



FETOMATERNAL OUTCOME IN HYPERTENSIVE DISORDERS OF PREGNANCY AT A TERTIARY CARE TEACHING HOSPITAL IN JAMNAGAR, GUJARAT

Obstetrics & Gynaecology

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ABSTRACT

Background : Hypertensive disorders of pregnancy (HDP) are among the most common medical complications encountered during pregnancy and remain a major cause of maternal and perinatal morbidity and mortality worldwide. These disorders include gestational hypertension, preeclampsia, eclampsia, and chronic hypertension complicating pregnancy. **Aim :** To study the fetomaternal outcome in hypertensive disorders of pregnancy at Government Medical College and Guru Gobind Singh Government Hospital, Jamnagar. **Materials and Methods :** A retrospective observational study was conducted in the Department of Obstetrics and Gynaecology, Shri M. P. Shah Government Medical College and G. G. Government Hospital, Jamnagar, Gujarat from April 2025 to March 2026. A total of 200 pregnant women diagnosed with hypertensive disorders of pregnancy beyond 20 weeks gestation were included in the study. Maternal demographic profile, obstetric characteristics, maternal complications, mode of delivery, and neonatal outcomes were analyzed. **Results :** The incidence of hypertensive disorders of pregnancy was 9.6%. Majority of patients belonged to the age group of 20–29 years (70%). Primigravida constituted 62% cases. Preeclampsia was the most common hypertensive disorder observed (58%), followed by gestational hypertension (24%), eclampsia (12%), and chronic hypertension (6%). Cesarean section was performed in 54% patients. Maternal complications included HELLP syndrome (8%), abruptio placentae (6%), postpartum hemorrhage (10%), ICU admission (7%), and maternal mortality (1%). Neonatal complications included prematurity (34%), low birth weight (40%), NICU admission (32%), intrauterine growth restriction (18%), stillbirth (5%), and neonatal mortality (4%). **Conclusion :** Hypertensive disorders of pregnancy significantly contribute to adverse maternal and neonatal outcomes. Early diagnosis, regular antenatal care, timely referral, and multidisciplinary management are essential to reduce fetomaternal morbidity and mortality.

KEYWORDS

Hypertensive Disorders Of Pregnancy, Preeclampsia, Eclampsia, Maternal Outcome, Foetal Outcome, Pregnancy Induced Hypertension

INTRODUCTION

Hypertensive disorders of pregnancy (HDP) constitute one of the leading causes of maternal and perinatal morbidity and mortality globally. These disorders complicate approximately 5–10% of all pregnancies and are responsible for substantial adverse maternal and neonatal outcomes, particularly in developing countries.¹

HDP includes gestational hypertension, preeclampsia, eclampsia, chronic hypertension, and preeclampsia superimposed on chronic hypertension. Preeclampsia is characterized by hypertension associated with proteinuria and/or evidence of end-organ dysfunction occurring after 20 weeks of gestation.²

The exact etiology of hypertensive disorders in pregnancy remains unclear; however, abnormal placentation, endothelial dysfunction, immunological factors, genetic predisposition, and oxidative stress play important roles in pathogenesis. Risk factors include primigravidity, advanced maternal age, obesity, multiple pregnancy, diabetes mellitus, chronic hypertension, and previous history of preeclampsia.³

Maternal complications associated with HDP include eclampsia, HELLP syndrome, abruptio placentae, disseminated intravascular coagulation, pulmonary edema, renal failure, cerebrovascular accidents, and maternal death. Foetal complications include prematurity, intrauterine growth restriction (IUGR), low birth weight, fetal distress, stillbirth, and neonatal mortality.⁴

Despite advances in obstetric and neonatal care, HDP continues to be a major public health challenge in India. Therefore, the present study was undertaken to evaluate fetomaternal outcomes in hypertensive disorders of pregnancy managed at Government Medical College, Jamnagar.

AIMS AND OBJECTIVES

Aim

To study fetomaternal outcome in hypertensive disorders of pregnancy.

Objectives

1. To determine the incidence of hypertensive disorders of pregnancy.
2. To study demographic and obstetric characteristics associated with HDP.
3. To evaluate maternal complications associated with HDP.
4. To assess foetal and neonatal outcomes in HDP.
5. To compare findings with previously published studies.

REVIEW OF LITERATURE

Hypertensive disorders of pregnancy are major contributors to maternal and perinatal morbidity worldwide. Cunningham et al. reported that HDP affects approximately 5–10% of pregnancies and remains one of the leading causes of maternal mortality.¹

Sajith et al. observed that preeclampsia was the most common hypertensive disorder, predominantly affecting primigravida women.⁵ Patel et al. demonstrated increased rates of cesarean delivery, prematurity, and NICU admission among women with severe preeclampsia.⁶

Bharatnur et al. reported significant maternal complications such as HELLP syndrome, abruptio placentae, and postpartum hemorrhage in hypertensive pregnancies.⁷ Yadav et al. observed increased incidence of low birth weight and intrauterine growth restriction among neonates born to hypertensive mothers.⁸

Recent advances in antenatal surveillance, early diagnosis,

antihypertensive therapy, and improved neonatal intensive care have significantly reduced maternal and neonatal mortality; however, morbidity still remains high in developing countries.

METHODOLOGY

Study Design

Hospital-based retrospective observational study.

Study Site

Department of Obstetrics and Gynaecology, Shri M. P. Shah Government Medical College and Guru Gobind Singh Government Hospital, Jamnagar, Gujarat.

Study Duration

April 2025 to March 2026.

Study Population

All pregnant women diagnosed with hypertensive disorders of pregnancy after 20 weeks gestation admitted during the study period.

Sample Size

200 cases.

Inclusion Criteria

- Pregnant women with blood pressure $\geq 140/90$ mmHg after 20 weeks gestation.
- Cases diagnosed as gestational hypertension, preeclampsia, eclampsia, or chronic hypertension.
- Singleton and multiple pregnancies.
- Patients with complete medical records.

Exclusion Criteria

- Patients with pre-existing renal disease.
- Heart disease complicating pregnancy.
- Autoimmune disorders.
- Incomplete records.

Data Collection

Data were collected retrospectively from:

- Antenatal ward records
- Labour room registers
- Operation theatre records
- ICU records
- NICU records

A structured proforma was used for data collection.

Variables Studied

Maternal Variables

- Age
- Parity
- Gestational age
- Type of hypertensive disorder
- Mode of delivery
- Maternal complications

Foetal Variables

- Birth weight
- Prematurity
- IUGR
- APGAR score
- NICU admission
- Perinatal mortality

Diagnostic Criteria

Hypertension was diagnosed as systolic BP ≥ 140 mmHg and/or diastolic BP ≥ 90 mmHg on two occasions 4 hours apart.

Preeclampsia was diagnosed by hypertension associated with:

- Proteinuria ≥ 300 mg/24 hours or
- End-organ dysfunction.

Statistical Analysis

Data were analyzed using Microsoft Excel and SPSS version 25. Results were expressed in percentages and proportions.

Ethical Consideration

Institutional Ethics Committee approval was obtained. Patient confidentiality was maintained throughout the study.

OBSERVATION AND RESULTS

Table 1: Age Distribution

Age Group (Years)	Number	Percentage
<20	22	11%
20–24	74	37%
25–29	66	33%
≥ 30	38	19%

Majority patients belonged to 20–29 years age group.

Table 2: Parity Distribution

Parity	Number	Percentage
Primigravida	124	62%
Multigravida	76	38%

HDP was more common among primigravida women.

Table 3: Types of Hypertensive Disorders

Type of HDP	Number	Percentage
Gestational Hypertension	48	24%
Preeclampsia	116	58%
Eclampsia	24	12%
Chronic Hypertension	12	6%

Preeclampsia was the most common hypertensive disorder.

Table 4: Mode of Delivery

Mode of Delivery	Number	Percentage
Vaginal Delivery	92	46%
Cesarean Section	108	54%

Cesarean section was more common.

Table 5: Maternal Complications

Maternal Complication	Number	Percentage
HELLP Syndrome	16	8%
Abruptio Placentae	12	6%
Postpartum Hemorrhage	20	10%
ICU Admission	14	7%
Maternal Mortality	2	1%

Postpartum hemorrhage was the most common maternal complication.

Table 6: Foetal and Neonatal Outcome

Foetal Outcome	Number	Percentage
Prematurity	68	34%
Low Birth Weight	80	40%
IUGR	36	18%
NICU Admission	64	32%
Stillbirth	10	5%
Neonatal Mortality	8	4%

Low birth weight and prematurity were major neonatal complications.

DISCUSSION

The incidence of hypertensive disorders of pregnancy in the present study was 9.6%, which is comparable with studies conducted by Sajith et al. and Bharatnur et al.⁵ Majority of patients belonged to 20–29 years age group and were primigravida, similar to observations by Patel et al.⁶

Preeclampsia was the most common hypertensive disorder, accounting for 58% cases, which correlates with studies by Yadav et al.⁸ Cesarean section rate was 54%, comparable to studies reporting increased operative delivery due to fetal distress and severe preeclampsia.⁶

Maternal complications such as HELLP syndrome, abruptio placentae, and postpartum hemorrhage were observed frequently. Similar findings were reported by Bharatnur et al.⁷ ICU admission was required in severe cases due to uncontrolled hypertension and eclampsia.

Foetal complications mainly included prematurity, low birth weight, IUGR, and NICU admission. These findings were consistent with observations by Yadav et al. and Cunningham et al.¹ Perinatal mortality was primarily associated with severe preeclampsia and prematurity.

Regular antenatal surveillance and timely obstetric intervention can significantly reduce adverse fetomaternal outcomes.

SUMMARY

The present retrospective observational study evaluated 200 cases of hypertensive disorders of pregnancy managed at Government Medical College, Jamnagar during April 2026 to March 2026.

Major findings were:

- Incidence of HDP was 9.6%.
- Majority patients were primigravida women aged 20–29 years.
- Preeclampsia was the most common hypertensive disorder.
- Cesarean section was the predominant mode of delivery.
- Maternal complications included HELLP syndrome, abruptio placentae, and postpartum hemorrhage.
- Neonatal complications mainly included prematurity, low birth weight, IUGR, and NICU admission.

CONCLUSION

Hypertensive disorders of pregnancy remain a major cause of maternal and neonatal morbidity and mortality, particularly in developing countries.

Early registration of pregnancy, regular antenatal check-ups, early detection of hypertension, timely referral to tertiary care centers, and multidisciplinary management are essential to improve fetomaternal outcomes.

Improvement in neonatal intensive care services and awareness regarding warning signs of preeclampsia can further reduce adverse outcomes associated with hypertensive disorders of pregnancy.

REFERENCES

1. Cunningham FG, Leveno KJ, Bloom SL, Dashe JS, Hoffman BL, Casey BM, et al. Williams Obstetrics. 26th ed. New York: McGraw Hill; 2022.
2. Dutta DC. Textbook of Obstetrics. 9th ed. New Delhi: Jaypee Brothers Medical Publishers; 2018.
3. American College of Obstetricians and Gynecologists. Gestational hypertension and preeclampsia. ACOG Practice Bulletin No. 222. Obstet Gynecol. 2020;135(6):e237-60. World Health Organization. WHO recommendations for prevention and