out by Samal SK and colleagues [10]. Which had a 67% incidence of APH in multigravida and a 33% incidence in primigravida, which is also similar with the research that was carried out by Singhal S et al. [11], who discovered that six hundred and one percent of the patients in their study were multigravida and twenty-seven percent were primigravida. Specifically, Maurya A. and others [7]. A high incidence, namely 82.1%, was reported in multigravida.

The incidence of placenta previa is higher in individuals who have had several pregnancies and who are of advanced age, while the incidence of abruption placenta is higher in people who are having their first pregnancy. Compared to previous research, our booking rate was much higher, and it was not consistent with the findings of other studies. This was due to the fact that the state government's provision of free facilities makes it possible for prenatal checkups to be easily accessible even in remote locations.

In our investigation, the mean gestational age at birth was 35.22 weeks plus 2.82 weeks, and 66 percent of the patients who participated in our study had preterm deliveries. This finding was in line with the findings of the study that was carried out by Samal SK et al. [10], which found that the incidence of preterm deliveries was 73%. It was observed by Sheikh F et al. [12] that 79.16% of premature births occurred. In the research that was carried out by Siddiqui SA et al. [13], the mean gestational age was 34.24 + 3.36 weeks in placenta previa and 34.40 + 3.87 weeks in abruption placentae. This is comparable to the findings of our own study, which found that the mean gestational age in placenta previa was 33.6+ 3.4 weeks, while the mean gestational age in abruption placentae was 33.5+ 2.6 weeks.

Twenty-eight percent of the patients had abruption placenta, whereas 72 percent of the patients had

placenta previa. A total of 78 patients, or 72 percent, underwent LSCS. Vaginal delivery was performed on 31 patients, which is equivalent to 29% of the total number of patients. Of them, 70% had placenta previa (Type 1) and 29% had abruptio placentena.

It may be deduced from this that the majority of caesarean sections were performed due to placenta previa. This finding was in line with the findings of studies carried out by Chufamo N et al. [14] and Sheikh F et al. [12], which reported that 54.4% and 57.1% of women who underwent caesarean sections were affected by placenta previa, respectively. In a study that was quite similar to the one that was carried out by Arora R et al. [6] and Bhinde AG et al. [15], the researchers found that the incidence of cesarean delivery in placenta previa was 65% correspondingly.

There were preterm births in 66% of the patients, with 76% of them being low-birth-severity caesarean section (LBSC) deliveries and 26% being vaginal deliveries.

In 5.2% of instances with Antepartum hemorrhage (APH), malpresentations were seen. These malpresentations included breech and transverse lying, as well as three twins and one triplet pregnancy. Researchers Samal SK et al. [10], Ayushma J et al. [16], and Sheikh F et al. [12] all came to the same conclusions, which were supported by this investigation. The incidence of malpresentations was reported by 8.7%, 8.8%, and 9.7% of the individuals accordingly.

According to the findings of our research, the most prevalent complications that were observed were postpartum haemorrhage (PPH), which had an incidence of 41%, followed by anemia in 35% of cases, shock in 6% of cases, and DIC in one patient (0.9%). Our results were in line with those of Kalam F et al. [17], who reported occurrences of anemia at 38 percent, PPH at 38 percent, shock at 22 percent, and DIC at 2 percent.

Similar occurrences were discovered in research carried out by Sharmila G et al. [18], which revealed that 62% of the patients had anemia, 10% had shock, 22% had PPH, and 2% had DIC.

Placenta previa was associated with a higher incidence of anemia. In two patients who had an abruption, one of them went into shock, which was then followed by a myocardial infarction, while the other patient went into shock and developed DIC, demonstrating acute repercussions of the abruption. There was no evidence of a maternal death.

Preterm births occurred in 25.8% of newborns, with placenta previa accounting for 72% of these cases. Asphyxia was a concomitant condition in 12.2% of the cases, with placenta previa accounting for 59% of the cases.

A blood transfusion was required for 58.6% of the individuals diagnosed with APH in our research. There were 45% and 50.3% of blood transfusions in the studies conducted by Tyagi P et al. [9] and Chufamo N et al. [19]. In our investigation, there was just one patient who needed eight units of blood to be transfused. She got DIC, was taken to the intensive care unit, and made a full recovery.

One of the strongest associations between placenta previa and low birth weight was found. A total of 79% of neonates were born with a birth weight of less than 2.5 kilograms. The most significant factors that led to low birth weight (LBW) were premature births. In our research, the average birth weight was 2.17 kg plus or minus 36 kilograms. Samal SK et al. [10] and Sharmila G et al. [18] found that 66.5% and 78.43% of newborns had birth weights that were less than 2.5 kilograms. Our results were in agreement with these studies. As a result of the early choice and surgical intervention in consideration of maternal health and fetal discomfort, as well as the availability of a neonatal intensive care unit that is well-equipped, the low birth weight may have occurred.

64% of neonates in our research had an APGAR score that was more than 7 at five minutes after delivery, whereas 35% had scores that were lower than 7. Placenta previa accounted for 53% of these 46% of instances, whereas abruptio placentae accounted for 40% of them. We found that our findings were in line with those of Adeknale DA et al. [8], who discovered that 61% of the patients in their research had an APGAR score of seven or higher. Similar findings were seen in studies carried out by Rajini P et al. [20]

and Singhal SR et al. [11], which indicated that 74.6% and 80.4% of the cases had an APGAR score of seven or higher at five minutes.

Of the total 109 births, there were 114 infants, 90 of which were alive, and six of them passed away while they were in the neonatal intensive care unit. 10 were fatalities that occurred inside the uterus, and 8 were stillbirths. Twenty-four, or twenty-one percent, of all newborns died. The most prevalent cause of mortality among newborns is neonatal shock, which accounts for 75% of all fatalities. This is followed by sepsis and pulmonary hemorrhage as the next leading causes of death.

Out of the issues that were documented in our research, the most prevalent ones were preterm (28%), fetal distress and asphyxia (15%), jaundice (9%) and sepsis (2.1%), stillbirth (7%) and intrauterine devices (8.7%), and early newborn mortality (5.2%). The findings of the research carried out by Kedar K et al. [21] provide support for this assertion. There were 16% of neonates that were born prematurely, 10% of stillbirths, and 10% of IUDs, according to Samal SK et al. [10]. who achieved comparable findings with 38.5% of those born prematurely and 11.8% of those born still.

Fetal distress was seen in 30.2% of the neonates that were included in our research. Placenta previa, which had a prevalence of 48%, was the most prevalent cause of this condition, followed by abruption, which had a prevalence of 36%. When compared to the findings of investigations carried out by Taylor F et al. [22] and Bhandiwad A et al. the percentage of instances in which fetal distress was documented was 69% and 47.8% respectively. An early surgical intervention to prevent maternal morbidity, which may occasionally in reality circumvent appropriate steroid therapy, might be the cause of fetal discomfort. This operation is intended to prevent maternal morbidity. In our research, there were no cases of maternal mortality. The outcomes of the investigation that Samal Sk and his colleagues carried out were in agreement with this as well. [10] according to Sheikh et al. [12], who did not experience any cases of maternal death. A maternal mortality rate of three percent was reported by Chufamo N et al. [19]. According to the findings of their research, the rate of maternal death was 3.1%.

It is possible that the absence of maternal death in our research was due to a higher incidence of booked cases, thorough prenatal checkups, improved referral services, super specialist services, well-equipped intensive care units, and a blood bank facility that is open 24 hours a day, seven days a week.

According to the findings of our research, perinatal death was seen in 31% of instances with APH. The maternal hemorrhage that resulted in fetal shock was the main cause of the majority of cases. Neonatal mortality was seen in 5.2% of the cases, intrauterine devices were observed in 8.7% of the cases with apnea- puerperal hypertension, and abruption was the most prevalent occurrence, followed by placenta previa. This was comparable to the research that Singhal S. and his colleagues carried out. of whom the perinatal death rate was 23.70 percent. According to the results of investigations carried out by Maurya an et al. [7], similar effects were reported. In instances of placenta previa and abruptio placentae, respectively, and perinatal death rates of 12.6% and 18.5%, respectively, were observed.

5. CONCLUSION

Antepartum hemorrhage stands as a primary contributor to maternal and perinatal morbidity and mortality, with Placenta previa emerging as the prevailing cause, followed closely by abruptio placenta. Placenta previa frequently presents among multiparous individuals and those with a history of obstetrical surgeries. Conversely, abruptio placenta tends to manifest in patients with hypertension and primigravida. Notably, abruptio placenta is characterized by a more severe degree of hemorrhage and is strongly linked to maternal and perinatal morbidity and mortality. Based on the findings of this study, future research endeavors should prioritize multi-center studies to enhance the generalizability of results across diverse populations. Longitudinal studies are warranted to delve deeper into the underlying mechanisms and risk factors associated with placenta previa and abruptio placenta, thereby facilitating more targeted interventions and preventive strategies. Additionally, exploring the role of advanced imaging techniques and biomarkers could contribute to early detection and improved management of antepartum hemorrhage cases. Moreover, collaborative efforts between obstetricians, researchers, and policymakers are

essential to implement standardized protocols and guidelines aimed at optimizing maternal and perinatal outcomes in cases of APH.

CONSENT

It is not applicable.

ETHICAL APPROVAL

Ethical approval for this study was obtained from the Institutional Review Board (IRB) of the Tertiary Hospital, ensuring adherence to established ethical guidelines and principles.

COMPETING INTERESTS DISCLAIMER

Authors have declared that they have no known competing financial interests or non-financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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