

Prevalence of Gestational Hypertension and Pregnancy Outcome

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Abstract

Introduction Hypertension during pregnancy is considered as one the high risk as it is one of the cause for maternal and neonatal mortality and morbidity. **Aims:** This study is aimed to find the prevalence of gestational hypertension and to understand the pregnancy outcome. **Settings and Design:** Study conducted at tertiary care hospital and descriptive research design was used for the study **Methods and Material:** Sample size was 366 women with gestational hypertension were included. Data was collected by using investigator prepared self-administered questionnaire **Statistical analysis used:** inferential statistics analytical methods **Results:** Results revealed that prevalence of gestational hypertension 9.8%. Maternal outcome 53% delivered at 34 to 38 weeks, mode of delivery (52.5%) were delivered by C-section, 56.3% women were induced, 97.3% were singleton pregnancy, About the gender of new-born 51.9% were male, 67.2% were born with Normal (>2500g) weight, NICU admission 20.5% and reason for NICU admission was prematurity. **Conclusions:** The knowledge of risk factors for gestational hypertension in pregnancy may give tracks for prevention in this population.

Key-words: Gestational Hypertension, Maternal outcome, new born outcome, Prevalence

Introduction

Hypertensive disorders during pregnancy (HDP) are estimated to be 7.7% which complicates the pregnancy. Hypertensive disorders (HD) can be classified broadly under following four headings namely chronic hypertension, gestational hypertension, preeclampsia, and eclampsia which are significant cause of maternal and perinatal mortality and morbidity.¹

The pregnancy which is complicated with hypertensive disorder (HD) is always have increased risk of adverse effect on fetal, neonatal and maternal outcome. A study in South Africa, revealed that an incidence of hypertensive disorders of pregnancy was

12%, and it was the common cause of maternal death contributing 20.7% of all maternal deaths.²

Few of the long term and short term impact of thishypertensive disorder of Pregnancy(HDP) is greater burden to the woman as well as on family and society. Definition of Gestational Hypertension says thathaving a blood pressure (BP) more than 140/90 mm of Hgwhich was measured on two separate occasions, keeping the gap of more than 6 hours and there is absence of protein in the urine and diagnosed after 20 weeks of gestation. ³

In Gestational hypertension the blood pressure is $\geq 140/90$ mmHg for the first time in pregnancy,without proteinuriaand which will return to normal after 12 weeks' postpartum. The final diagnosis is made only postpartum (with the disappearance of signs and symptoms). Patients may have other signs or symptoms of pre-eclampsia like epigastric discomfort or thrombocytopenia.

There are few previous studies explain the risk factors for gestational hypertension which provides

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some information to understand the possible causative mechanism and management of HDP⁴

However, the prevalence and outcome of Gestational hypertension is not well-documented in Indian literature. Considering the above said factors, the present study was undertaken to determine the prevalence of gestational hypertension and outcome of gestational hypertension in tertiary care hospital of North Karnataka.

Objectives

1. To find out the prevalence of gestational hypertension among women admitted for delivery in tertiary care hospital of North Karnataka

2. To determine the pregnancy outcome among women with gestational hypertension admitted for delivery in tertiary care hospital of North Karnataka

Methodology

Study Design: Retrospective Research Design

Setting: Tertiary care hospital of North Karnataka

Participants: All the women admitted for delivery

Variables:Independent variable: Socio demographic variables

Dependent Variable: Pregnancy outcome

Sample size: 3987 women (delivered from 1st July 2018 to 31st June 2019)

Statistical methods: Inferential and analytical methods

Inclusion and Exclusion Criteria

I. Inclusion criteria:

1. Women who are diagnosed as gestational hypertension
2. Admitted in labour room for delivery.

II. Exclusion criteria:

1. Women who doesn't gave consent to participate in the study
2. Women who were not on the bed/place at the time of data collection.

Assumption: The researcher assume that,

1. Prevalence of Gestational hypertension is less
2. Outcome of gestational hypertension is good in comparison with other hypertensive disorders of pregnancy

Results

The findings obtained were presented in the form of tables and diagrams represent under following sections.

Description of Socio Demographic Variables of women admitted for delivery in tertiary care hospital of North Karnataka with gestational hypertension

The description of socio demographic variables of the present study is as follows. With regard to age maximum samples were 167 (45.6%) from the age group of 23 to 27 years. Regarding religion 322 (88%) were Hindu's. With regard to education level of the participant 156 (42.7%) were completed their PUC. About the occupation maximum were 334 (91.3%) Housewives. Regarding type of marries 41 (11.2%) had Consanguineous marriage. 147 (40.2%) participants were residing at rural area. With regard to parity, maximum 197 (53.8%) were primiparous women.

Prevalence of gestational hypertension among women admitted for delivery in tertiary care hospital of North Karnataka

The total no of deliveries from 1st July 2018 to 1st June 2019 (12 months) was 3987. Among these 366 women were having gestational hypertension contributing prevalence of 9.1%.

Table I: Distribution according to maternal outcome (n=366)

Sl. No	Maternal Outcome	No of Samples	Percentage (%)
1	Gestational Age at Delivery		
	a. >28 Weeks	9	2.5
	b. 29 to 33 wks	22	6.0
	c. 34 to 38 wks	194	53.00
	d. < 39wks	141	38.5
2	Mode of Delivery		
	a. Normal vaginal	146	39.9
	b. Forceps	5	1.3
	c. Ventose	23	6.3
	d. C-Section	192	52.5
3	Labour Started		
	a. Spontaneous	80	43.7
	b. Induced	103	56.3
4	Indication for LSCS		
	a. Maternal	141	64
	b. Fetal	66	30
	c. Other	13	6
5	Blood loss after vaginal delivery		
	a. >300 ml	156	89.7
	b. 301 to 500ml	12	6.9
	c. <500ml	6	3.4
6	Blood loss after C Section		
	a. >800 ml	187	97.4
	b. 801 to 1000ml	4	2.1
	c. <1000ml	1	0.5

Table 1 shows the distribution of gestational age at delivery. Among all 2.5% of the women delivered at >28 weeks, 6% delivered at 29 to 33 weeks, maximum 53% delivered at 34 to 38 weeks and 38.5% delivered at < 39wks. With regard to mode of delivery maximum of samples (52.5%) were delivered by C-section, 6.3% by ventose, 1.3% by forceps and 39.9% delivered normally. Out of 183 women 56.3% women were induced and 43.7% women had spontaneous onset of labour regarding indication for C section 64% were with

maternal indication, 30% because of fetal indication and 6% was other indication for C Section.

With regard to blood loss after vagina delivery 89.7% had less than 300 ml of blood loss, 6.9% had 301 to 500ml and 3.4% had the blood loss of more than 500ml. Regarding the blood loss after C Section maximum of 97.4% had the blood loss of less than 800ml, 2.1% had 801 to 1000ml of blood loss and 0.5% had more than 1000ml of blood loss.

Table II: Distribution according to new-born outcome

(n=366)

Sl. No	New-born Outcome	No of Samples	Percentage (%)
1	Outcome of pregnancy		
	a. Singleton	356	97.3
	b. Twin	10	2.7
2	Neonatal outcome		
	a. Alive	366	100
	b. Dead	0	0
3	Gender of the newborn		
	a. Male	190	51.9
	b. Female	176	48.1
4	Birth weight		
	a. Very Small (<1000g)	5	1.4
	b. Small (1000-1499g)	14	3.8
	c. Small to Normal (1500-2499g)	101	27.6
	d. Normal (>2500g)	246	67.2
5	NICU Admission		
	a. Yes	75	20.5
	b. No	291	79.5

Table 2 shows the newborn outcome of women gestational hypertension. Regarding the pregnancy outcome, 97.3% were singleton and 2.7% were twin pregnancy. Regarding the outcome of pregnancy 100% babies were alive. About the gender of newborn 51.9% were male and 48.1% were females. About the birth

weight of the newborn 67.2% were born with Normal (>2500g) weight, 27.6% were Small to Normal (1500-2499g) weight, 3.8% were Small (1000-1499g) weight and 1.4% were Very Small (<1000g) of weight. About the NICU admission 20.5% newborn required NICU admission and 79.5% were not.

Table III: Distribution according to the reason for NICU admission,
(n=75)

Sl. No	Newborn Outcome	No of Samples	Percentage (%)
1	Reason for NICU Admission		
a.	Prematurity/lbw	54	72
b.	Asphyxia	8	10.7
c.	Congenital Anomaly	4	5.3
d.	Others	9	12

Table 3 reveals that reason for NICU admission among the newborn delivered to the women admitted for delivery in tertiary care hospital of North Karnataka with gestational hypertension. 72% of the newborn were premature, 10.7% newborn were asphyxiated, 5.3% babies has congenital anomalies and 12 % of newborn seek NICU admission because of other problems.

Table IV: Distribution according to the reason for death of newborn
(n=16)

Sl. No	Newborn Outcome	No of Samples	Percentage (%)
7	Reason for Death		
a.	Asphyxia	3	18.7
b.	Preterm	7	43.7
c.	Respiratory Arrest	3	18.8
d.	Other	3	18.8

Table 4 reveals the distribution of reason for death of newborn babies born to the women with gestational hypertension admitted for delivery in tertiary care hospital of North Karnataka. Maximum 43.7% were died due to preterm, 18.7% were died due to asphyxia,

18.8% due to respiratory arrest and 18.8% died due to other problems

Out of all total 220 women underwent Caesarean section which had various indications for Caesarean

section among the women with gestational hypertension admitted for delivery in tertiary care hospital of North Karnataka. Among all 22.3% were had the previous history of LSCS as indication, 5.9% prolonged labour, 5.5% uncontrolled blood pressure, 9.1% failed induction and 9.1% poor maternal effort, 4.1% CPD, 5% non progress of labour, 3.4% 2nd stage labour, 5.9% other maternal indications, 1.8% mater had C section due to cardiac disease.

About the fetal indication 9.5% fetal distress, 2.3% breech presentation, 11.8% decreased fetal movements, 2.3% twin delivery and 4.1% meconium stained liquor.

Discussion

The study was conducted over period of 1 year from 1st July 2018 to 31st June 2019, 3987 women were admitted for delivery. In the present study the prevalence of Gestational hypertension was 9.1%. A study conducted by Sachdeva et al.⁷ in Gujarat, revealed that an incidence of pregnancy- induced hypertension (PIH) is about 15% among the women with rural background. Being from rural background and visiting the health care facility when the problem arise may be the reason for the variation in the prevalence rate.

The results of various hospital based studies showed that Hypertensive disorders of pregnancy were reported to be 7.49,⁸ 15.5,⁹ 5.38,¹⁰ and 8.96%¹¹ respectively. The reason for the variation in the result may be the sample size and inclusion criteria which the researcher followed.

In the present study, prevalence of gestational hypertension was found in the age group 23 to 27 years was significantly higher (45.6%) as compared to age group 33 and above (9%). The results of the study conducted by Bharati et al.¹² from Hariyana was found contradict with present study. Study done by Sachdeva et al.⁷ findings were congruent with our findings of being higher incidence of PIH among literate samples. Maternal outcome of present study show that maximum 53% delivered at 34 to 38 weeks, maximum of samples (52.5%) were delivered by C-section, in 56.3% women labour was induced. With regard to indication for C section 64% were with maternal indication. Newborn outcome of present study shows that 97.3% were singleton, 51.9% were male, 67.2% were born with Normal (>2500g) weight, about the NICU admission

20.5% newborn required NICU admission.

Limitations of the Study

- The study was limited to cross-sectional design. The participants were not followed up.

- Second limitation of the study is classification of the hypertension in the pregnancy into chronic, gestational, pre-eclampsia, eclampsia, or chronic with superimposed preeclampsia.

Conclusion

Present study shows that out of 3987 deliveries 366 women were having gestational hypertension contributing prevalence of 9.8%. Appropriate knowledge of risk factors for gestational hypertension in pregnancy will help in tracking the cases thus preventive measures can be administered. Considering this a sound screening strategy to find out Gestational Hypertension cases and develop comprehensive strategy for management of hypertension in pregnancy as well as maternal and child complications.

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