

## Original Article

# Prevalence of Pregnancy Induced Hypertension in a Tertiary Care Health Centre

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### ABSTRACT:

**Background:** Pregnancy induced hypertension (PIH) is one of the most common causes of both maternal and neonatal morbidity, affecting about 5 – 8 % of pregnant women. This study recorded the pregnancy induced hypertension and other symptoms in pregnant women. **Materials & Methods:** This study included 2538 pregnant women visited the department during this period. A performa was made and all relevant information regarding name, age were entered. Blood pressure was measured in all women using mercury sphygmomanometer was used throughout the study. Proteinuria was detected by commercially available dipsticks. Value  $\geq 1+$  was indicative of proteinuria. **Results:** Pre- eclampsia was diagnosed in 60%, gestational hypertension in 22%, eclampsia in 12% and chronic hypertension in 6% of cases. We have recorded various symptoms in study patients. Most commonly seen symptoms were swelling on face/legs (102), headache (45), breathlessness (21), giddiness (14), vomiting (12) and convulsions (9). The difference was significant (P-0.02). Maximum patients with hypertension were seen in age group 18-23 years (126), 24- 28 years (61), 29-34 years (10) and >34 years (6). The difference of distribution on the basis of age group was significant (P-0.05). We have also recorded the education status of patients. 45% (92) were having education upto middle school, 42% (86) upto high school and 13% (25) more than high school. The difference was non significant. 143 patients were housewife, 50 were labourers, 6 were in business and 5 were in service. **Conclusion:** Prevalence of hypertension among pregnant women was 8%. Women with PIH were at higher risk of adverse pregnancy outcomes than those without. Women should be educated regarding toxemia of pregnancy to avoid complications.

**Key Words:** Hemorrhage, Hypertension, Infection, Pregnancy

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### INTRODUCTION

Pregnancy is the physiological state. Childbirth usually takes about 38 weeks after conception, which is approximately 40 weeks from the last menstrual period. The WHO defined normal term for delivery as between 37 weeks and 42 weeks.<sup>1</sup>

While motherhood is a positive and enjoyable experience, many women are experiencing suffering, illness, and death. Around 15% of pregnant women are expected to develop life-threatening complications during pregnancy, at delivery or post-partum. These include hypertension, hemorrhage, infection, cervical insufficiency, gestational diabetes and preterm labour, etc. Among all complications, hypertension is the leading causes of maternal and perinatal deaths in developing countries. Hypertensive disorders of pregnancy rank high among the causes of maternal mortality and morbidity. Hypertension in pregnancy is defined as a systolic BP of 140 mmHg and higher, and a

diastolic BP of 90 mmHg and higher. It affects 5% - 8% of all pregnancies and it affects 20% - 30% of the adult population. Studies have shown that almost 15% of maternal deaths are related to hypertension (HTN).<sup>2</sup>

The American College of Obstetricians and Gynecologists (ACOG) has classified pregnancy induced hypertension (PIH) into four types: 1. gestational hypertension, where after the 20th week of gestation, resting BP is 140/90 mmHg or higher; 2. chronic hypertension, which exists before pregnancy or begins in the first 20 weeks of gestation; 3. preeclampsia that is raised BP and edema or proteinuria/ eclampsia which includes preeclampsia and seizures; and 4. preeclampsia superimposed on chronic hypertension.<sup>3</sup>

The incidence of preeclampsia is 10% in primigravidae and 5% in multigravidae. A study conducted by Zhang<sup>4</sup> and associates reported that the incidence of preeclampsia was

doubled in women whose daily intake of ascorbic acid was less than 85 mg.

Pregnancy induced hypertension (PIH) is one of the most common causes of both maternal and neonatal morbidity, affecting about 5 – 8 % of pregnant women. PIH is a major pregnancy complication associated with premature delivery, intra-uterine growth retardation (IUGR), abruptio placentae, and intra-uterine death, as well as maternal morbidity and mortality.

This study recorded the pregnancy induced hypertension and other symptoms in pregnant women.

**MATERIALS & METHODS**

The present cross sectional study was conducted in the department of gynaecology and obstetrics, Santosh Medical College, Ghaziabad, Uttar Pradesh from May 2012 to October 2012. This study included 2538 pregnant women visited the department during this period. A performa was made and all relevant information regarding name, age were entered. Blood pressure was measured in all women using mercury sphygmomanometer was used throughout the study. Proteinuria was detected by commercially available dipsticks. Value  $\geq 1 +$  was indicative of

proteinuria. Results were then subjected to statistical analysis. P value  $<0.05$  was indicative of significant results.

**RESULTS**

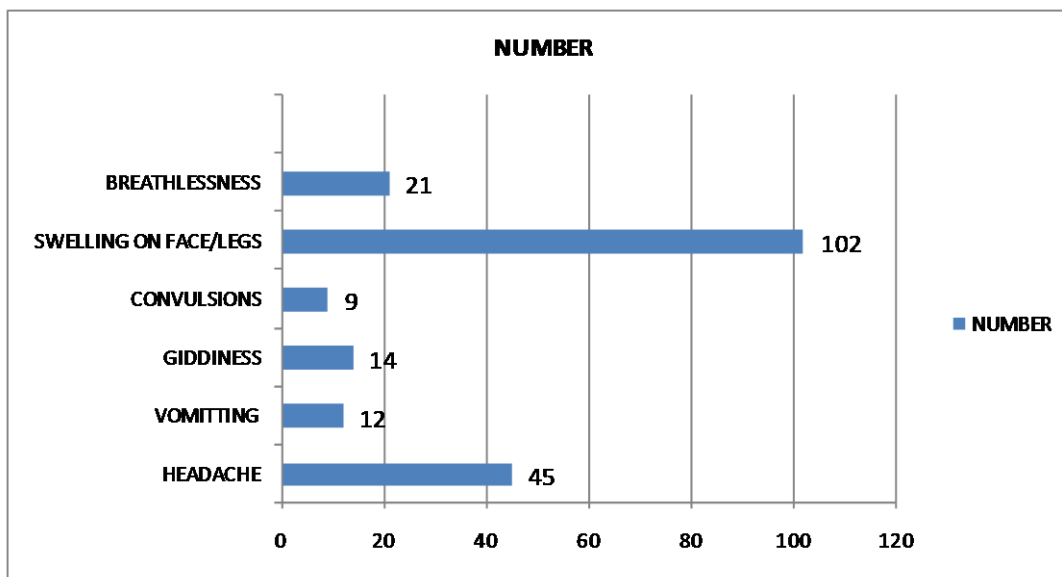
Table I shows distribution of patients on the basis of hypertensive disorder of pregnancy. Pre- eclampsia was diagnosed in 60%, gestational hypertension in 22%, eclampsia in 12% and chronic hypertension in 6% of cases. We have recorded various symptoms in study patients. Most commonly seen symptoms were swelling on face/legs (102), headache (45), breathlessness (21), giddiness (14), vomiting (12) and convulsions (9). The difference was significant (P-0.02) (Graph I).

Graph II shows that maximum patients with hypertension were seen in age group 18-23 years (126), 24- 28 years (61), 29-34 years (10) and  $>34$  years (6). The difference of distribution on the basis of age group was significant (P-0.05). We have also recorded the education status of patients. 45% (92) were having education upto middle school, 42% (86) upto high school and 13% (25) more than high school. The difference was non significant (Graph III). Table II shows 143 patients were housewife, 50 were labourers, 6 were in business and 5 were in service. The difference was significant (P-0.01).

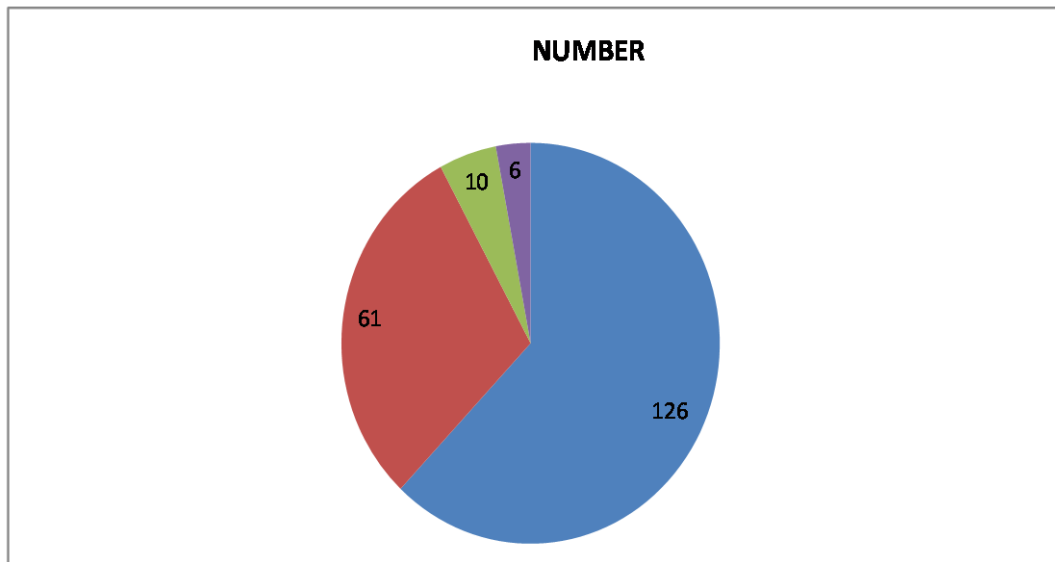
**TABLE I:** Distribution of patients

CONDITION	NUMBER
Pre-Eclampsia	122 (60%)
Gestational Hypertension	44 (22%)
Eclampsia	25 (12%)
Chronic Hypertension	11 (6%)
Total	203 (100%)

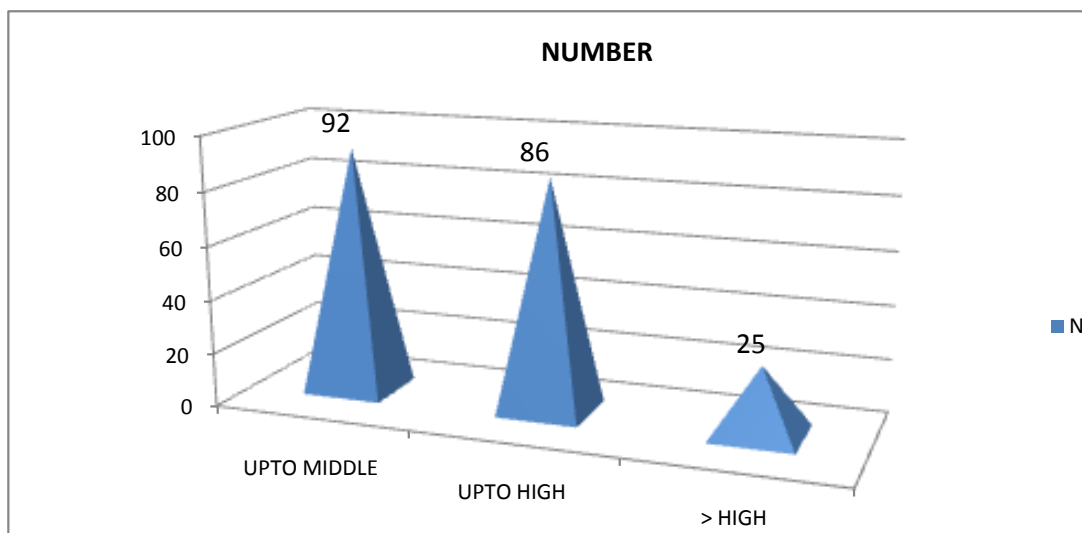
**GRAPH I** Frequency of symptoms in patients



**GRAPH II :** Pie chart showing distribution of patients on the basis of age group



**GRAPH III** Distribution of patients on the basis of education status



**TABLE II** Distribution of patients according to occupation

OCCUPATION	NUMBER
Housewife	143
Bussiness	6
Labourer	50
Service	5

## DISCUSSION

Hypertensive disorders of pregnancy are public health problems globally. Global studies showed that preeclampsia and eclampsia were associated with higher rates of maternal mortality, prenatal mortality, and morbidity, preterm and small for gestational age deliveries. Women with HDP are five times more likely to have perinatal death compared with women who have no hypertensive disorders of pregnancy. We examined 2538 pregnant women and found that hypertension is present in 203 (8%) women.

Roberts et al. (2005)<sup>5</sup> examined hypertensive pregnancy disorders in 250,173 pregnant women and their newborns in Sydney-Australia. 9.8% of the mothers had pregnancy induced hypertension (PIH) disorders. Another study conducted in Nigeria on 2393 deliveries found 127 (5.3%) cases affected with PIH disorders.<sup>6</sup>

Pre- eclampsia was diagnosed in 60%, gestational hypertension in 22%, eclampsia in 12% and chronic hypertension in 6% of cases. However study by Henry<sup>7</sup> in his study recorded Pre- eclampsia in 42%, eclampsia in 2% and chronic hypertension in 26% and gestational hypertension in 36% of cases.

We have recorded various symptoms in study patients. Most commonly seen symptoms were swelling on face/legs, headache, breathlessness, giddiness, vomiting and convulsions.

Shruti S.Dubhashi et al<sup>8</sup> conducted a study at B.Y. Nairhospital in Mumbai ,India found that edema experienced by 54% of patients followed by headache (30%) followed by blurring of vision and oligouria (2%). J.Prakash et al<sup>9</sup> observed that edema was the most common symptom, followed by headache (51.39), eclamptic convulsions (40.28%), epigastric pain(27.77%) and blurring of vision.

We found that maximum patients with hypertension were seen in age group 18-23 years (126), followed by 24- 28 years (61), 29-34 years (10) and >34 years (6). Similar results were found in study by L Y C Poon et al.<sup>10</sup> who found that hypertensive in pregnancy is common in age group 15-25 yrs. We have also recorded the education status of patients. 45% (92) were having education upto middle school, 42% (86) upto high school and 13% (25) more than high school.

Our study showed 143 patients were housewife, 50 were labourers, 6 were in business and 5 were in service. Hinggins et al(2002)<sup>11</sup> found that prevalence of

hypertension during pregnancy is more among women who have to do more physical work during pregnancy.

Possible selection bias among women recruited into this study cannot be ruled out. The study was conducted over a short period of time thus we could have missed essential characteristics among women who did not get the chance to be part of this study.

## CONCLUSION

Prevalence of hypertension among pregnant women was 8%. Women with PIH were at higher risk of adverse pregnancy outcomes than those without. Women should be educated regarding toxemia of pregnancy to avoid complications.

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