



RETROSPECTIVE STUDY OF PREECLAMPSIA AND FETOMATERNAL OUTCOME OF PREECLAMPSIA AT TERTIARY CARE CENTRE

Obstetrics & Gynaecology

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ABSTRACT

Background: Preeclampsia is multisystemic and multifactorial disease unique to pregnancy with unknown aetiology, as per WHO guideline preeclampsia is characterized by Systolic BP > 140 mmHg or diastolic BP > 90 mmHg after 20 weeks of gestation associated with proteinuria > 300 mg / 24 hrs (with dipstick method $\geq +1$) which complicates about 5% of all pregnancy worldwide and is one of the leading causes of maternal and fetal morbidity and even mortality. The purpose of this study to evaluate fetomaternal outcome of preeclampsia. **Method:** This is a retrospective study conducted in the department of Obstetrics and Gynecology in Shri M P Shah Medical College, G G Hospital in Jamnagar for period of 1 year among 275 patients having preeclampsia. This study is done by retrospective analysis of the delivery register (labour room) and Hospital medical records. Preeclampsia more common in primigravida and age group between 21 years to 30 years. **Result:** Fetal outcomes of preeclampsia are preterm delivery, low birth weight, still birth, intrauterine growth restriction, intrauterine fetal demise. Maternal outcomes of preeclampsia are Eclampsia, HELLP Syndrome, DIC and ICU admission, abruption, PRESS Syndrome, brain haemorrhage and renal insufficiency. **Conclusion:** Prompt recognition and management of its complications will be certainly improve maternal and fetal outcome which includes antenatal care, health screening and strict follow up.

KEYWORDS

fetomaternal outcome, preeclampsia, retrospective study India.

INTRODUCTION

Preeclampsia complicates about 5% of all pregnancies worldwide and is one of the leading causes of maternal and fetal morbidity and even mortality [1]. The disorder is defined as new onset of hypertension and end-organ dysfunction including proteinuria after 20 weeks of gestation in pregnancy. Hypertension in pregnancy is defined as blood pressure of greater than 140 mmHg systolic or 90 mmHg diastolic, or both. Proteinuria is spillage of 300 mg or more of protein in a 24 hour urine collection or a protein to creatinine ratio of 0.3 mg/dL using a spot urine protein and spot urine creatinine [2,3].

We conducted a retrospective study in the patients of preeclampsia attending a tertiary care hospital to identify a crucial step or link to decrease the morbidity and mortality in developing countries.

METHODS

This is a retrospective study conducted from January - 2022 to January - 2023 at Tertiary Care Centre and results were analysed. This study analysed the cases in reference to age, parity, antenatal care and gestational age. The study included deliveries conducted between this period and 275 cases were diagnosed for preeclampsia.

Inclusion Criteria :

- According to ACOG guideline preeclampsia patients with systolic BP > 140 mmHg and diastolic BP > 90 mmHg occurring 4 hrs apart on two occasions.
- High BP after 20 weeks of pregnancy.
- Urine albumin +1 with dip stick method which is correlated with urine protein level > 300 mg/24 hrs.
- Prepregnancy BP was normal.
- In absence of proteinuria new onset of hypertension with End Organ Damage.
- Past h/o of preeclampsia.

Exclusion Criteria:

- Patients who have normal blood pressure (SBP < 140 mmHg, DBP < 90 mmHg) during and before pregnancy.
- High BP before 20 weeks of pregnancy.
- Urine albumin trace / NIL with dip stick method.
- Patients who have past or present history of convulsion, chronic hypertension.

The study was done in retrospective analysis of the delivery registered (Labour room) and hospital medical records assessed at the time of presentation, which includes age, parity, gestational age, general status, blood pressure, protein urea using dipstick method.

Statistical Analysis :

- The mean and standard deviation were used to present continuous variables with normal distribution while median and inter quartile ranges were used in skewed data.
- Chi square test and t-test were used for comparison of categorical and continuous variables.
- P value less than .05 was taken as statistically significant.

RESULTS

During the review period, a total of 9261 deliveries were recorded and 275 cases of preeclampsia were reported, this accounting for an incidence rate 2.96%.

Table - 1 : Booking Status At G.G.H.

Booked	No. of cases	Percentage
Yes	103	37.45%
No	172	62.54%

Out of cases of preeclampsia 103 (37.45%) were booked cases in our hospital (Table 1).

Out of 275 cases authors studied, 172 (62.54%) did not received regular antenatal care.

Table - 2 : According To Age Of Patients

Age of patients (in years)	No. of cases	Percentage
20	31	11.27%
21-30	174	63.27%
>30	70	25.45%

The preeclampsia condition is normally seen in patients with age group of 21-30 years (63.27%) as shown in Table - 2 and with gestational age of 34-38 weeks (54.54%).

Chart - 1 shows that 53.45% patients were primigravidae and 46.54% patients were multigravidae.

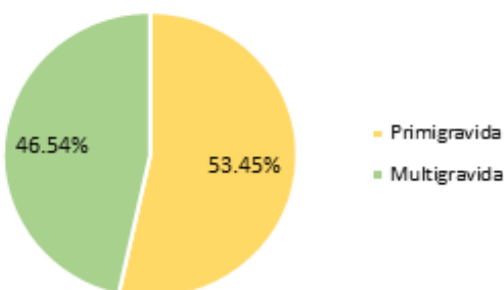
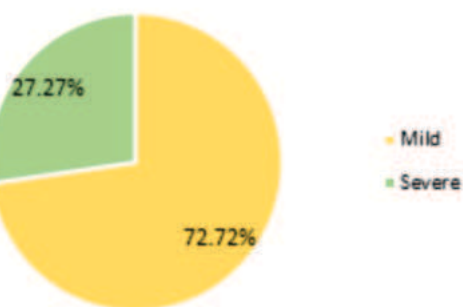
Parity of preeclampsia patients**Chart - 1****Types of preeclampsia****Chart - 2**

Chart - 2 shows during study 72.72% patients had mild preeclampsia and 27.27% patients had severe preeclampsia.

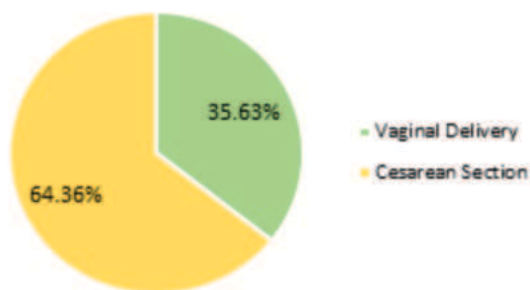
Mode of delivery**Chart - 3**

Chart - 3 shows during study 35.63% patients were delivered with vaginal delivery and 64.36% patients were delivered with cesarean section and total 1 (0.36%) case of hysterectomy noted.

Table - 3 : Maternal Outcome

Complications	No. of cases	Percentage
HELLP	4	1.45%
DIC	2	0.72%
PRESS	2	0.72%
Eclampsia	4	1.45%
Brain Haemorrhage	1	0.36%
PPH	1	0.36%
Obs. ICU admission	128	46.54%
ICCU admission	18	2.90%
SICU admission	3	1.09%
Death	2	0.72%
Total	165	60%

Maternal outcome : 165 out of 275 developed complications during the course of period. Most common complications associated with preeclampsia that authors observed was hemodynamic instability

(HELLP) and DIC. Authors had noted 149 ICU admissions and 2 fatal cases noted.

Table - 4 : Fetal Outcomes

Fetal outcome	No. of cases	Percentage
IUFD	7	2.54%
Still birth	8	2.90%
IUGR	10	3.63%
Preterm	38	13.8%
Low birth weight	12	4.36%
Total	75	27.27%

Table - 4 presents for overall effects of preeclampsia on pregnancy outcomes. Low birth weight and Preterm deliveries were higher in preeclampsia patients. 12 patients (4.36%) had low birth weight of <2500 g. There were 7 (2.54%) intra uterine death and 8 (2.90%) still birth and 10 (3.63%) IUGR.

DISCUSSION:

Incidence of preeclampsia in our study was 2.96% which is within the range of global incidence rate in developing countries of preeclampsia which is 1.82-16.7%. Morbidity and mortality observed in patients of preeclampsia in our study is similar to that observed in studies from other regions of our country.

Our study indicates that one of the major contributors to the poor outcome may be the inadequate care provided to the pregnant women. 62.54% of pregnant women did not receive any antenatal care.

Failure to screen for preeclampsia by basic modalities like BP and urine protein reflects the lack of access to basic equipments in peripheral health care centers. Other factors contributing to preeclampsia related outcome is poor and often inadequate management given at the peripheral centers.

Moreover, there seems to be a failure to recognize and manage complications associated with preeclampsia at peripheral centers. Many of the patients were critically ill on arrival at the critical care center.

Like other developing countries, preeclampsia is still a major cause of obstetric problems in India. In our study authors found that preeclampsia 53.45% women were primigravidas which was comparable to other studies conducted by B Vani et al[4] and WFS Rangkuti et al[5] who found that 59.85% and 50% were primigravidas in their respective studies.

In the study conducted by S Mubarik et al[6] and Iosr-JDMS et al[7], 19.8% and 48.63% of women respectively were in the age group of less than 24 years. These results were consistent with our study where authors found 63.27% women in the age group of 21-30 years.

In the study conducted by MF Melese et al[8] and A Mause et al[9] the low birth weight rate was found to be 16.1% and 9.6% respectively and IUFD rate 8.9% and 7.22% respectively and IUGR rate 5.4% and 15.66% respectively which was comparable to our study with a rate of low birth is 4.36% and IUFD rate is 2.54% and IUGR rate 3.63%.

The high rates of perinatal mortality could be explained by the earlier mentioned factors like delays in referral, increased onset of fit to delivery interval, presence of multiple co morbid complications.

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