

Hypertensive Disorders of Pregnancy and Associated Factors

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ABSTRACT

Background: Hypertensive disorders of pregnancy (HDP) are the leading cause of poor maternal and newborn outcome across the globe. In developing countries like India the understanding about the prevalence and associated factors will help the policy makers to think and take required accurate management of hypertensive disorders in pregnancy. Thus this study is aimed to determine the prevalence of HDP and its associated factors among the pregnant women delivered at tertiary care hospital of Northern Karnataka.

Methods: Hospital based retrospective study was conducted on all mothers who gave birth in the labor ward of Tertiary Care Hospital of Northern Karnataka from 1st July 2017 to 30th June 2018. Data was collected from the medical records using structured questionnaire respectively. Data analysis was performed using SPSS for windows version 16.0

Result: Majority (41%) of the mothers were in the age group of 22 - 27years. The overall prevalence of hypertensive disorders of pregnancy was 5.13%. Out of this Pre eclampsia contribute 45%, Chronic Hypertension 6%, Gestational hypertension 37% and Imminent eclampsia 12%. Religion and Blood group was found statistically significant association with severity of the disorder.

Conclusion: Pregnancies complicated by hypertensive disorders have poor maternal and newborn outcomes and women are affected physically and psychologically. Early recognition and management of hypertensive disorders of pregnancy can help the women to manage HDP.

Keywords: Hypertensive disorders, Pregnancy, Pre eclampsia, Gestational Hypertension, Chronic Hypertension, Eclampsia.

INTRODUCTION

Pregnancy is a physiological phenomenon for some women. However some women may face some problems during the pregnancy. One of the most burning problems is hypertension during pregnancy. Development of mild to moderate hypertension alone, the pregnancy outcome will be as similar to that for women with normal blood pressure. Once proteinuria develops or hypertension becomes more severe outcome is worsened. The common complications of HDP are Intra Uterine growth retardation, preterm birth, abruption rarely in uncontrolled cases may lead to eclampsia, stroke, hemolysis,

renal failure, low platelets and DIC (disseminated intravascular coagulation). Most maternal deaths are because of eclampsia rather than preeclampsia. However, in developed countries where prenatal care is common, fatality rates have approached less than 1%.^[1]

Primiparous women are more likely to develop pre-eclampsia than multiparous women.^[2] The women who suffered from pre-eclampsia in their first pregnancy are at risk of developing in their second pregnancy as well, especially when severe pre-eclampsia occurs in the first pregnancy.^[3] Other factors which tend to include patients with a positive family history, obesity, new

paternity, pre-existing vascular disease, placental abnormalities and thrombophilia.

To list some condition associated with hypertensive disorders during the pregnancy are such as multiple pregnancies, hydatidiform mole and hydrops fetalis. It is also associated with various medical conditions such as diabetes mellitus, chronic hypertension, and renal disease such as polycystic kidneys, acute glomerulonephritis and chronic pyelonephritis.

Hypertensive disorders of pregnancy is a group of conditions associated with high blood pressure during pregnancy, proteinuria and in some cases convulsions. [4] A hypertensive disorders in the pregnancy (HDP) are one of the three causes for Maternal and Neonatal Mortality & Morbidity, followed by hemorrhage and anemia. It is estimated that 303,000 maternal deaths globally in 2015, indicating one maternal death every one and half minutes. Among them 99% were in developing countries. [5] Maternal Mortality Rate (MMR) still remains high in developing countries like India as 167 per 1 lakh births. [6] District level Household and Facility Survey (DLHS-4) in 2013 revealed that MMR rate in Karnataka is 133 per lakh population. [7] Thus the lifetime risk of maternal death is 1 in 170 live births and an average one maternal death occurs every 10 minutes (UN Report). [8,9]

In light of the high burden of maternal and newborn morbidity and mortality, made care providers and policymakers to think and take required accurate management of hypertensive disorders in pregnancy. Thus this study is aimed to determine the prevalence of HDP and its associated factors among the pregnant women delivered at tertiary care hospital of Northern Karnataka.

MATERIALS AND METHODS

Ethical clearance was obtained from Institutional ethical committee.

Source of data: Study involves the records of pregnant women admitted in the labour

room, of Tertiary care Hospital of Northern Karnataka

Study design: A Retrospective Cohort study

Inclusion Criteria: Records of postnatal women with HDP from 1st July 2017 to 30th June 2018

Exclusion Criteria: Incomplete Records, Declared Dead on arrival to hospital and Termination of pregnancy before 24 weeks of pregnancy

Sampling technique: Purposive Sampling technique

Sample Size: 229 (4462 women delivered during this period)

Modified Maternal Newborn Health (MNH) Registry: It is a standardized tool developed by Global Network for Women's and Children's Health Research was used with modification.

RESULTS

Results are discussed under following headings

Section I: Socio demographic variables

Section II: Prevalence of HDP

Section III: Association between demographic variables and HDP

Section I: Socio demographic variables

Table1 showing percentage distribution of Socio demographic variables (n = 229)

Sl. No	Demographic Variables	Frequency	Percentage (%)
1	Age in Years		
	18 to 22	85	37%
	22 to 27	94	41%
	28 to 32	33	14%
	33 and above	17	7%
2	Religion		
	Hindu	182	80%
	Muslim	44	19%
	Christian	3	1%
3	Education		
	Illiterate	11	5%
	Primary	34	15%
	Secondary	67	29%
	PUC	76	33%
	Graduation	36	16%
	Post graduation	3	1%
4	Occupation		
	Housewife	211	92%
	Govt. Job	5	2%
	Pvt. Job	13	6%
5	Type of Marriage		
	Consanguineous	41	18%
	Non consanguineous	188	82%
6	Habitat		
	Urban	65	28%
	Semi urban	105	46%
	Rural	59	26%
7	Parity		
	Primi	127	55%
	Multi	102	45%

Section II: Prevalence of HDP

Total 4462 women delivered during the study period. Out of 4462 women 229 were found to have Hypertensive disorder of pregnancy (HDP) contributing 5.13%. Out

of this Pre eclampsia contributes 45%, Chronic Hypertension 6%, Gestational hypertension 37% and imminent eclampsia 12%.

Section III: Association between demographic variables and HDP

Table 2 shows the association between Hypertensive disorders Pregnancy and Religion

Demographic Variables	Hypertensive disorders				Total	X ²	P Value
	PE	Chronic HTN	Gestational HTN	Imminent ECL			
Religion						14.64	0.05
Hindu	80	10	71	25	186		
Muslim	24	4	9	3	40		
Christian	0	0	1	2	3		

Statistical significant association was found between Hypertensive disorders Pregnancy and Religion (p=0.05)

Table 3 shows the association between Hypertensive disorders Pregnancy and Blood Group and Rh factor

Demographic Variables	Hypertensive disorders				Total	X ²	P Value
	PE	Chronic HTN	Gestational HTN	Imminent ECL			
Blood Group and Rh factor						59.12	0.05
A+	25	4	23	8	60		
B +	35	5	34	11	85		
AB +	6	2	8	2	18		
O+	31	3	9	8	51		
A -	2	0	0	1	3		
B-	2	0	1	0	3		
AB -	3	0	1	0	4		
O-	0	0	5	0	5		

Statistical significant association was found between Hypertensive disorders Pregnancy and Blood group and Rh factor (p=0.05)

DISCUSSION

Hypertensive disorders of pregnancy are major causes of maternal death and sufferings all over the country. This study was conducted to know prevalence and associated factors of HDP. The overall prevalence of HDP in present study was 5.13%. Out of this Pre eclampsia contributes 45%, Chronic Hypertension 6%, Gestational hypertension 37% and imminent eclampsia 12%. A study conducted at Meerut, India shown that prevalence of HDP was 6.92%, pre eclampsia 50%, chronic hypertension 1%, Gestational Hypertension 13%, Eclampsia 36%. [10] The prevalence of hypertensive disorder of pregnancy is different according to the geographic regions of the world and ranges from 1.5% in Sweden to 7.5% in Brazil. In India the prevalence of HDP has been reported to be 6-8%. [11]

A study conducted at Dhaka revealed that the association was found between age, education and occupation. [12] In present study the association found between blood group and religion. These differences can be due to racial reasons, socioeconomic status and some other demographic parameters such as age and parity. Moreover, some centres serve as a referral medical facility for an extended number of primary health care units of the surrounding rural areas.

CONCLUSION

Hypertensive disorders complicating pregnancy is one of the extensively researched subjects in obstetrics. The pathology should be understood, and involvement of multi-organ dysfunction should be taken into account. The present study is limited to the data of one year. The prevalence varies region to region. Thus it is

recommended to have multi centric study to know the prevalence of HDP in India.

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