

Original Article

Evaluation of cases of pregnancy induced hypertension

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ABSTRACT:

Background: Hypertensive disorders of pregnancy, an umbrella term that includes pre-existing and gestational hypertension, preeclampsia, and eclampsia. The present study was conducted to evaluate cases of pregnancy induced hypertension. **Materials & Methods:** 68 cases of pregnancy induced hypertension (PIH) were recruited. Parameters such as age, marital status, education, parity etc. were recorded. **Results:** Age group (years) <20 had 13, 20-24 had 24, 25-29 had 20, 30-34 had 7 and >35 had 4 cases. Marital status was married in 54, single in 10 and divorced in 4, education was Illiterate in 26 and literate in 42, gravida was primi in 30 and multi in 38, parity was 0 in 14, 1-2 in 30 and >2 in 24, previous PIH was seen in 19 cases. Family history of hypertension was seen in 15, family history of PIH in 11, family history of DM in 8, history of kidney disease in 6 and history of asthma in 14 cases. The difference was significant (P< 0.05). **Conclusion:** Common risk factors for PIH were family history of hypertension, family history of PIH, family history of DM, history of kidney disease and history of asthma.

Key words: Asthma, kidney disease, Pregnancy induced hypertension.

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INTRODUCTION

Hypertensive disorders of pregnancy, an umbrella term that includes pre-existing and gestational hypertension, preeclampsia, and eclampsia, complicate up to 10% of pregnancies and represent a significant cause of maternal and perinatal morbidity and mortality.¹ PIH can be referred to a type of increased blood pressure of greater or equal 140 mmHg that is associated with excess protein in urine or may not have elevated amount of protein in urine (that is more than or equal to 300mg over a 24 hours period) which begins at twenty weeks of conception, however it can clear up in 12 weeks postnatal.² It also refers to a new onset of excessive protein in urine for the first 24 hours period in women who are hypertensive and who do not have excess protein in urine before 20 weeks of gestation.³

Pregnancy induced hypertension is a major contributors to maternal and perinatal morbidity and mortality. In the United States, about 15% of maternal deaths are attributable to hypertension, making it the

second leading cause of maternal mortality.⁴ Severe hypertension increases the mother's risk of cardiac failure, heart attack, renal failure and cerebral vascular accidents. In addition, the fetus is at increased risk from complications like poor placental transfer of oxygen, growth restriction, preterm birth, placental abruption, stillbirth and neonatal death. Hypertensive disorders represent the most common medical complications of pregnancy with a reported incidence of 5–10%.⁵ The present study was conducted to evaluate cases of pregnancy induced hypertension.

MATERIALS & METHODS

The present study comprised of 68 cases of pregnancy induced hypertension (PIH). Inclusion criteria were women in delivery ward with gestational age greater than 28 weeks and exclusion criteria were women with known chronic hypertension and those who were critically ill and unable to communicate after full course of treatment.

Demographic data such as name, age etc. was recorded. Blood pressure reading was taken while the woman was seated in the upright position and supine position using a mercury sphygmomanometer

apparatus. Parameters such as age, marital status, education, parity etc. were recorded. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Assessment of parameters

Parameters	Variables	Number	P value
Age group (Years)	<20	13	0.051
	20-24	24	
	25-29	20	
	30-34	7	
	>35	4	
Marital status	Married	54	0.01
	Single	10	
	Divorced	4	
Education	Illiterate	26	0.047
	Literate	42	
Gravida	Primi	30	0.12
	Multi	38	
Parity	0	14	0.09
	1-2	30	
	>2	24	
Previous PIH	Yes	19	0.01
	No	49	

Table I, graph I shows that age group (years) <20 had 13, 20-24 had 24, 25-29 had 20, 30-34 had 7 and >35 had 4 cases. Marital status was married in 54, single in 10 and divorced in 4, education was illiterate in 26 and literate in 42, gravida was primi in 30 and multi in 38, parity was 0 in 14, 1-2 in 30 and >2 in 24, previous PIH was seen in 19 cases. The difference was significant (P< 0.05).

Graph I Assessment of parameters

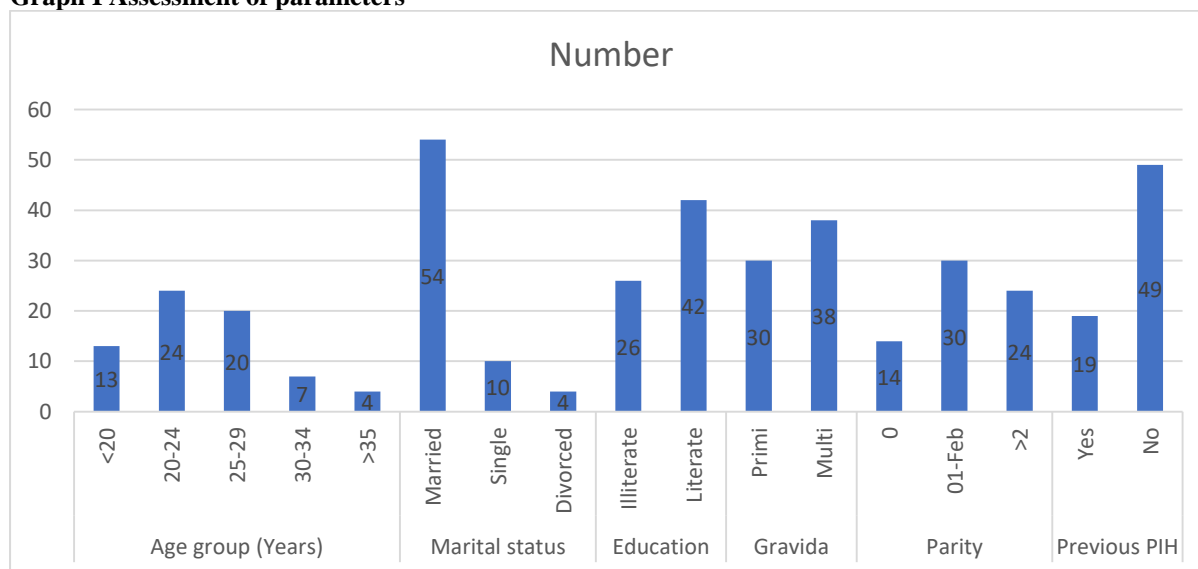


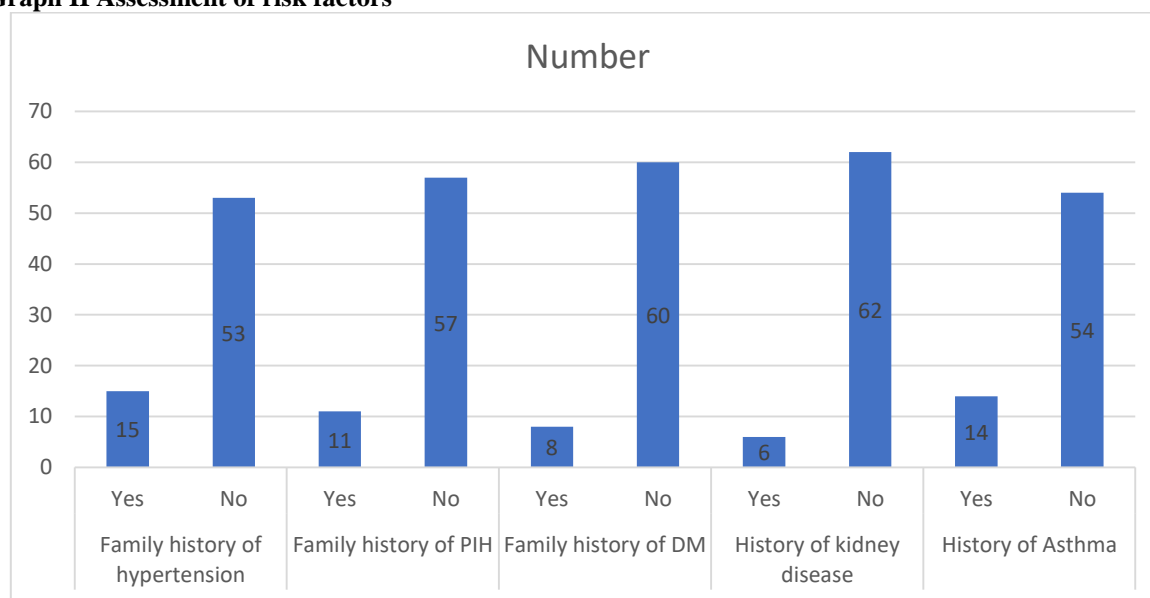
Table II Assessment of risk factors

Parameters	Variables	Number	P value
Family history of hypertension	Yes	15	0.01
	No	53	
Family history of PIH	Yes	11	0.01
	No	57	
Family history of DM	Yes	8	0.02

	No	60	
History of kidney disease	Yes	6	0.05
	No	62	
History of Asthma	Yes	14	0.01
	No	54	

Table II, graph II shows that family history of hypertension was seen in 15, family history of PIH in 11, family history of DM in 8, history of kidney disease in 6 and history of asthma in 14 cases. The difference was significant (P< 0.05).

Graph II Assessment of risk factors



DISCUSSION

Hypertension in pregnancy is a systolic blood pressure ≥ 140 mmHg or diastolic blood pressure ≥ 90 mmHg or both. Both systolic and diastolic blood pressure raises are important in the identification of Pregnancy induced hypertension. Pregnancy induced hypertension (PIH) is hypertension that occurs after 20 weeks of gestation in women with previously normal blood pressure.⁶ The ESC suggests that gestational hypertension should resolve within 42 days postpartum, which is the puerperal period, and that pre-existing hypertension persists beyond this period; however, many investigators support the concept that pregnancy hypertension may be termed chronic hypertension if it persists beyond 12 weeks after delivery.⁷ The present study was conducted to evaluate cases of pregnancy induced hypertension.

In present study, age group (Years) <20 had 13, 20-24 had 24, 25-29 had 20, 30-34 had 7 and >35 had 4 cases. Marital status was married in 54, single in 10 and divorced in 4, education was Illiterate in 26 and literate in 42, gravida was primi in 30 and multi in 38, parity was 0 in 14, 1-2 in 30 and >2 in 24, previous PIH was seen in 19 cases. Gudeta et al⁸ assessed pregnancy induced hypertension and its associated factors among women. The prevalence of pregnancy induced hypertension was 33(7.9%); of which 5(15.2%) were gestational hypertension, 12 (36.4%) were mild preeclampsia, 15(45.5%) were severe

preeclampsia and 1 (3%) eclampsia. Positive family history of pregnancy induced hypertension [AOR5.25 (1.39–19.86)], kidney diseases (AOR 3.32(1.04–10.58)), having asthma [AOR 37.95(1.41–1021)] and gestational age (AOR 0.096(0.04-.23)) were predictors of pregnancy induced hypertension.

We found that family history of hypertension was seen in 15, family history of PIH in 11, family history of DM in 8, history of kidney disease in 6 and history of asthma in 14 cases. Kanymura et al⁹ in their study a systematic review of a total of 66 papers was done. Articles that had information on PIH and its management were reviewed. The main antecedents of PIH were identified which are, stressors in the environment which may be physiological, psychological or socio-cultural, patient’s age is also included, number of pregnancies, the educational level, religion and employment. They may also include maternal characteristics such as anaemia, cardiovascular conditions, endocrine disorders such as diabetes mellitus. Enviromental characteristics for example, presence of services as well as distance, accessibility of the health care, cost of health care services, staffing and staff attitudes and cultural practices.

Some of the remaining potential etiologies include abnormal trophoblast invasion of uterine blood vessels, immunological intolerance between fetoplacental and maternal tissues, maladaptation to

the cardiovascular changes or inflammatory changes of pregnancy, dietary deficiencies, and genetic abnormalities.¹⁰ The pathophysiologic abnormalities of preeclampsia are numerous. Some of the reported abnormalities include placental ischemia, generalized vasospasm, abnormal hemostasis with activation of the coagulation system, vascular endothelial dysfunction, abnormal nitric oxide and lipid metabolism, leukocyte activation, and changes in various cytokines as well as in insulin resistance.¹¹

In the past, treatment of these women has involved bed rest in the hospital for the duration of pregnancy with the belief that such treatment diminishes the frequency of progression to severe disease and allows rapid intervention in case of abrupt progression to abruptio placentae, eclampsia, or hypertensive crisis. However, these complications are extremely rare among compliant women with mild hypertension or mild preeclampsia and absent symptoms.¹²

CONCLUSION

Authors found that common risk factors for PIH were family history of hypertension, family history of PIH, family history of DM, history of kidney disease and history of asthma.

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