ORIGINAL RESEARCH

Evaluation of Prevalence of Pregnancy Induced Hypertension and Its Associated Factors Among Women at a Tertiary Care Centre

Dr. Divyakala Jagadish Karegoudar,

Associate Professor, Department ofObstetrics & Gynaecology, Meenakshi Medical College Hospital And Research Institute, Enathur, Kanchipuram, Tamil Nadu, India

Corresponding author
Dr. Divyakala Jagadish Karegoudar
Associate Professor, Department of Obstetrics & Gynaecology, Meenakshi Medical College Hospital And Research Institute, Enathur, Kanchipuram, Tamil Nadu, India

Received: 09 January, 2020 Accepted: 12 February, 2020

ABSTRACT

Background: It is also estimated that pregnancy induced hypertension (PIH), one of the hypertensive disorders of pregnancy, affects about 5 – 8 % of all pregnant women worldwide. Hence, the present study was conducted to find out the prevalence of PIH and associated factors among the antenatal women. **Materials &Methods:** The study was conducted to find out the prevalence of PIH and associated factors among the 100 antenatal women. The diagnosis of PIH was confirmed by a physician working in labour ward. Data was collected. Statistical Package for Social Sciences (SPSS) software was used for data entry and analysis. P-value less than 0.05 was considered significant. **Results:** In the present study maximum participants were of age group 20-24years and minimum participants were of 30-34 years age group. Maximum women were multigravida. Maximum women were having gestational age>42 weeks. 14 women had pregnancy induced hypertension. 10 women had family history of hypertension and 8 women had history of thyroid problem. **Conclusion:** The present study concluded that 14 women had pregnancy induced hypertension and 10 women had family history of hypertension and 8 women had history of thyroid problem.

Keywords: Pregnancy Induced Hypertension, Thyroid, Antenatal.

INTRODUCTION

Pregnancy is a physiological phenomenon for most women. Sometimes pregnancy won't be normal due to various reasons or risk factors. Mothers need to take care of their health during pregnancy to continue healthy pregnancy. Due to physiological changes, there are many health issues women undergo during pregnancy. Pregnancy-induced hypertension (PIH) is one of the most leading issues and the cause of maternal and fetus mortality.[1]A systolic blood pressure of 140 or above, a diastolic blood pressure of 90 mmHg, or both, is hypertension in pregnancy. Diagnosing hypertension disorder of pregnancy (HDP) requires taking two or more consecutive measurements with elevated systolic and diastolic blood pressure.[2] Pregnancy-induced hypertension (PIH) includes pre-eclampsia, eclampsia, gestational hypertension, and chronic hypertension.[3] Severe preeclampsia in pregnancy is a systolic blood pressure ≥160 mmHg or diastolic blood pressure ≥110 mmHg or both. Eclampsia is a severe type of pregnancy induced hypertension, and it happens in about one in 1,600 pregnancies and develops near the end of pregnancy.[4] The three primary characteristics of pregnancy induced hypertension conditions are high blood pressure, protein in the urine and pathologic edema.[4-6] The incidence of hypertension during pregnancy is on the rise and is associated with an increased risk of fetal growth retardation and adverse birth outcome.[7] Studies from India report that hypertension during pregnancy may contribute to up to one-third of maternal deaths.[8,9] Hence, the present study was conducted to find out the prevalence of PIH and associated factors among the antenatal woman.

MATERIALS & METHODS

The study was conducted in the Department of Obstetrics & Gynaecology, Meenakshi Medical College Hospital And Research Institute, Enathur, Kanchipuram, Tamil Nadu (India) to find out the

prevalence of PIH and associated factors among the 100 antenatal women. The sample frame included pregnant women who were attending the antenatal clinic. Before the commencement of the study ethical approval was taken from the Ethical committee of the institute. All admitted women in delivery ward with gestational age greater than 28 weeks were included to the study whereas women with known chronic hypertension and those who were critically ill and unable to communicate after full course of treatment were excluded from the study. A pregnant women attending delivery service with high blood pressure (≥140/90mmHg) after 28 weeks of gestation was measured two times six hours apart by trained data collectors and with or without proteinuria. The diagnosis of PIH was confirmed by a physician working in labour ward. Pregnancy induced hypertension includes gestational hypertension, pre-eclampsia and eclampsia. A woman who scored greater than the mean score was considered as psychologically stressed. The data was collected by using pre-tested structured questionnaire. The questionnaire contains sections for assessing demographics and associated factors. Data was collected through face-to-face interview, measurements and reviewing of medical records of the mother using pretested structured questionnaire by trained data collectors. Blood pressure reading was taken while the woman was seated in the upright position and supine position using a mercury sphygmomanometer apparatus, and for referred women, BP and protein urea at time of diagnosis were taken from referral form. Statistical Package for Social Sciences (SPSS) software were used for data entry and analysis. After organizing and cleaning the data, frequencies and percentages were calculated. P-value less than 0.05 was considered significant.

RESULTS

In the present study maximum participants were of age group 20-24years and minimum participants were of 30-34 years age group. Maximum women were multigravida. Maximum women were having gestational age>42 weeks.14 women had pregnancy induced hypertension.10 women had family history of hypertension and 8 women had history of thyroid problem.

Table 1: Socio-demographic characteristics of the study participants

Variable	N
Age group	
<20	14
20-24	38
25-29	30
30-34	10
≥35	8
Gravida	
Primi	34
Multi	66
Gestational age (weeks)	
<37	5
37-42	25
>42	70

Table 2: Prevalence of Pregnancy induced hypertension.

Prevalence of Pregnancy induced hypertension	N
Present	14
Absent	86

Table 3: Associated Factors of Pregnancy induced hypertension.

Associated Factors of Pregnancy induced hypertension	Present (N)
Family history of hypertension	10
History of thyroid problem	8
Contraceptive uses	0
Kidney disease	0
Heart disorder	0
Use of corticosteroid medication	0
Diabetes mellitus	0

DISCUSSION

Pregnancy induced hypertension is a major contributors to maternal and perinatal morbidity and mortality. 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.[10]

In the present study maximum participants were of age group 20-24years and minimum participants were of 30-34 years age group. Maximum women were multigravida. Maximum women were having gestational age>42 weeks. 14 women had pregnancy induced hypertension. 10 women had family history of hypertension and 8 women had history of thyroid problem.

The prevalence of PIH in this study is similar with the study conducted in India which was 7.8 %.[11] However, it is slightly lower than the findings of studies done in Iran 9.8% .[12]

There appears to be a striking geographic variation in the prevalence of hypertension across different states of India. The prevalence found in our study is slightly lesser than the reported prevalence rate of 15.5% from a hospital-based study conducted in Kolkata[13] but much higher than that elicited from other similar settings: 7.49% in Indore,[14] 5.38% in Varanasi,[15] and 10.4% in Salem.[16]

Tesfaye Abera Gudeta et al found the prevalence of pregnancy induced hypertension in the study 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.[17]

A similar case–control study was conducted on risk factors associated with PIH among 216 pregnant women attending antenatal care clinic at the Hohoe Municipal Hospital 2017. They found advanced maternal age of 35 to 39 years, consumption of transfatty food, a family history of HTN, and history of previous preterm delivery to be significantly associated with PIH (AOR = 3.53, p = 0.048), (AOR = 4.43, p < 0.001), (AOR = 3.42, p = 0.012) and (AOR = 5.14, p = 0.017), respectively.[18]

CONCLUSION

The present study concluded that 14 women had pregnancy induced hypertension and 10 women had family history of hypertension and 8 women had history of thyroid problem.

REFERENCES

1. Chen XK, Wen SW, Smith G, Yang Q, Walker M. Pregnancy-induced hypertension and infant mortality: roles of birthweight centiles and gestational age. BJOG 2007;114(1):24-31.
2. Johnson S, Liu B, Kalafat E, Thilaganathan B, Khalil A. Maternal and perinatal outcomes of white coat hypertension during pregnancy: a systematic review and meta-analysis. Hypertension 2020 July; 76(1): 157-166.
3. (2011) World Health Organization. WHO recommendations for prevention and treatment of pre-eclampsia and eclampsia.
4. Menzies J,Magee LA, Li J.Instituting surveillance guidelines and adverse outcomes in preeclampsia. ObstetGynecol, 2007; 110:121-7.
5. Parmar MT, Solanki HM, Gosalia VV. Study of Risk Factors of Perinatal Death in Pregnancy Induced Hypertension (PIH). Natl J Community Med. 2012; 3(4).
6. Charles, Aline M. Maternal blood lead levels and the risk of pregnancy-induced hypertension. The EDEN Cohort Study. Environmental Health Perspectives 117.10 (2009): 1526+.
7. Bakker R, Steegers EA, Hofman A, Jaddoe VW. Blood pressure in different gestational trimesters, fetal growth, and the risk of adverse birth outcomes: The generation R study. Am J Epidemiol 2011;174:797-806.
8. Konar H, Chakraborty AB. Maternal mortality: A FOGSI study (Based on institutional data). J Obst Gynecol2013;63:88-95.
9. Doke G, Kamda J. Maternal mortality and its causes in a tertiary care hospital. Int J Reprod Contracept ObstetGynecol2019;8:3471-4.
10. Paola Aghajanian P, Ainbinder S, Andrew E. Vicki VB, Heather B, Helene B et al. Current Diagnosis and Treatment in Obstetrics and Gynecology, the McGraw-Hill., 2006.
11. Sajith M, Vandana NV, Modi A, and Sumariya R, Pawar A. Incidence of pregnancy induced hypertension and prescription pattern of antihypertensive drugs in pregnancy. International Journal of Pharma Sciences and Research, Apr 2014; 5(4).
12. Khosravi, S, Dabiran, S, Lotfi M, Asnavandy M. Study of the Prevalence of Hypertension and Complications of Hypertensive Disorders in Pregnancy. Open Journal of Preventive Medicine, 2014; 4: 860-7.
13. Mohan BS. Pregnancy induced hypertension and prior trophoblastic exposure. J ObstetGynecol Ind 2004;54:568-70.
14. Nadkarni J, Bahl J, Parekh P. Perinatal outcome in pregnancy associated hypertension. Indian Pediatr2001;38:174-8.
15. Prakash J, Pandey LK, Singh AK, Kar B. Hypertension in pregnancy: Hospital based study. J Assoc Physicians India 2006;54:273-8.
16. Sengodan S, Sreeprathi N. Prevalence of hypertensive disorders of pregnancy and its maternal outcome in a tertiary care hospital, Salem, Tamil Nadu, India. Int J Reprod Contracept ObstetGynecol2020 Jan;9(1):236-239.
17. Tesfaye Abera Gudeta, Tilahun Mekonnen Regassa. Pregnancy Induced Hypertension and Its Associated Factors among Women Attending Delivery Service at Mizan-Tepi University Teaching Hospital, Tepi and Gebretsadikshawo Hospitals, Southwest, Ethiopia. Ethiop J Health Sci. 2018; 29 (1):831. doi:http://dx.doi.org/10.4314/ejhs.v29i1.4
18. Sing V, Srivastava M. Associated risk factors with pregnancy-induced hypertension: a hospital-based KAP study. Int J Med Public Health 2015;1:59–61