

## ORIGINAL ARTICLE

### Pregnancy Induced Hypertension in 134 women- A Clinical Study

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#### ABSTRACT:

**Background:** Pregnancy-induced hypertension (PIH) leads to 15% of maternal deaths. This present study was conducted to determine pregnancy induced hypertension. **Materials & Methods:** The present study was conducted in the department of Gynaecology and Obstetrics. It included 1240 pregnant women. In all subjects, blood pressure was measured in using mercury sphygmomanometer and cases of pregnancy induced hypertension were recorded. **Results:** Out of 1240 pregnant women examined, 134 (10.8%) found positive for hypertension. Pre- eclampsia was seen in 67 (50%), gestational hypertension in 30 (22%), eclampsia in 16 (12%) and chronic hypertension in 21 (16%) of patients. The difference was significant (P< 0.05). Maximum patients with hypertension were seen in age group 18-23 years (68), 24- 28 years (34), 29-34 years (20) and >34 years (12). The difference was significant (P< 0.01). Common symptoms were swelling on face/legs (40), headache (34), breathlessness (18), giddiness (20), vomiting (10) and convulsions (12). The difference was significant (P< 0.05). 102 patients were housewife, 20 were labourers, 9 were in business and 3 were in service. The difference was significant (P< 0.05). **Conclusion:** Complications in pregnancy are common. Pregnancy induced hypertension is the biggest challenge for pregnancy.

**Key words:** Eclampsia, Hypertention, Housewife.

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#### INTRODUCTION

Pregnancy, also known as gestation, is the time during which one or more offspring develops inside a woman. Pregnancy is the physiological state. Childbirth usually takes about 38 weeks after conception, which is approximately 40 weeks from the last menstrual period. Complications in pregnancy are not uncommon. Most common are pregnancy induced hypertension, hyperemesis gravidarum, low back pain, maternal bleeding, complications of abortion, high blood pressure of pregnancy, maternal sepsis, obstructed labor, hemorrhage, infection, cervical insufficiency, gestational diabetes and preterm labour, etc.<sup>1</sup>

Pregnancy-induced hypertension (PIH) leads to 15% of maternal deaths. It involves systemic vasospasm that can lead to poor perfusion and eventually tissue ischemia, affecting placental blood flow and the maternal cardiovascular, renal, neurologic, hepatic and hematologic systems. Hypertensive disorders of pregnancy rank high among the causes of maternal mortality and morbidity.<sup>2</sup>

Ill health as a result of pregnancy is experienced by more than 18 million women around the world. Among all complications, hypertension is the leading causes of maternal and perinatal deaths in developing countries. 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 6% - 9% of all pregnancies and it affects

22% - 35% of the adult population. Studies have shown that almost 16% of maternal deaths are related to hypertension (HTN).<sup>3</sup>

Pregnancy induced hypertension (PIH) is divided 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. The incidence of preeclampsia is 10% in primigravidae and 5% in multigravidae.<sup>4</sup> This present study was conducted to assess pregnancy induced hypertension.

#### MATERIALS & METHODS

The present study was conducted in the department of Gynaecology and Obstetrics. It comprised of 1240 pregnant women visited the department. All were informed regarding the study and written consent was obtained. Ethical approval was taken prior to the study.

General information such as name, age etc. was recorded. In all pregnant women, blood pressure was measured in using mercury sphygmomanometer. Results were tabulated and then subjected to statistical analysis. P value less than 0.05 was considered statistical significant.

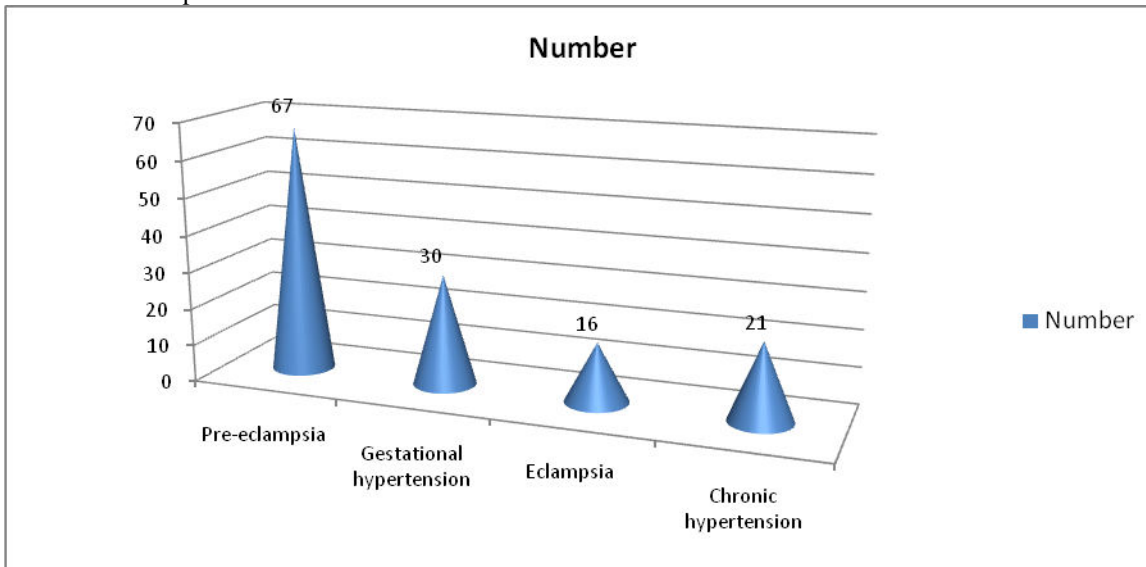
**RESULTS**

**Table I** Prevalence of pregnancy induced hypertension

Total	PIH	Percentage
1240	134	10.8%

Table I shows that out of 1240 pregnant women examined, 134 (10.8%) found positive for hypertension.

**Graph I** Distribution of patients



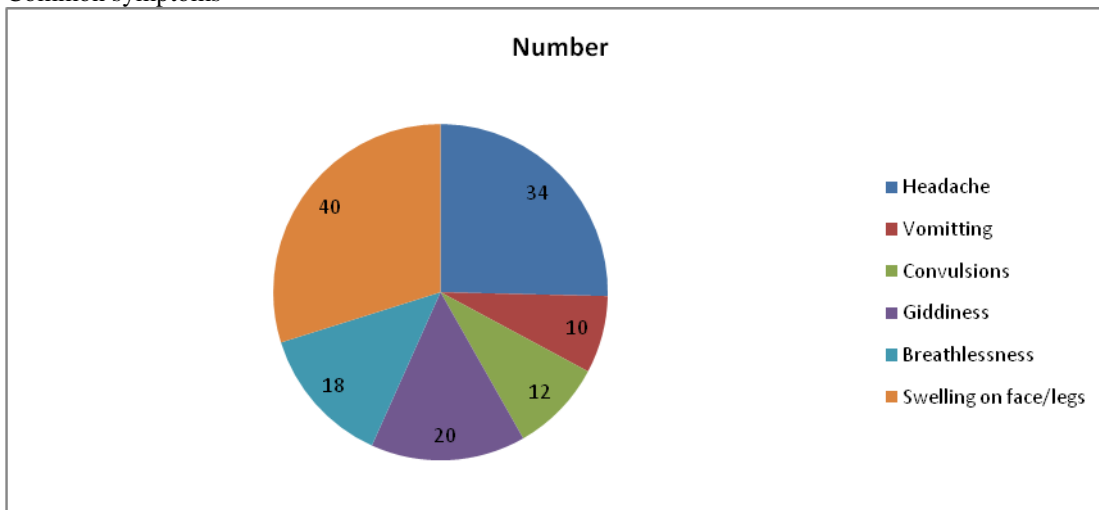
Graph I shows that pre- eclampsia was seen in 67 (50%), gestational hypertension in 30 (22%), eclampsia in 16 (12%) and chronic hypertension in 21 (16%) of patients. The difference was significant (P< 0.05).

**Table II** Age wise distribution of patients

Age group (years)	Number	P value
18-23	68	0.01
24-28	34	
29- 34	20	
>34	12	

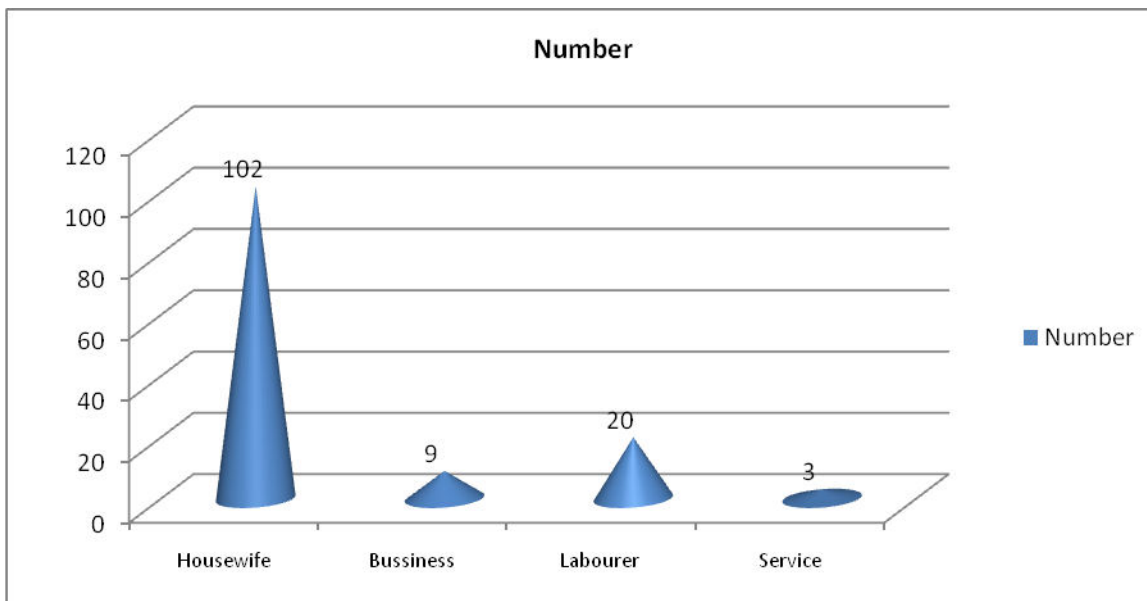
Graph I shows that maximum patients with hypertension were seen in age group 18-23 years (68), 24- 28 years (34), 29-34 years (20) and >34 years (12). The difference was significant (P< 0.01).

**Graph II** Common symptoms



Graph II shows that common symptoms were swelling on face/legs (40), headache (34), breathlessness (18), giddiness (20), vomiting (10) and convulsions (12). The difference was significant ( $P < 0.05$ ).

**Graph III** Distribution of patients according to occupation



Graph III shows that 102 patients were housewife, 20 were labourers, 9 were in business and 3 were in service. The difference was significant ( $P < 0.05$ ).

**DISCUSSION**

Dietary, immunological, genetic, and hemodynamic factors have been implicated in PIH, but researchers do not fully understand the disease or its etiology. Central to the condition is vasospasm, which leads to increased resistance to blood flow with resultant hypertension that can lead eventually to multisystem organ damage. Hypertension can lead directly to cardiac failure, brain hemorrhage, or pulmonary edema.<sup>5</sup>

In this study, we estimated the prevalence of hypertension in pregnant women. We examined 1240 pregnant women and found that hypertension is present in 134 (10.8%) of pregnant women.

Lalit et al<sup>6</sup> found hypertensive pregnancy disorders in 9.8% of the mothers.

We observed that pre- eclampsia was seen in 67 (50%), gestational hypertension in 30 (22%), eclampsia in 16 (12%) and chronic hypertension in 21 (16%) of patients. However study by Uday Mathur et al<sup>7</sup> recorded pre-eclampsia in 49%, eclampsia in 11% and chronic hypertension in 27% and gestational hypertension in 13% of cases. We found that maximum patients with hypertension were seen in age group 18-23 years (68), 24-28 years (34), 29-34 years (20) and >34 years (12). This is in agreement with Higgins J.<sup>8</sup>

We found that most commonly seen symptoms were swelling on face/legs, headache, breathlessness, giddiness, vomiting and convulsions. Lucie et al<sup>9</sup> conducted a study and found that 41% of patients had headache, convulsion, blurring of vision and oligouria. Ravi et al<sup>10</sup> observed that edema was the most common symptom (55%), followed by headache (32%), eclamptic convulsions (7%) and epigastric pain (14%).

Preeclampsia is multisystem disorder characterized by development of hypertension to the extent of 140/90 mmHg or more with oedema or proteinuria or both after 20 weeks of gestation. Preeclampsia often affects young and nulliparous women. If there is onset of convulsion in women with preeclampsia and this cannot be attributed to other cause, then it is termed eclampsia. The seizures are generalized and may appear before, during or after labour. Preeclampsia superimposed on chronic hypertension, predispose to development of superimposed preeclampsia and eclampsia. In this study, 102 patients were housewife, 20 were labourers, 9 were in business and 3 were in service. Ratnaval<sup>11</sup> found that prevalence of hypertension during pregnancy is more among women who have to do more physical work during pregnancy.

Andreas et al<sup>12</sup> reported that abnormal uterine perfusion, independently of the pregnancy outcome, has a significant impact on maternal cardiovascular control. Measures of blood pressure variability, baroreflex sensitivity and heart rate variability might be used for improved risk stratification.

## CONCLUSION

There are many complications in pregnant women. Pregnancy induced hypertension is frequently encountered complication in pregnancy.

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