DOI: https://doi.org/10.53350/pjmhs2023175704

ORIGINAL ARTICLE

Study of Socio-Demographic Factors in Cases of Pregnancy Induced Hypertension and its Associated Risk Factors in One of Tertiary Care Hospitals of South Punjab

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ABSTRACT

Objective: To get the risk factors and sociodemographic profile of prenatal females who had pregnancy induced hypertension.

Methods: The current retrospective study was carried out Multan Medical and Dental College, Multan from 2023 to 2024 in the obstetrics and gynecology department. 76 cases of PIH-affected pregnant women in total were examined. From the hospital records, sociodemographic information such as age, parity, gestational age of presentation, mode of birth, and maternal and perinatal problems were noted and examined.

Results: Instances of PIH were observed to affect 7.19% of pregnant patients who came to the Hospital. 67% percent of the research participants were from rural areas. Women without formal education had a greater frequency of PIH (52.45%). 28% of cases were in the 17–24 age range, while 52.98% of cases were in the 25–29 age range. According to the current study, primigravidas had a higher incidence of PIH (62.49%) than multigravidas (31.5%). 25.25% of cases were delivered vaginally, whereas 71.45% of cases were delivered by caesarean section. Of the 80 cases, eclampsia complicated 14.25% of cases, severe PIH complicated 11.5%, abruption placentae complicated 2.9%.

Conclusions: A very frequent pregnancy condition PIH linked to unfavorable results for either, the mother and the fetus. Rural populations and young primigravidas are more at danger. Reducing the incidence of PIH and its related consequences will be made easier with improved healthcare facilities and more awareness among expectant mothers.

Keywords: Hypertension induced in pregnancy, Eclampsia, Primigravida, Gestational age.

INTRODUCTION

The most frequent pregnancy-related complications are hypertension induced in pregnancy linked to unfavorable fetal, neonatal, and mother outcomes[1]. It is made up of a collection of conditions that arise from the inceinte following 20 weeks of pregnancy. Preeclampsia, which is preeclampsia with proteinuria, eclampsia, which is preeclampsia with convulsions, and gestational hypertension, which is blood pressure more than 140/90 mmHg without the condition proteinuria, make up this condition. After birth, the symptoms of hypertension often return to normal in six to twelve weeks[2]. Most common cause of hypertension during pregnancy, something roughly 70% of cases, is pregnancy-induced hypertension[3] Worldwide, pre-eclampsia in the nulliparous population has an incidence of 3 to 10%[4].

In contrast to developing nations, where the incidence varies from 1 in 100 to 1 in 1700 deliveries, affluent countries have an incidence of eclampsia of roughly 1 in 2000 pregnancies[5,6]. Women with hypertension induced in pregnancy and eclampsia, the major form that is responsible for a major cause of death, account for 13% of maternal deaths[7]. The high prevalence seen has shown that this region of the world experiences poverty, illiteracy, and a lack of knowledge about health care[8]. Besides that, a number of studies on hypertensive problems during pregnancy, the cause is still unknown. The following are some of the major hypothesized etiologies linked to the formation of PIH: aberrant placentation, vasculopathy, inflammatory alterations, genetic, dietary, and immunologic variables[9].

Younger women, older pregnant women, primiparous women, obese women, women with numerous pregnancies, and women experiencing molar pregnancy are more likely to experience PIH. An important risk factor for causing PIH in a subsequent pregnancy is a history of PIH in a prior pregnancy. Another risk factor for PIH development is a family history of the condition[10,11].

Since pregnancies linked to hypertension are frequently associated with unwanted maternal and fetal consequences, a timely and early diagnosis is crucial. IUGR, preterm birth, antepartum and postpartum hemorrhage, neonatal death, and maternal death are the hazards involved[12].

The purpose of the current study was to get the risk factors and sociodemographic profile of prenatal females who had pregnancy induced hypertension.

MATERIALS AND METHODS

The current retrospective study was carried out Multan Medical and Dental College, Multan from 2023 to 2024 in the obstetrics and gynecology department. Every pregnant woman with PIH who is admitted to the obstetrics unit and has a gestational age more than 26 weeks was included. Pregnant patients developing PIH before 26 weeks, with history of chronic hypertension, renal diseases, coronary heart disease, diabetes mellitus, expectant mothers who smoke and drink, patients with insufficient information and patients who have incomplete data were excluded. A case sheet with a record of the prenatal appointment. After 21 weeks of gestation, PIH was defined as blood pressure greater than 140/90 mmHg with or without proteinuria and/or edema. The patient's demographic information, age, diagnosis, gestational age, parity, diagnosis, obstetric history, mode of delivery, and the outcome for the mother and fetus were all included in the medical records. First pregnancy was the definition of primigravida. We referred to the ensuing pregnancy as multigravida. SPSS version 25 was used for data analysis.

RESULTS

67 of the 1010 pregnant patients who had visit to the obstetrics and gynecology department during the course of the study's one-year duration were found to have hypertension. It was discovered that the incidence of PIH was 7.19%.

Majority of the patients were from rural areas who participated in the research. Of the 65% study participants, 54 (65%) were from rural periphery, and 26 (35%) were from metropolitan areas. According to the study, women with lower levels of education had a declining trend in the incidence of PIH, while women with higher levels of education had a greater

incidence (50.25%). Women in the low-income group also showed a greater incidence of PIH.

According to the age distribution of PIH patients, 53.75% of them were between the ages of 25 and 30, and 25% were between the ages of 19 and 24. The age range of 31 to 35 accounted for 18.75% of instances, while the age group of 36 to 40 accounted for the least, with only 2.5%.

Pregnant women had the highest rate of pregnancy-induced hypertension, according to the current study.

Of the 75 cases that were examined, 26 (32.5%) and 54 (67.5%) were multigravidas. Eighty cases' modes of delivery were examined. Of the 80 cases, 21 cases (26.25%) were delivered vaginally and 59 cases (73.75%) by caesarean section. For the term patients, the caesarean rate is 81.25% and The gestational age at admission varied among the 80 PIH cases that were the subject of this investigation. 32.5% of cases admitted to the labor room were preterm, 7.5% were postdated, and 60% of cases were admitted at term.

61.53% of the preterm cases and 66.6% of the postdated ones. The rate of vaginal deliveries was found to be 33.33% for post-dated babies, 18.75% for term babies, and 38.46% for preterm.

Table 1: Patients with PIH having socio-demographic profile.

Variables	Parameters	No. of Cases	Percentage
Dweller	Urban	26	35%
	Rural	54	65%
Educational Status	Illiterate	45	50.25%
	Up to 8th Standard	13	22.23%
	9th- 10th	12	12.4%
	11th-12th	04	9.1%
	Graduation	3	2.23%
	Post-Graduation	3	2.23%

Table 2: Gestational age of the patients at which they were admitted (n = 76).

Gestational Age	No. of Cases	Percentage
Preterm	22	30.5%
Term	50	62.0%
Post-term	8	9.5%

Table 3: Age factor on Incidence of PIH (n = 76).

Age Distribution	No. of Cases	Percentage
20-23	20	25%
25-30	43	53.25%
31-35	15	18.75%
36-40	02	2.10%

Table 4: Parity Distribution

Parity	No. of Cases	Percentage
Primigravida	26	32.5%
Multigravida	54	67.5%

DISCUSSION

In this study, the probability of PIH was 8.16%. The prevalence of Parkinson's illness varies among nations, with Sweden having a 1.5% incidence and Brazil having a 7.5% incidence[15]. This variation in occurrence may be brought about by age, parity, racial characteristics, or socioeconomic standing. American Society of Nephrology study also mentions that, women living in areas as rural have a higher incidence of peripheral ischemic heart disease (PIH)[14].

According to a study by Sachdeva et al., there was a higher occurrence in rural settings[15]. The high frequency among rural populations is attributed to factors such as poverty, illiteracy, inadequate access to healthcare facilities, and low public awareness. The majority of cases in PIH, in this study (53.75%) occurred in the 25–30 age range. The majority of cases in a research by Saxena S et al. fell into the 21–25 age range[16].

The majority of cases in a different study by Parmar MR et al. were also in the age range of 21 to 25[6]. Thus, it could be inferred from these research that a young mother's age is a substantial risk factor for the development of postpartum haemorrhage. This country has a greater prevalence in the younger age group because girls get married early, especially in rural populations.

Primigravida patients made up the majority of cases admitted, who had PIH in this study (67.5%). In a retrospective study carried out in southeast Nigeria, Umegbolu EI et al. found that the incidence of postpartum haemorrhage (PIH) was greater in nulliparous women (7.7%) than in multiparous women (5.5%)[13]. Primigravida instances made up the bulk of cases in a study by Saxena S. et al. as well (57%). In addition, Sibai and Cunningham's global analysis revealed that nulliparous populations had a greater incidence of PIH[3]. The results of this study are consistent with those of studies by Irinyenikan et al., which found that primigravidas accounted for the majority of PIH cases, and by Sandhya et al., who reported that 60% of their cases were primigravidas[19,20].

In this study, cesarean sections accounted for the majority of case deliveries (73.75%). According to Parmar MR et al.'s study, the incidence of LSCS was 17%[6]. Additionally, Sivakumar S et al. discovered a greater incidence of LSCS.

In contrast to a study by Parmar MR et al., where only 42% of delivered cases were term and 57% were preterm, the majority of delivered patients in the current study were term (60%) and had birth preterm (32.5%)[6]. The majority of preterm births (61.53%) were caesarean sections[17]. The most frequent consequence seen in this study was eclampsia, which was followed by abruption placentae. These results were somewhat comparable to those of a study by Parmar et al., in which eclampsia was also the most prevalent achievement[6]. Dun et al.'s study likewise revealed a similar conclusion[1].

CONCLUSION

Hypertension induced in pregnancy was more common in the younger age group in the current study, and the bulk of patients was primi and had less education than a high school diploma. Younger age and lower educational attainment may be related to the patient's age alone, insufficient prenatal treatment, or lack of knowledge about prenatal care as a result of lower patient education. Women with high risk of preeclampsia in their early pregnancy would be identified through risk factor assessment. Appropriate prenatal care and periodic hospital visits can help avert the negative effects of pregnancy-induced hypertension. During a patient's booking visit, healthcare providers can determine the patient's risk of pre-eclampsia and can schedule antenatal care accordingly. Besides that, this study was held at a hospital, the findings might not apply to the population, and more research with a bigger sample size is required to determine the statistical parameters.

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