



Research Article

Fetomaternal Outcome in Preeclampsia and Eclampsia in Third Trimester

Dr. Saroj Kumari Meena¹, Dr. Nidhi Meena², Dr. Swati Trivedi³, Dr. Manju Agarwal⁴

¹Resident Doctor, Department Obstetrics and Gynecology, Jhalawar Medical college, Jhalawar, Rajasthan, India.

²Associate Professor, Department Obstetrics and Gynecology, Jhalawar Medical college, Jhalawar, Rajasthan, India. Email ID: naresh.meena40@gmail.com

³Assistant Professor, Department Obstetrics and Gynecology, Jhalawar Medical college, Jhalawar, Rajasthan, India.

⁴Senior Professor Department Obstetrics and Gynecology, Jhalawar Medical college, Jhalawar, Rajasthan, India

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ABSTRACT

Corresponding Author:

Dr. Nidhi Meena

Associate Professor,
Department of Obstetrics and
Gynecology, Jhalawar Medical
College, Jhalawar, Rajasthan,
India.

Email ID:

naresh.meena40@gmail.com

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Introduction : Hypertensive disorders are among the most common medical disorder during pregnancy and continue to be a serious challenge in obstetric practice which remains a vital factor in both maternal and fetal morbidity and mortality.

Objective: To compare clinical profile in normotensive pregnant women and women with preeclampsia and eclampsia and to study maternal and fetal outcomes.

Materials and Methods: This prospective comparative study was carried out at the Department of Obstetrics and Gynecology among the four groups of patients (Normotensive, Mild preeclampsia, Severe preeclampsia, and Eclampsia)

Results: In Present study 26.16% had severe preeclampsia, and 19.62% had eclampsia. High risk factor was low maternal age (21-25 years). In unbooked cases, 36.92% had severe preeclampsia, and 33.84% had eclampsia. Most of the eclampsia and severe preeclampsia patients belonged to lower middle class and lower class population, early gestational age 28-32+6 weeks, 27.27% had severe preeclampsia and 72.72% had eclampsia. Induced labor was more frequent in mild preeclampsia (33.89%). Emergency LSCS was predominantly seen in severe preeclampsia (27.02%) and eclampsia patients (40.54%). NICU admissions were highest in the eclampsia group (41.30%).

Conclusion: Our study highlights that hypertensive disorders in pregnancy are associated with increased maternal complications such as abruption, preterm labor, PPH, DIC, HELLP, aspiration, pulmonary edema, acute renal failure, ICH, eclampsia, and higher rates of caesarean delivery. Similarly, fetal outcomes are adversely affected with increases incidence of LBW, IUGR, preterm births and perinatal mortality.

Keywords: Preeclampsia, Eclampsia, Hypertensive disorder, Fetal outcomes, Maternal complication.

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INTRODUCTION

Hypertension is a sign of an underlying pathology which may be preexisting or appears for the first time during pregnancy. The identification of this clinical entity and effective management plays significant role in the outcome of pregnancy, both for the mother and the baby [1,2]. Hypertensive disorders represent the most common medical complication of pregnancy affecting between 7–15% of all gestations and account for approximately a quarter of all antenatal admissions [3]. According to World Health Organization's (WHO) systemic review on maternal mortality worldwide, hypertensive disease remains a leading cause of maternal mortality. Together with hemorrhage and Infection, hypertension forms the deadly triad that contributes to morbidity and mortality during pregnancy and childbirth [4].

Hypertensive disorders are responsible for not only maternal deaths but also substantial morbidity for the pregnant women. One-third of severe maternal morbidity was consequence of hypertensive conditions in UK [5]. Long-term impact of hypertension in pregnancy in the form of chronic Hypertension and increased lifetime cardiovascular risk is also present. Hypertensive disorders also carry a risk for the baby. Hypertension / proteinuria is the leading single identifiable risk factor in pregnancy associated with stillbirth. In the most recent UK perinatal mortality report, 1 in 20 (5%) stillbirths in infants without congenital abnormality occurred in women with preeclampsia. Preeclampsia is strongly associated with fetal

growth restriction, low birthweight, spontaneous or iatrogenic preterm delivery, respiratory distress syndrome and admission to neonatal intensive care [6].

Hypertensive disorders include preeclampsia, gestational hypertension, and chronic hypertension and complicate up to 10 percent of pregnancies [7]. Preeclampsia, either alone or superimposed on chronic hypertension, is the most dangerous. In the United States from 2011 to 2015, 7% of pregnancy related maternal deaths were caused by preeclampsia or eclampsia [8]. Preeclampsia is best described as a pregnancy-specific syndrome that can affect virtually every organ system. Although preeclampsia is more than simply gestational hypertension with proteinuria, the appearance of protein remains a primary diagnostic criterion. It is an objective marker and reflects the system wide endothelial leak that characterizes the preeclampsia syndrome [9]. Eclampsia is an extremely severe form of pre-eclampsia. It is characterized by new onset of focal or multifocal tonic-clonic convulsion or coma in pregnancy or postpartum, unrelated to other cerebral conditions such as epilepsy /cerebral arterial ischemia and infarction/intracranial hemorrhage or drug use, in patients with signs and symptoms of preeclampsia [10].

Maternal and perinatal morbidity is increased in women with gestational hypertension. Women with mild gestational hypertension Have an increased incidence of obstetrical interventions such as induction of labor and caesarean section. Women with severe gestational hypertension have a higher incidence of preterm birth and small for gestational age (SGA) newborns than in those with normal pregnancy or with mild pre-eclampsia [11]. Gestational hypertension near term (after 35 weeks) is associated with only 10% risk of pre-eclampsia and little increase in risk for adverse pregnancy outcome and results in good perinatal outcome [12].

Eclampsia is associated with elevated maternal and fetal morbidity and mortality Pre- eclampsia and eclampsia are the causes of approximately 20% of all maternal deaths in the United States and approximately one-half of them are associated with eclampsia [13]. Major maternal complications include placental abruption (7%-10%), DIC (7%-11%), HELLP syndrome (9.7%-20%), ARF (5%-9%), pulmonary edema (3%-5%), aspiration pneumonia (2%-3%), cerebral hemorrhage and Cardiopulmonary arrest (2%-5%). The most common causes of maternal death are intracranial bleeding and ARF secondary to abruptio placentae. The most common causes of perinatal death are prematurity and fetal asphyxia. Perinatal morbidity substantial and correlates strongly with preterm birth, abruptio placentae and FGR [14].

MATERIALS & METHODS

Source of data: The study was carried out among patients in the Department of Obstetrics and Gynecology at Jhalawar Medical College, Jhalawar, Rajasthan

Study design: Prospective Comparative Study

Study Period: One Year

Sampling Technique: Simple random sampling technique

Sample size:

Group A: Normotensive : 50

Group B: Mild preeclampsia : 50 (Blood Pressure of $\geq 140/90$ to $< 160/110$ mmHg with urine alb $> +1$)

Group C: Severe preeclampsia : 50 (Blood Pressure of $\geq 160/110$ mmHg with or without urine albumin being positive).

Group D: Eclampsia: 50 (Preeclamptic patients with 1 or more episode of generalised Tonic clonic Seizures)

Methodology: Detailed history was taken. Clinical evaluation of the patients was performed. Investigations were recorded. Maternal characteristics and risk factors like age, parity, booking status, socioeconomic status by modified B.G. Prasad's scale and gestational age etc, were noted. Patients will be followed till delivery and early postpartum. Maternal complications like abruption, postpartum hemorrhage, DIC, HELLP, aspiration, pulmonary edema, acute renal failure, ICH, maternal death were noted. Birth weight of baby, APGAR score, NICU admission, perinatal complications like IUGR, prematurity, respiratory distress syndrome, hypoxic ischemic encephalopathy, meconium aspiration syndrome, still -birth, neonatal jaundice, sepsis, intrauterine fetal death, neonatal death were noted and compared with in groups.

RESULTS

A total of 200 antenatal women admitted in labor ward at Shrimati Heera Kunwar Baa Mahila hospital attached with Jhalawar Medical College, Jhalawar, Rajasthan from July 2024 to December 2024 were included in the study. Study population was taken from third trimester, based on NHBPEP Classification. The study had 4 separate groups, one being a normotensive group and the rest three being mild preeclampsia, severe preeclampsia and eclampsia group. Each group had 50 patients. Our study was conducted to identify valuable markers that reflected the severity of preeclampsia and eclampsia and their impact on maternal and fetal outcomes, which could aid in clinical decision making and help improve current management protocols.

In this study most of the patients belonged to 21-25 years age group. In this group 27.10% were normotensive, 27.10% having mild preeclampsia, 26.16% having severe preeclampsia, and 19.62% having eclampsia. In the present study majority of patients belonged to younger age group (21-25 year). P value was 0.457.

Among primigravida women 22.85% were normotensive, 25.71% had mild preeclampsia, 23.80% had severe preeclampsia, and 27.61% developed eclampsia. In comparison among multigravida women 27.36% were normotensive, 24.21% had mild preeclampsia, 26.31% had severe preeclampsia and 22.10% developed eclampsia. The difference between the groups was not statistically significant [$p=0.757$]. Among 135 booked participants, 30.37% were normotensive, 29.62% had mild preeclampsia, 19.25% had severe preeclampsia, and 20.74% had eclampsia. Among 65 unbooked participants, 13.84% were normotensive, 15.38% had mild preeclampsia, 36.92% had severe preeclampsia, and 33.84% had eclampsia. The p value was reported as <0.0007 , indicating a statistically significant association between booking status and the severity of hypertensive disorders in pregnancy.

Patients with gestational age 28-32+6 weeks, 27.27% had severe preeclampsia and 72.72% had eclampsia. In the 33-36+6 weeks group, 34.88% had severe preeclampsia and 46.51% had eclampsia. Among those ≥ 37 weeks, 32.87% were normotensive, 30.13% had mild pre eclampsia, 21.91% had severe preeclampsia and 15.06% had eclampsia. The p value was <0.001 , indicating a statistically significant association between gestational age and the severity of hypertensive status. Most of the eclampsia and severe preeclampsia patients belonged to lower middle class and lower class population [p value <0.004].

Headache was reported in 8.77% of women with mild preeclampsia, 40.35% severe preeclampsia and 50.87% with eclampsia. Vomiting occurred in 3.03% with mild preeclampsia, 39.39% with severe preeclampsia and 57.57% with eclampsia. Visual disturbances were seen in 47.61% of severe preeclampsia cases and 52.38% of eclampsia cases. Epigastric pain was noted in 10% of severe preeclampsia and 90% of eclampsia cases. Pedal edema was found in 19.04% with mild preeclampsia, 28.57% with severe preeclampsia and 47.61% with eclampsia. Only 0.70% of the normotensive group reported symptoms, compared to 7.04% in mild preeclampsia, 37.32% in severe preeclampsia, and 54.92% in eclampsia – indicating a strong trend of increasing symptoms with worsening clinical condition. Patients based on systolic and diastolic blood pressure at admission showed that normotensive cases had lower blood pressure values, while severe preeclampsia and eclampsia cases were associated with higher blood pressure. Mild preeclampsia was predominantly seen in the mid-range blood pressure category.

Urine albumin levels varied significantly among groups. Normotensive patients had no proteinuria, while mild preeclampsia cases mostly had 2+ proteinuria. Severe preeclampsia and eclampsia cases showed higher proteinuria levels, with 3+ proteinuria being most common in eclampsia [69.04%]. The observed differences in proteinuria levels among the groups were statistically significant, with a p value of [<0.0001], indicating a strong association between the severity of hypertensive disorders in pregnancy and the degree of proteinuria. Liver and renal function tests showed significant abnormalities in severe preeclampsia and eclampsia cases. SGOT, SGPT, and serum bilirubin levels were elevated, especially in eclampsia. Blood urea, serum creatinine, and serum uric acid were significantly higher in severe preeclampsia and eclampsia cases. Platelet count reduction was observed in eclampsia and preeclampsia cases.

Mode of delivery varied significantly across groups. Spontaneous vaginal deliveries were more common in normotensive patients [60.74%], while induced labor was more frequent in mild preeclampsia [33.89%]. Emergency LSCS was predominantly seen in severe preeclampsia [27.02%] and eclampsia patients [40.54%] (p value <0.0001). Majority of caesarean deliveries occurred in the eclampsia group [40.54%], followed by the severe preeclampsia group [31.08%], mild preeclampsia [18.91%], and normotensive group [9.45%]. This distribution signified that the incidence of caesarean delivery was significantly higher in patients with hypertensive disorders of pregnancy. In this study, 3.03% maternal complications occurred in normotensive group, 9.09% in the mild preeclampsia group, 34.84% in the severe preeclampsia group and 53.03% in the eclampsia group. It indicated a correlation between the severity of hypertensive disorders and the incidence of maternal complications. 2 maternal deaths occurred 1 in eclampsia group due to ICH 1 in preeclampsia group due to DIC.

A comparison of APGAR scores showed that scores of ≤ 7 were more common in eclampsia [43.471%], severe preeclampsia [36.95%] and mild preeclampsia [13.04%] cases compared to normotensive [6.52%]. There was significant association observed between severity of hypertensive status and neonatal APGAR scores [$p=0.0001$]. More low birth weight babies (<2.5 kg) were born to eclamptic and preeclamptic mothers. The p value was reported as <0.001 , indicating a statistically significant association between booking low birth weight and the severity of hypertensive disorders in pregnancy. 5.03% perinatal complications occurred in normotensive group, 15.10% in the mild preeclampsia group, 37.41% in the severe preeclampsia group and 42.44% in the eclampsia group. It indicated a correlation between the severity of hypertensive disorders and the incidence of perinatal complications. NICU admissions were highest in the eclampsia group [41.30%] and lowest in normotensive group [6.52%]. IUFD and stillbirths occurred only in the hypertensive groups, with highest rates seen in the eclampsia group. The p value was statistical significance (0.0001), indicating a significant association between the severity of preeclampsia/ eclampsia and adverse perinatal outcomes.

DISCUSSION

In this study most of the patients belonged to 21-25 years age group. In this group 27.10% were normotensive, 27.10% having mild preeclampsia, 26.16% having severe preeclampsia, and 19.62% having eclampsia. In the present study majority of patients belonged to younger age group (21-25 year). This study was compared with the study conducted by Lakshmi et al [15]. In this study 11.44% had hypertensive disorders, among this Gestational hypertension occurred in 65.69% cases, preeclampsia in 26.16% cases, chronic hypertension in 4.65% cases, chronic hypertension with superimposed preeclampsia in 1.16% cases and eclampsia in 2.32% cases.. Maximum number of patients are between 21-30 years [74.9%]. Raji C. et al [16] conducted a study in which Group A -50 known case of preeclampsia Group B-50 previously normotensive patients present with imminent symptoms of eclampsia. In pre-eclampsia mother, 40% imminent eclampsia occurred in age 20-25years. 14% imminent eclampsia occurred in age <20 years. In normotensive mothers, 28% presented with imminent in <20 years. 38% were in age group of 20 - 25 years. In both group, commonest age was <25 years. p value >0.05, statistically not significant.

In our study among primigravida women 22.85% were normotensive, 25.71% had mild preeclampsia, 23.80% had severe preeclampsia, and 27.61% developed eclampsia. In comparison among multigravida women 27.36% were normotensive, 24.21% had mild preeclampsia, 26.31% had severe preeclampsia and 22.10% developed eclampsia. The difference between the groups was not statistically significant [p=0.757]. Jimmy P. Chauhan et al [17] conducted the prospective study, in which 100 normotensive patients and 100 hypertensive patients were randomly selected. Out of which 46% patients were primigravida, 54% patients were multigravida in hypertensive group and 32% patients were primigravida and 68% patients were multigravida in normotensive group. Amarnath Thakur et al [18] conducted a study In this study PIH was common in primigravida followed by second and third gravida and so on. In PIH with gestational hypertension 55.56%, preeclampsia 68.75% and eclampsia 50% were primigravida. Akash J. Patel [19] also conducted the retrospective study, out of 120 cases of severe preeclampsia and eclampsia, 64 [53.33%] were primigravidae, 36 [30%] were multigravida, 20 [16.67%] were grand multipara.

In our study among 135 booked participants, 30.37% were normotensive, 29.62% had mild preeclampsia, 19.25% had severe preeclampsia, and 20.74% had eclampsia. Among 65 unbooked participants, 13.84% were normotensive, 15.38% had mild preeclampsia, 36.92% had severe preeclampsia, and 33.84% had eclampsia. The p value was reported as <0.0007, indicating a statistically significant association between booking status and the severity of hypertensive disorders in pregnancy. Chuka N. Obi et al [20] conducted a 4years retrospective case control study found significant correlation between booked and unbooked cases [p<0.0001].

In this study patients with gestational age 28-32+6 weeks, 27.27% had severe preeclampsia and 72.72% had eclampsia. In the 33-36+6 weeks group, 34.88% had severe preeclampsia and 46.51% had eclampsia. Among those ≥ 37 weeks, 32.87% were normotensive, 30.13% had mild pre eclampsia, 21.91% had severe preeclampsia and 15.06% had eclampsia. The p value was <0.001, indicating a statistically significant association between gestational age and the severity of hypertensive status. This study was compared with the retrospective cohort study conducted by Naina kumar et al [21]. Found 45.36% had gestational hypertension, 33.17% preeclampsia, 17.56% eclampsia, In this study the majority of pregnancies across all hypertensive disorders occurred at term (≥ 37 weeks). Specifically, 83.9% of women with gestational hypertension, 61.8% with preeclampsia, 36.8% with eclampsia, 83.3% with chronic hypertension delivered at term. Conversely, preterm deliveries (<37 weeks) were more common among women with preeclampsia 38.2% and eclampsia 36.2%. Jimmy P. Chauhan et al [17] also conducted a prospective study and found 63% hypertensive patients and 32% normotensive patients had delivered between 28-36 weeks of gestation and 37% hypertensive patients and 68% normotensive patients had delivered at term (≥ 37 weeks).

In our study most of the eclampsia and severe preeclampsia patients belonged to lower middle class and lower class population [p value <0.004]. Neelima B. et al [22] found in their study that most of the patients having preeclampsia were belonging to low socioeconomic status [73.91%]. Dr. Ruby Bhatia et al [23] found in their study that severe preeclampsia /eclampsia was more in population belonging to rural area 80% with low literacy level 45% and low socioeconomic status 70%.

In our study, headache was reported in 8.77% of women with mild preeclampsia, 40.35% severe preeclampsia and 50.87% with eclampsia. Vomiting occurred in 3.03% with mild preeclampsia, 39.39% with severe preeclampsia and 57.57% with eclampsia. Visual disturbances were seen in 47.61% of severe preeclampsia cases and 52.38% of eclampsia cases. Epigastric pain was noted in 10% of severe preeclampsia and 90% of eclampsia cases. Pedal edema was found in 19.04% with mild preeclampsia, 28.57% with severe preeclampsia and 47.61% with eclampsia. Only 0.70% of the normotensive group reported symptoms, compared to 7.04% in mild preeclampsia, 37.32% in severe preeclampsia, and 54.92% in eclampsia – indicating a strong trend of increasing symptoms with worsening clinical condition. Amarnath Thakur et al [18] conducted a cross-sectional study. In this study women with PIH commonly presented with complain of headache 47.5%, followed by edema 25%, and vomiting 17.5%, epigastric pain 17.5%, blurring of vision 12.5% and jaundice 7.5%. Normotensive group women presented with complain of headache in 2.5% and edema in 2.5%. Jayshree Chimrani et al [24] conducted an observational descriptive study, in which 112 patients with severe preeclampsia were included. In this study majority of the patients had headache 44.64% as a chief complaint, followed by pedal edema 32.14%, vomiting

18.75%, convulsion 9.82%, oliguria 9.82%, epigastric pain 7.14%, generalized edema 3.57%, and blurred vision 4.46% respectively.

In present study urine albumin levels varied significantly among groups. Normotensive patients had no proteinuria, while mild preeclampsia cases mostly had 2+ proteinuria. Severe preeclampsia and eclampsia cases showed higher proteinuria levels, with 3+ proteinuria being most common in eclampsia [69.04%], with a p value of [<0.0001], indicating a strong association between the severity of hypertensive disorders in pregnancy and the degree of proteinuria. Collins E.M. Okoror [25] conducted a 5 year retrospective study, in which 282 cases of eclampsia included. In this study 30 [10.87%] patients had no proteinuria, 1+ proteinuria was present in 72 [26.09%] patients, 2+ proteinuria was present in 60 [21.74%] patients, 3+ proteinuria was present in 75 [27.17%] patients and 4+ proteinuria was present in 39 [14.13%] patients. In this study maternal death was highest in those who had dip stick proteinuria of 3+ [25.33%].

In our study mode of delivery varied significantly across groups. Spontaneous vaginal deliveries were more common in normotensive patients [60.74%], while induced labor was more frequent in mild preeclampsia [33.89%]. Emergency LSCS was predominantly seen in severe preeclampsia [27.02%] and eclampsia patients [40.54%] (p value <0.0001). The higher rate of LSCS is attributable to fetal distress and poor cervical scores, reflecting the emergency nature of management in severe PE with abruption [26]. Dr. RajniPriyanka et al [27] conducted a prospective study, in which 140 women with severe preeclampsia and eclampsia were included. In this study majority of patients underwent caesarean section 49.28. Vaginal delivery occurred in 38.57% and instrumental delivery occurred in 12.14%.

In this study, 3.03% maternal complications occurred in normotensive group, 9.09% in the mild preeclampsia group, 34.84% in the severe preeclampsia group and 53.03% in the eclampsia group. It indicated a correlation between the severity of hypertensive disorders and the incidence of maternal complications [28-29]. 2 maternal deaths occurred 1 in eclampsia group due to ICH 1 in preeclampsia group due to DIC. Jimmy P. Chauhan et al [17] also conducted a prospective study, In this study most common complications were APH 6% followed by PPH 2%, DIC 7%, HELLP syndrome 2%, renal failure 2%, respiratory complication 2% in hypertension and APH 1% in normotensive patients. Amarnath Thakur et al [18] conducted a cross-sectional study, in which total 80 patients were enrolled, with 40 normotensive and 40 PIH (gestational hypertension 18 case, preeclampsia 16 case and eclampsia 6 cases). In this study only one case (2.5%) of retinopathy was observed in normotensive group. In contrast, women with gestational hypertension experienced preterm labor in 5.56% and PPH in 11.11%, with no other maternal complications documented. In the preeclampsia group, preterm labor was noted in 43.75% cases, retinopathy in 6.25% cases, HELLP syndrome in 18.75% cases and liver dysfunction in 18.75% cases. Additionally, 31.25% women required ICU admission. In eclampsia group 33.33% had preterm labor, 16.67% had HELLP syndrome and 16.67% had liver dysfunction and 100% patient had ICU admission A comparison of APGAR scores showed that scores of ≤ 7 were more common in eclampsia [43.471%], severe preeclampsia [36.95%] and mild preeclampsia [13.04%] cases compared to normotensive [6.52%]. There was significant association observed between severity of hypertensive status and neonatal APGAR scores [$p=0.0001$]. Ravindra S Pukale et al [30] conducted a prospective cohort study, In this study, neonates with APGAR 7-10 accounted 83.2% while 11.8% were having APGAR between 5-6 among preeclampsia group. APGAR between 7-10 was noted among eclampsia group in 4.4% (n=7). Amarnath Thakur et al [18] conducted a cross-sectional study, In this study noted APGAR score at 5 min >7 (97.5% of normotensive, 56.25% of preeclampsia and 83.3% of eclampsia, <6 (2.5%, 43.75% and 16.67%) respectively.

More low birth weight babies (<2.5 kg) were born to eclamptic and preeclamptic mothers. The p value was reported as <0.001 , indicating a statistically significant association between booking low birth weight and the severity of hypertensive disorders in pregnancy. Chuka N. Obi et al [20] found in this study, the mean birth weight of babies in the case group [2.98 ± 1.2] was significantly lower compared with the controls [3.17 ± 0.59]. A further analysis of the birth weights showed that babies of preeclamptic patients were more likely to be born with low birth weights. 5.03% perinatal complications occurred in normotensive group, 15.10% in the mild preeclampsia group, 37.41% in the severe preeclampsia group and 42.44% in the eclampsia group. It indicated a correlation between the severity of hypertensive disorders and the incidence of perinatal complications [31-35]. Jimmy P. Chauhan et al [17] also conducted a prospective study, In this study neonatal complications like IUGR, sepsis, respiratory distress syndrome and birth asphyxia were 37%, 14%, 15% and 10% respectively in hypertensive patients and 2%, 3%, 4% and 3% in normotensive patients respectively.

NICU admissions were highest in the eclampsia group [41.30%] and lowest in normotensive group [6.52%]. IUFD and stillbirths occurred only in the hypertensive groups, with highest rates seen in the eclampsia group. The p value was statistical significance (0.0001), indicating a significant association between the severity of preeclampsia/ eclampsia and adverse perinatal outcomes. Jimmy P. Chauhan et al [17] also conducted a prospective study, in which 100 normotensive patients and 100 hypertensive patients were included. In this study the overall perinatal mortality rate, which included intrauterine deaths and neonatal deaths within 7 days of birth was 21% among hypertensive mothers, whereas it was only 3% among normotensive mothers. Specifically, the rate of IUD in hypertensive patient was 10%, compared to 2% in normotensive patients. Additionally, 11% of neonates born to hypertensive mothers expired within 7 days, in contrast to just 1% among those born to normotensive mothers.

CONCLUSION

Preeclampsia and eclampsia significantly impact both maternal and fetal outcomes compared to normotensive pregnancies. Our study highlights that hypertensive disorders in pregnancy are associated with increased maternal complications such as abruption, preterm labor, PPH, DIC, HELLP, aspiration, pulmonary edema, acute renal failure, ICH, eclampsia, and higher rates of caesarean delivery. Similarly, fetal outcomes are adversely affected with increases incidence of low birth weight, IUGR, preterm births and perinatal mortality. Early identification and proper management of preeclampsia and eclampsia remain crucial in improving outcomes for both mother and baby. Regular antenatal check-ups, blood pressure monitoring, and timely medical interventions can significantly reduce complications.

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