

## Original Research

## Assessment of cases of pregnancy induced hypertension

<sup>1</sup>Geeta Rana, <sup>2</sup>Amit Varshney<sup>1</sup>Assistant Professor, Department of Obs & Gynae, K M Medical College, Mathura, Uttar Pradesh, India;<sup>2</sup>Assistant Professor, Department of General Medicine, Major S D Singh Medical College, Farukhabad, Uttar Pradesh, India**ABSTRACT:**

**Background:** Preeclampsia is a leading cause of maternal and neonatal mortality and morbidity, predominantly in developing countries. The present study was conducted to evaluate cases of pregnancy induced hypertension (PIH). **Materials & Methods:** 90 pregnant women were enrolled. In all pregnant women, blood pressure was measured with mercury sphygmomanometer while the woman was seated in the upright position and supine position using a mercury sphygmomanometer apparatus. **Results:** Age group <20 years had 52, 21-25 years had 28 and 26-30 years had 10 patients. 40 had primary, 32 had secondary and 18 had higher education. 26 were single and 64 were married. The difference was significant ( $P < 0.05$ ). Common type was pre-eclampsia in 36, gestational in 40, eclampsia in 10 and chronic hypertension in 4 cases. The difference was significant ( $P < 0.05$ ). **Conclusion:** Maximum cases were less than 20 years old, had primary education and married.

**Key words:** Hypertension, pregnancy, Preeclampsia

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**Corresponding author:** Amit Varshney, Assistant Professor, Department of General Medicine, Major S D Singh Medical College, Farukhabad, Uttar Pradesh, India**This article may be cited as:** Rana G, Varshney A. Assessment of cases of pregnancy induced hypertension. J Adv Med Dent Scie Res 2019;7(1):203-205.**INTRODUCTION**

Hypertension in pregnancy is defined as systolic blood pressure greater than or equal to 140 mmHg and/or diastolic blood pressure greater than or equal to 90 mm Hg in two occasions at least 6 hours apart after fifth month of gestation for pregnancy induced hypertension or before pregnancy/before 20 weeks of gestation for chronic hypertension.<sup>1</sup> Hypertensive disorders of pregnancy (HDP) refers to categories of conditions characterized by elevated blood pressure and classified as chronic hypertension (of any cause diagnosed before 20 weeks of gestation), gestational hypertension, chronic hypertension with superimposed preeclampsia and preeclampsia – eclampsia.<sup>2</sup>

Preeclampsia is a leading cause of maternal and neonatal mortality and morbidity, predominantly in developing countries. The disorder is usually diagnosed in late pregnancy by the presence of high blood pressure with proteinuria and/or edema.<sup>3</sup> Prevention of any disease process needs awareness of its prevalence, etiology and pathogenesis. Medications should be reviewed when pregnancy is first

diagnosed.<sup>4</sup> Generally, maternal mortality due to hypertensive disorders of pregnancy remained high in spite of all the efforts. Studies conducted in different parts of the globe reported a range of risk factors though findings were not conclusive showing variations among populations and ethno-geographic groups.<sup>5</sup> Moreover, inconsistent findings prevail across literatures even for a particular risk factor.<sup>6</sup> The present study was conducted to evaluate cases of pregnancy induced hypertension (PIH).

**MATERIALS & METHODS**

The present study comprised of 90 pregnant women. All women were enrolled and their written consent was obtained.

Parameters such as name, age etc was recorded. A thorough clinical examination was done. In all pregnant women, blood pressure was measured with mercury sphygmomanometer while the woman was seated in the upright position and supine position using a mercury sphygmomanometer apparatus. Results thus obtained were subjected to statistical

analysis. P value less than 0.05 was considered significant.

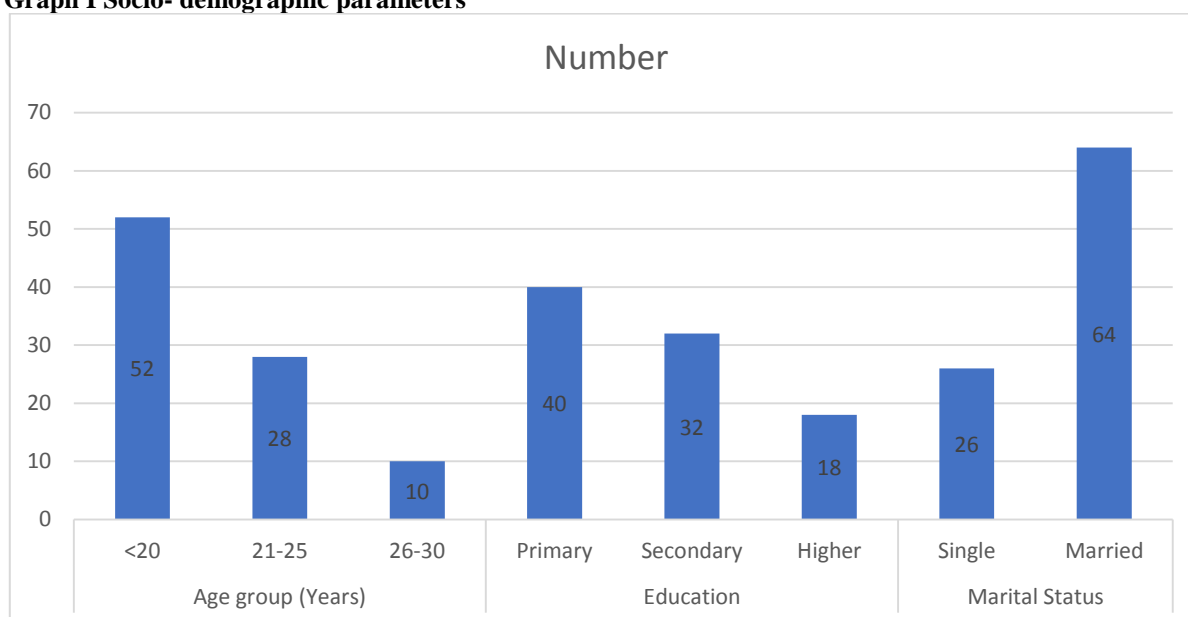
**RESULTS**

**Table I Socio- demographic parameters**

Parameters	Variables	Number	P value
Age group (Years)	<20	52	0.04
	21-25	28	
	26-30	10	
Education	Primary	40	0.01
	Secondary	32	
	Higher	18	
Marital Status	Single	26	0.01
	Married	64	

Table I shows that age group <20 years had 52, 21-25 years had 28 and 26-30 years had 10 patients. 40 had primary, 32 had secondary and 18 had higher education. 26 were single and 64 were married. The difference was significant (P<0.05).

**Graph I Socio- demographic parameters**



**Table II Distribution of cases**

Type	Percentage	P value
Pre- eclampsia	36	0.05
Gestational	40	
Eclampsia	10	
Chronic hypertension	4	

Table II shows that common type was pre- eclampsia in 36, gestational in 40, eclampsia in 10 and chronic hypertension in 4 cases. The difference was significant (P<0.05).

**DISCUSSION**

Hypertensive disorder of pregnancy is a global public health concern both in developed and developing countries.<sup>7,8</sup> However, the risk that a woman in a developing country will die of the complications of hypertensive disorders of pregnancy is approximately 300 times higher than that for a woman in a developed country.<sup>9</sup> A woman who develops pre-eclampsia is three times more likely to progress to eclampsia and if eclampsia is developed it is up to 14 times more likely to die of eclampsia.<sup>10,11</sup> The present study was

conducted to evaluate cases of pregnancy induced hypertension (PIH).

In present study, age group <20 years had 52, 21-25 years had 28 and 26-30 years had 10 patients. 40 had primary, 32 had secondary and 18 had higher education. 26 were single and 64 were married. Kalsay et al<sup>12</sup> enrolled 110 cases and 220 controls who were pregnant women. Rural residents were at greater odds of suffering from hypertensive disorders (OR = 3.7, 95% CI; 1.9, 7.1). Similarly, mothers who consume less amount of fruits in their diet had 5 times higher odds of developing hypertensive disorders than

those who consume fruits regularly (OR = 5.1, 95% CI; 2.4, 11.15). Overweight (BMI > 25 Kg/m<sup>2</sup>) mothers were also at risk of developing hypertensive disorders of pregnancy as compared with the normal and underweight mothers (AOR = 5.5 95% CI; 1.12, 27.6). The risk of developing hypertensive disorders of pregnancy was 5.4 times higher among diabetic mothers.

We found that common type was pre-eclampsia in 36, gestational in 40, eclampsia in 10 and chronic hypertension in 4 cases. Bangal et al<sup>13</sup> found that there were 50 women with PIH and 50 women without PIH. The women with PIH and without PIH, both groups were matched for their background information. It was found that there was no association with primipara and multipara with PIH. Menstrual history had also no association with present PIH condition. Family history of hypertension and family history of diabetes mellitus also had not association with present PIH. Past history of PIH had strong association with current PIH for women who are multigravida. Also, there was interesting observation that vegetarian had higher chance of getting PIH than mixed diet pattern. Parazzini et al<sup>14</sup> analyzed determinants of the risk of pregnancy-induced hypertension (PIH) with or without proteinuria and compared characteristics of women enrolled in the Italian Study of Aspirin in Pregnancy who developed PIH and those who did not. A total of 756 women were included in the present analysis; of these, 132 women (17%) developed PIH during the trial. The risk of developing PIH tended to increase with maternal age: in comparison with women age 20-25 years, the odds ratio (OR) estimates of risk ratio were 3.5 [95% confidence interval (CI) = 1.6-7.1] in women age 26-30 years and 4.2 (95% CI = 1.9-8.8) in those age > 30 years. There was little relation between development of PIH and education. PIH risk increased according to nonpregnant body mass index; in comparison with women with Quetelet's index (kg per m<sup>2</sup>) < 25, the OR estimates were 1.7 (95% CI = 1.1-2.7) and 2.1 (95% CI = 1.3-3.6), respectively, for women with a value for Quetelet's index of > 25-30 and > 30. Parous women were at decreased risk of PIH: in comparison with nulliparas, the ORs were 0.7 (95% CI = 0.4-1.0) and 0.5 (95% CI = 0.3-0.9), respectively, in women reporting 1 or > or = 2 births. There was no important relation between previous spontaneous or induced abortion and PIH risk.

## CONCLUSION

Authors found that maximum cases were less than 20 years old, had primary education and married.

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