



PREVALENCE OF HYPERTENSIVE DISORDERS OF PREGNANCY IN BUNDELKHAND REGION

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ABSTRACT

Introduction: Hypertensive disorders of pregnancy are among the leading causes of maternal and perinatal deaths in developing countries¹. Hypertension is a common medical problem that affects 20%-30% of the adult population and more than 5%-8% of all pregnancies in the world^{2,3}. **Material method:** It is a cross sectional descriptive study was conducted in M.L.B Medical College Jhansi. Among the 3500 cases of delivery 364 had hypertension (10.4%). The maternal variables studied were: age, parity, status of mother's BP. Data were extracted upon referring to mothers' existing files, and gathered by completing the study's data collection questionnaire. **Result:** Among the 3500 mothers who had delivered in the hospital 364 had HTN (10.4%). Most mothers fell in the 21-30 years age-group (58.1%), (9.8 %) were aged under 20 and 32.1% were aged over 30 years. 31% were nulliparous and only 4% had over 5 pregnancies.

KEYWORDS : Pregnancy Induced Hypertension, Preeclampsia, Eclampsia

Background

Hypertensive disorders of pregnancy are among the leading causes of maternal and perinatal deaths in developing countries, and many studies have been conducted in this field¹. Hypertension is a common medical problem that affects 20% - 30% of the adult population and more than 5% - 8% of all pregnancies in the world^{2,3}. 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 or diastolic BP of 90 mmHg and higher The American College of Obstetricians and Gynecologists (ACOG) has classified pregnancy induced hypertension (PIH) into four groups of disorders: *gestational hypertension*, where resting BP is 140/90 mmHg or higher after the 20th week of gestation; *chronic hypertension*, that exists before pregnancy or begins in the first 20 weeks of gestation; *preeclampsia* (raised BP and edema or proteinuria)/*eclampsia* (preeclampsia and seizures); and *preeclampsia superimposed on chronic hypertension*^{3,4}. In spite of the high incidence and outcomes of hypertensive disorders of pregnancy, their pathogenesis, clinical manifestations and clinical courses greatly vary and at times complicate the diagnosis⁵. Decades of extensive research on the subject have failed to explain its onset or aggravation, and it is still the most significant unsolved problem in midwifery. Among the theories proposed so far, the most important is the immunologic one. Based on this theory, an immunologic disorder leads to an unnatural implantation and secretion of substances that activate vascular endothelial cells, or damage them, leading to vascular constriction and eventually a raised BP.

PIH is more commonly seen in nulliparous women, and older women (owing to the risk of chronic HTN) are at greater risk of preeclampsia being superimposed. The prevalence of preeclampsia has been reported at 5%, but it is influenced by parity, race, ethnicity, environmental factors, socio-economic status, multiple pregnancies, maternal obesity etc. Hence different statistical results have been obtained in research. This study aimed to determine the prevalence of high blood pressure in pregnancy.

Material & methods

It is a cross sectional descriptive study was conducted in M.L.B Medical College Jhansi.

Hypertensive pregnant mothers (with a BP of 140/90 mmHg or more) who had visited the hospital for delivery during one year went under study, regardless of when their BP had risen. Among the 3500 cases of delivery 364 had hypertension (10.4%). The maternal variables studied were: age, parity, status of mother's BP. Data were extracted upon referring to mothers' existing files, and gathered by completing the study's data collection questionnaire.

Sampling: All hypertensive patients visiting the OPD & Labour Room were studied as a census. The inclusion criteria were: delivery at M.L.B Medical College, existence of adequate data in the mother's files, and existence of HTN (with respect to our set criteria).

In our study hypertension was considered as a systolic BP of 140 mmHg and higher and a diastolic BP of 90 mmHg and higher. Based on the signs & symptoms of disease and a history of HTN before pregnancy, the patients were classified into groups of "gestational hypertension", "chronic HTN", "pregnancy-aggravated chronic HTN", "preeclampsia-eclampsia" and "preeclampsia superimposed on chronic hypertension".

Results

Among the 3500 mothers who had delivered in the hospital 364 had HTN (10.4%). Most mothers fell in the 21 - 30 years age-group (58.1%), (9.8 %) were aged under 20 and 32.1% were aged over 30 years. 31% were nulliparous and only 4% had over 5 pregnancies. The study population's demographic data are displayed in **Table 1**.

VARIABLES	NUMBERS	PERCENTAGE (%)
Maternal age (years)		
< 20	36	9.8
<21-30	211	58.1
>30	117	32.1
Parity		
1	113	31
2	102	28
3-5	135	37
>6	14	4

Table 1. Demographic characteristics of women with hypertension

DISORDER	NUMBER	PERCENTAGE (%)
Gestational Hypertension	79	21.8
Preeclampsia-eclampsia	145	40

Preeclampsia superimposed on chronic hypertension	63	17.2
Chronic hypertension	53	14.5
Pregnancy-aggravated chronic hypertension	24	6.5

Table 2. Shows the frequency distribution of different types of PIH.

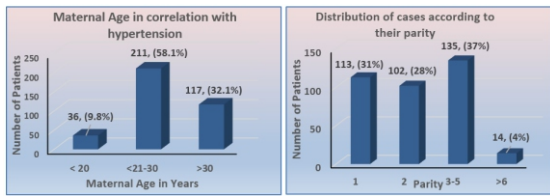


Figure 1

Figure 2

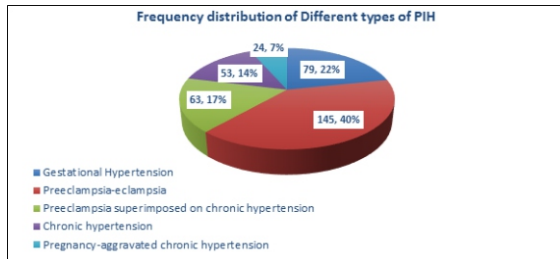


Figure 3

4. Discussion

In a population-based study, Roberts *et al.* (2005) examined hypertensive pregnancy disorders in 250,173 pregnant women and their newborns in Sydney-Australia. On the whole, 9.8% of the mothers had PIH disorders; 6% of these had chronic HTN, 4.2% were affected with preeclampsia, 0.3% had preeclampsia superimposed on chronic HTN, and 4.3% had gestational HTN. Mothers affected with hypertensive disorders were more exposed to maternal mortality and morbidities as compared to those who were not affected⁵. Another study conducted in Nigeria on 2393 deliveries found 127 (5.3%) cases affected with PIH disorders. Gestational HTN, preeclampsia superimposed on chronic HTN and preeclampsia/eclampsia were observed in 26.2%, 19.7% and 54.1% cases, respectively. All the cases that had chronic HTN before pregnancy had experienced superimposed preeclampsia or eclampsia during pregnancy⁶.

In our study, 3500 mothers visiting M.L.B Medical College, Jhansi OPD and Labour Room during one year were studied. 364 cases had HTN (10.4%). Among these, 79 (21.8%) had gestational hypertension, 145 (40%) had preeclampsia-eclampsia, 63 (17.2%) had preeclampsia superimposed on chronic HTN, 53 (14.5%) cases had chronic HTN and 24 (6.5%) had pregnancy-aggravated chronic HTN.

Dr. Jain of Chicago's Illinois University conducted a study on 109,428 deliveries. During the study 8019 mothers had PIH, among which 74.5% had preeclampsia and 25.5% had chronic HTN.

In our study, 53 (14.5%) of the mothers had chronic HTN prior to pregnancy, 63 (17.2%) of which were affected with preeclampsia.

Conclusion

1. Hypertension common in women of 21- 30 years age group i.e. 58.1%
2. Hypertension more common in nulliparous women i.e. 31%
3. Prevalence of preeclampsia-eclampsia is 40%
4. Prevalence of gestational hypertension is 21.8%
5. Prevalence of chronic hypertension is 14.5%
6. Prevalence of preeclampsia superimposed on chronic HTN is 17.2%

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