



PREGNANCY INDUCED HYPERTENSION & ITS COMPLICATIONS AMONG THE PREGNANT WOMEN

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ABSTRACT

The study determined pregnancy-induced hypertension & its complication among pregnant women at the secondary level hospital in the Obstetrics & Gynecology Unit of Bagerhat Sadar Hospital. The main aim was to estimate the proportion of complications of pregnancy-induced hypertension & its complication among pregnant women. In this study, a cross-sectional descriptive type of study was utilized & nonprobability purposive samplings were used. The study sample consisted of 60 pregnant women randomly selected. The study was performed on the basis of quantitative data analysis. The total study period was four-month between May to August-2017. In the hospital campus for the purpose of antenatal checkup & delivery. The prevalence of pregnancy-induced hypertension among women attending delivery service in the hospital of this study was 60(7.25%). A family history of pregnancy-induced hypertension increased the risk of getting pregnancy-induced hypertension by roughly five times. Severe preeclampsia was found to be the most common type of pregnancy-induced hypertension. Further independent studies with a significantly large population will be of excellent value to determine the complication associated with pregnancy-induced hypertension.

KEYWORDS: Pregnancy, hypertension, complications, pregnant women, Bangladesh.

INTRODUCTION

For many women, pregnancy is a life-long event. High blood pressure caused by pregnancy is a maternal condition that is also a major source of disease and maternal and infant mortality worldwide. Systolic blood pressure of 140mmHg or diastolic blood pressure of 90mmHg or both are considered high blood pressure in pregnancy. Increased both systolic and diastolic blood pressure are important in detecting high blood pressure caused by pregnancy.^[1] High blood pressure caused by pregnancy occurs 20 weeks after conception in women who had previously had normal blood pressure. Gestational hypertension, preeclampsia, and eclampsia are the three main types of pregnancy-related hypertension.^[2] Eclampsia is a serious form of hypertension caused by pregnancy. It is one of the most serious public health problems in Bangladesh. Premature birth, obstruction of intrauterine growth, placental abruption, and prenatal death are all risks associated with hypertensive disorders during pregnancy, affecting 5-10% of all births.^[3,4] According to the Department of Health, high blood pressure during pregnancy is a dangerous factor that is linked to individual factors, depending on the severity of the condition. Gestational hypertension, pregnancy urea protein, and persistent high

blood pressure are all examples of high blood pressure disorders in pregnancy. The most common medical side effects of pregnancy are hypertensive complications,^[5,6,7] The appearance of high blood pressure with edema is usually sufficient to diagnose the disease in late pregnancy. Any disease process requires knowledge of its prevalence, etiology, and pathophysiology to avoid it.^[8] To determine the spread of the disease. In a given form, blood pressure, albuminuria, edema, immunization status, and prenatal care will be noted. In wealthier nations, appropriate prenatal care has reduced the risk of maternal and infant mortality.

According to the World Health Organization, at least one woman dies every seven minutes as a result of pregnancy-related hypertension issues. Pregnancy complicated by hypertension is linked to a higher risk of fetal, neonatal, and maternal complications.^[9] Null parity, repeated pregnancies, history of chronic hypertension, gestational diabetes, fetal malformation, obesity, advanced maternal age, history of PIH in prior pregnancies, and chronic conditions such as renal disease, diabetes mellitus, and heart disease are all risk factors. undiagnosed hypertension, a positive family history of PIH, indicating a genetic link Chronic

hypertension, which develops in the second half of pregnancy, is more complicated and is the result of either a pregnancy-specific process or a complex interplay of pregnancy with chronic hypertension-related kidney illness, leading in hypertension exacerbation.^[10] It is known as pregnancy-induced if it occurs before the 20th week of pregnancy. In Bangladesh, the maternal death rate is around 3.2 per thousand live births. Eclampsia is the third leading cause of maternal death. The majority of pre-eclamptic and gestational pregnant women develop eclampsia, which can lead to significant complications and even death.^[11]

According to the World Health Organization (WHO), 15% of pregnant women have some degree of hypertension. Fortunately, the majority of them are harmless and do not necessitate treatment or cause complications. However, in other cases, the women experienced a hypertensive pregnancy illness called pre-eclampsia, which can cause major difficulties or death. Hypertension causes 12 percent of maternal deaths worldwide, and up to 40% of maternal deaths in some countries.^[12] The Ministry of Health has appointed a multi-pronged approach to reduce maternal and newborn morbidity and mortality by increasing access to and strengthening facility-based maternal and newborn services, but maternal morbidity and mortality from pregnancy-induced hypertension has been on the rise.^[13]

Despite the fact that pregnancy-induced hypertension is one of the primary causes of maternal morbidity and mortality during pregnancy, little is known about the present extent of PIH and its associated variables among Bangladeshi women attending delivery services, particularly in study locations. The goal of this study was to determine the prevalence of pregnancy-induced hypertension and its related factors among women receiving delivery services at Bagerhat Sadar Hospital in Khulna, Bangladesh. This is a cross-sectional descriptive study that was carried out at the Bagerhat Sadar hospital among pregnant women who came for an antenatal visit in the antenatal care outpatient unit and were admitted to the labor ward for delivery.

MATERIALS AND METHOD

Study area and period: The study was conducted in the district of Bagerhat Sadar Hospital, Bangladesh. This study is done in the Obstetrics and Gynecology Department. Emergency unit of the obstetric department is situated in building Block D (ground floor). The total study lasted for a period of four months commencing from May to August 2017.

Study design: This health facility based cross sectional study was designed with quantitative data collection method.

Source and study population: All women who attended delivery service in Bagerhat Sadar Hospital were

considered as source population whereas all sampled women were considered as study population.

Sample size and sampling technique: Non-probability convenient sampling method was used. A patient, who came to hospital, was asked to fill out a special form. It consisted of both data gathered by self-administrative questionnaire and in depth interviews with Bangladeshi women. The respondents were selected consecutively who meet the inclusion and exclusion criteria. The eventual sample size was 60.

Tools of the study: A self-administrative questionnaire that was utilized to collect data. Questionnaire divided in to three part are as follows:

- A. consists of socio-demographic characteristics as age, religion, education, occupation status & family size.
- B. Consists of 05 questions such as pregnancy status, abortion, stillbirth, previous history of PIH & history of previous GDM.
- C. Consists of 04 questions such as family history of chronic hypertension, family history of PIH, history of DM & family history of DM.
- D. Consists of 04 questions such as tobacco consumption, received antenatal care, TT Immunization & hypertension treatment taken.

Validity and reliability of the study: A board of five academic and health-care experts examined and validated the questionnaire; no comments were made. The questionnaire items had an internal consistency of 0.90 Cronbach's alpha (α), which was considered acceptable.

Statistical analysis: Data were processed and analyzed using computer software program SPSS version-25. The data present on categorical scale were expressed as frequency and corresponding percentage while the quantitative data were presented as mean and standard deviation (SD).

Ethical considerations: This study was approved by the director of Bagerhat Sadar Hospital, Bangladesh. Several strategies were utilized to protect the participants rights who agreed to participate in this study. First, oral verbal consent of the participant was obtained prior to the administration of the questionnaire. The participants were informed of the purpose of the study, and that they had the right to refuse to participate. Also the voluntary nature of participation was stressed as well as confidentiality. Furthermore, the participants were told that they can refrain from answering any questions and they can terminate at any time. Anonymity of the participants was maintained at all times.

RESULT

Socio-demographic characteristics: Among the total study participants, 25 (41.67%) were aged between 21-26 years, more than half 48 (80%) of the respondents were Muslim in religion, and 403 (96.9%) were married.

Almost half of the participants were from rural areas, 214 (51.4%). Regarding their educational level, 30 (50%) of the respondents attended primary school, the

majority 34 (56.57%) were housewives, and 35 (58.3%) of the family sizes of the participants were between 0-4 (Table 1).

Table 01: Distribution of the respondents by age, religion, education, occupation status & family size (n=60).

Variables	Characteristics	Frequency	Percentage (%)
Age of women	<20 years	06	10.00
	21—26 years	25	41.67
	27-32 years	17	28.33
	>33 years	12	20.00
Religion	Muslim	48	80.0
	Hindu & Others	12	20.0
Education	Illiterate	09	15.0
	Primary	30	50.0
	Secondary	17	28.33
	Degree & Above	04	6.67
Occupation	House wife	34	56.57
	Agriculture	14	23.33
	Service holders	12	20.0
Family size	<4 persons	35	58.30
	4-6 persons	22	36.67
	7-8 persons	03	5.0

The prevalence of pregnancy induced hypertension among women attending delivery service in the hospital of this study was 60 (7.25%).

Out of the pregnant women who participated in study, 34 (56.67%) of pregnancy were primigravida. Regarding parity of the women, 56 (93.33%) had parity of 1-3. Only

7 (11.67%) of the pregnant mothers who were admitted for delivery had previous history of PIH, only 12 (20%) of them had history of gestational diabetic mellitus. Out of the participants only 13 (21.67%) of them had previous history of abortion and 02 (3.33%) had previous history of still birth. (Table-2).

Table 02: Distribution of the respondent by pregnancy status, abortion, stillbirth, previous history of PIH & history of previous GDM (n=60).

Variables	Characteristics	Frequency	Percentage (%)
Pregnancy status	Primigravida	34	56.67
	Multigravida	26	43.33
Parity	01	36	60.0
	02	20	33.33
	>03	04	6.67
Abortion	Yes	13	21.67
	No	47	78.33
Still birth	Yes	02	3.33
	No	58	96.97
Previous history of PIH	Had	07	11.67
	Not had	53	88.33
History of previous GDM	Yes	12	20
	No	48	80.0

Medical and family history related variables:

Regarding medical and family histories of illness, out of the total, 33 (55.0%) had family history of chronic hypertension, 7 (11.67%) of them had family history of pregnancy induced hypertension commonly from their mothers, only 2 (3.33%) of them had history of chronic diabetic mellitus. From the study participants, only 17 (28.33%) of them had family history of diabetic mellitus (Table 3).

Tables 03: Distribution of the respondent by family history of chronic hypertension, family history of PIH, history of DM & family history of DM (n=60).

Variables	Characteristics	Frequency	Percentage (%)
Family history of chronic hypertension	Had	33	55.0
	Not had	27	45.0
Family history of PIH	Had	07	11.67
	Not had	53	88.33
History of DM	Had	02	3.33
	Not had	58	96.67
Family history of DM	Had	17	28.33
	Not had	43	71.67

Variables related to personal risks: Among the respondents, 11 (18.33%) had history of tobacco consumption. From the total of the mothers attending delivery service, 43 (71.67%) had received antenatal

care. Out of the patients 58 (96.67%) of women had received TT immunization, 21 (35%) of the women had been treated for hypertension during current pregnancy (Table 4).

Tables 04: Distribution of the respondent by tobacco consumption, received antenatal care, TT Immunization & hypertension treatment taken (n=60).

Variables	Characteristics	Frequency	Percentage (%)
Tobacco Consumption	Yes	11	18.33
	No	49	81.67
Received antenatal care	Yes	43	71.67
	No	17	28.33
TT immunization	Yes	58	96.67
	No	02	3.33
Hypertension treatment taken	Yes	21	35
	No	39	65

DISCUSSION

In this study, 7.25 percent of women attending delivery services had pregnancy-induced hypertension. This could raise the mothers and fetus's morbidity and mortality. If proper preventative actions for pregnant women's risk are not done, it may become the leading cause of maternal death in the long run. The prevalence of PIH in this study was 7.8%, which is close to the 7.8% found in an Indian study.^[13] However, it is slightly lower than the 9.8% reported in Iranian studies,^[14] in Jimma University Specialized Hospital (8.48%) and Dessie Referral Hospital, 8.4%.^[15,16] This difference might be attributed to differences in the study period and study design. The population might also be different in lifestyle and culture. However, the prevalence in this study is still greater than the study done in Ethiopia at Tikur Anbessa Hospital which was 5.3% and Mettu Karl Hospital, 2.4%.^[7,17] This discrepancy might be because of differences in the study period, study design and health seeking behaviors of pregnant women.

Some related factors of pregnancy-induced hypertension were also discovered in this investigation. Having a family history of pregnancy-induced hypertension increased the risk of getting pregnancy-induced hypertension by roughly five times. This is consistent with the study conducted in Ghana.^[18] and in the textbook of current diagnosis and treatment in obstetrics and gynecology.^[2] This could have happened as a result

of hereditary variables that influence the physiologic predisposition to pregnancy-induced hypertension.

This study, like any other cross-sectional study, has strengths and weaknesses. The potential constraints could stem from women's willingness and ability to offer accurate information about themselves and their families, as well as recollection and social desirability bias, which could be introduced during data collection from pregnant women. However, by using focused inquiries, steps have been attempted to reduce these restrictions. Another disadvantage of this study was that several variables had limited observations, resulting in poorer precision, therefore it had to be interpreted cautiously.

CONCLUSION

Pregnancy-induced hypertension was found to be present in 7.25% of women who attended delivery services. Severe preeclampsia was the most common type of pregnancy-induced hypertension. The factors related with pregnancy-induced hypertension included having a family history of the condition, chronic renal illness (kidney disease), and gestational age.

COMPLIANCE WITH ETHICAL STANDARDS

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Disclosure of conflict of interest

None to declare.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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