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FREQUENCY OF PREGNANCY INDUCED HYPERTENSION IN TEENAGE PREGNANCY PRESENTING IN A TERTIARY CARE HOSPITAL

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Abstract
Background: One of the most prevalent public health issues in the world is high blood pressure in pregnancy, which complicates 6 to 8% of pregnancies.
Objective: Frequency of Pregnancy Induced Hypertension in Teenage Pregnancy
Methodology: This descriptive case cross sectional study was carried out at Pir Sayed Abdul Qadir Shah jilani institute of medical sciences Gambat. The duration of our study was six months from March 2019 to August 2019. On pre-made Performa, information on the woman and the gestational age was collected from each patient. Data entry and analysis were carried out using SPSS version 17.
Results: In the current study, totally 120 pregnant women were enrolled. The pregnancy induced hypertension was observed in 19 (15.83%) amongst women who were involved in study.
Conclusion: Our study concludes that frequency of pregnancy induced is high amongst teenage. In Pakistan, efforts must be made to ensure that the rule against young marriage is strictly enforced.

Key words: Frequency; Pregnancy Induced Hypertension; Teenage Pregnancy

Introduction

Pregnancy-induced hypertension is defined as having a systolic blood pressure of 140 mm Hg or higher and a diastolic blood pressure of 90 mm Hg or higher in the 24th week of pregnancy (1). Pre-eclampsia, or elevated blood pressure in pregnancy, is one of the complications of pregnancy and may be identified by protein urea, edema from fluid retention, and hypertension (2). One of the most prevalent public health issues in the world is high blood pressure in pregnancy, which complicates 6 to 8% of pregnancies. The rise in blood pressure during pregnancy is responsible for 15–25% of maternal mortality in impoverished countries and 18% in wealthy countries (3). Pre-existing hypertension, hypertension brought on by pregnancy, pre-eclampsia/eclampsia, and superimposed hypertension are only a few of the illnesses that fall under the category of disorders of increased blood pressure in pregnancy. All of these diseases may cause significant damage to the mother, fetus, and newborn, ranging from modest hypertension at full term without additional concerns to serious issues. Every year, a sizable number of women worldwide pass away from pregnancy-related causes, with

sub-Saharan Africa accounting for more than half of these fatalities (4). Early marriage has a negative impact on reproductive health and outcomes, yet regrettably, this practice is still prevalent today. Making adequate health care resources accessible to those who are already married in their teens is vital in order to work tirelessly to eliminate underage marriage. When a woman falls pregnant before turning 18, it is referred to as a teen pregnancy. In the United States, the birth rate for teens between the ages of 18 and 19 has decreased from 60/1000 in 2004 to 41/1000 in 2014 (5).

The second most frequent problem and fatality factor for teenage females is teen pregnancy and childbirth. In nations with middle- or low-income levels and adolescent pregnancies, there are around 70,000 maternal deaths every year. In comparison to older mothers, women who get pregnant before the age of 15 or 16 have higher risks for morbidity and death. There is several health risks associated with teenage marriage. These young married women have a higher risk of developing mental illness and are more likely than single girls to face physical and sexual abuse at the hands of their partners. They have the fewest opportunities to continue their education and find work, and it is exceedingly difficult for them to participate in family decision-making. According to data from India, underage marriage is linked to greater socioeconomic vulnerability, increasing gender disparities, as well as a lower likelihood of prenatal care and contraception usage (6).
In Asia, the birth rate for teenagers between the ages of 15 and 19 falls from 27 /1000 women in 2004 to 18 /1000 women in 2014. Teenage pregnancy frequencies are still quite high. Annually, 20 to 24 million teenagers seek abortions, based on WHO report. According to the WHO, young females between the ages of 13 and 19 have a two times higher chance of dying than those between 20 and 24. In comparison to the age range of approximately twenty years, the risk of maternal death is five times higher in those between the ages of 13 and 14 (7). Although there are several ideas linking dietary factors, the immune system, genetics, and the maternal vascular system to pregnancy-induced hypertension, its etiology is still unknown. Pre-existing high blood pressure, kidney problem, diabetes, HTN from a previous pregnancy, mothers who are younger than 20 or older than 40, triplet pregnancies, nulli-parity, and pre-pregnancy obesity are just a few of the risk factors that increase the risk of PIH among pregnant women in general (8, 9). No similar research has been done in our setting. This research aims to evaluate the pregnancy-related hypertension in teenage females.

Materials and methods

This descriptive case cross sectional study was carried out at Pir Sayed Abdul Qadir Shah jilani institute of medical sciences Gambat. The duration of our study was six months from March 2019 to August 2019. Based on WHO sample size calculator, a total of 120 participants were enrolled.

Inclusion criteria:

- Teenage pregnant women having age 17-19 years
- Gestation age of more than 20 weeks
- Singleton pregnancy on USG
- Women of any parity
- Willing to take part in our study

Exclusion criteria:

- All the mothers with:
- Diabetes
- Chronic hypertension
- Renal disease
- Not willing to take part in our study

Pregnancy-induced hypertension was identified based on a clinical examination, and blood pressure was monitored using a sphygmomanometer that was in good working order. According to the hypertension criterion, a patient was deemed to have hypertension if their blood pressure was equal

to or higher than 140/90 on more than two different occasions. Patients were monitored to check for the development of PIH at 24, 28, 34, 36, and 38 weeks till delivery. On pre-made Performa, information on the woman and the gestational age was collected from each patient. Data entry and analysis were carried out using SPSS version 17. Frequency and percentages were calculated for age wise distribution, parity, gravidity and Pregnancy-induced hypertension whereas mean and standard deviation was calculated for age, gestational and age of mothers.

Results

In the current study, totally 120 pregnant women were enrolled. The mean maternal age (SD) was 17.78 (2.11) years. The mean (SD) parity was 3 (±1.12) while the mean (SD) gravidity was 2.55 (±1.23). The mean (SD) gestational age was 32.09 (±2.12) weeks. (Table 1) Based on age, 40 (33.33%) participants were 17 years old while 80 (66.67%) participants were 18-19 years old. (Figure 1) Based on parity, 90 (75%) women were less or equal to 3, while it is more than 3 in 30 (25%). (Figure 2) The gestational age of 55 (45.83%) women was less or equal to 30 weeks, while that of 65 (54.17%) women was more than 30 weeks. (Figure 3) The pregnancy induced hypertension was observed in 19 (15.83%) amongst women who were involved in study. (Figure 4)

Table 1: Mean maternal age, parity, gravidity and gestational age of the enrolled patients

Parameter	Mean (SD)
maternal age	17.78 (2.11) years
parity	3 (±1.12)
gravidity	2.55 (±1.23)
gestational age	32.09 (±2.12) weeks

Figure 1: Age wise distribution of patients

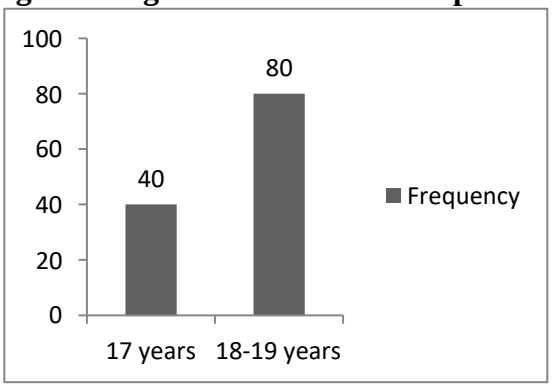


Figure 2: Distribution of patients based on Parity

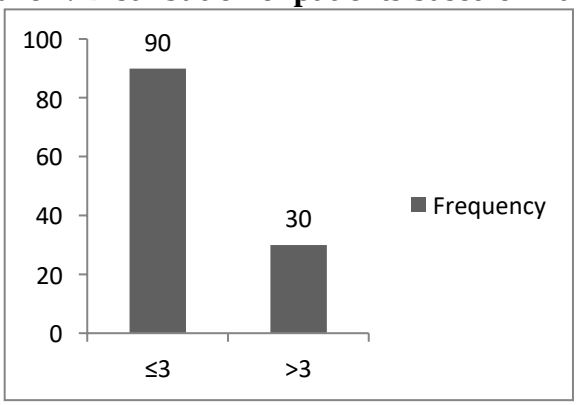


Figure 3: Figure 2: Distribution of patients based on Parity

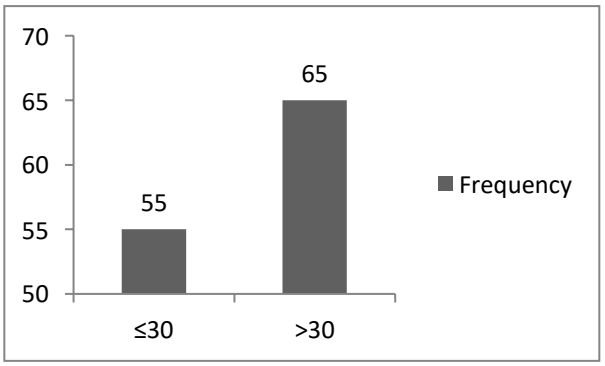
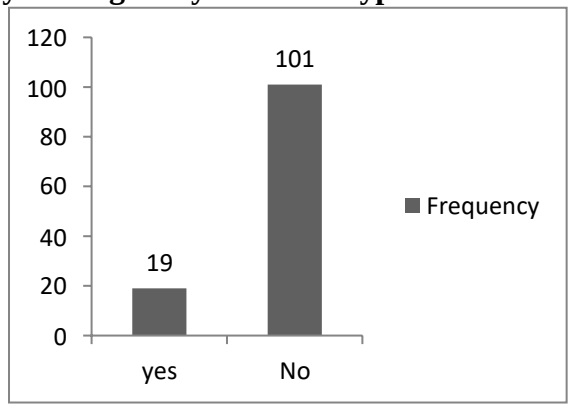


Figure 4: Frequency of Pregnancy Induced Hypertension in Teenage Pregnancy



Discussion

One of the main causes of maternal and perinatal morbidity and death during pregnancy is pregnancy-induced hypertension. Hypertension is the second most common cause of maternal mortality in the United States, accounting for 15% of all maternal fatalities. The mother's risk of cerebral vascular accidents, renal failure, cardiac failure, and heart attacks rises with severe hypertension. The risk of issues such inadequate oxygen transport via the placenta, growth limitation, preterm delivery, placental abruption, stillbirth, and neonatal mortality is also raised for the fetus (10). With a reported prevalence of 5–10% (11, 12), hypertensive problems are the most frequent medical consequences of pregnancy.

In the current study, totally 120 pregnant women were enrolled. The mean maternal age (SD) was 17.78 (2.11) years. The mean (SD) parity was 3 (±1.12) while the mean (SD) gravidity was 2.55 (±1.23). The mean (SD) gestational age was 32.09 (±2.12) weeks. Based on age, 40 (33.33%) participants were 17 years old while 80 (66.67%) participants were 18-19 years old. Based on parity, 90 (75%) women were less or equal to 3, while it is more than 3 in 30 (25%). The gestational age of 55 (45.83%) women was less or equal to 30 weeks, while that of 65 (54.17%) women was more than 30 weeks. The pregnancy induced hypertension was observed in 19 (15.83%) amongst women. In accordance with our study, another study carried out by Fatima B et al. reported that the prevalence of pregnancy induced-hypertension as 14.7%, which in accordance with our findings. They reported non significant association between PIH and age of mother, gestational age (13). In contrast to our study, another study reported higher incidence of PIH amongst teenage (14). A study carried out by S Ganesh Kumar et al. reported a significant association between age and PIH which is similar with the findings of our study (15).

A previous similar study done by Ruqayya Chandio et al. in 2021 reported that the incidence of pregnancy induced hypertension amongst teenage was 23.5% which is higher than our study. This might be due to large population size in their study (16). Another study from Pakistan reported 21.47% of pregnancy induced hypertension which is not in accordance with our findings (17). Another study reported a significant association between hypertension and early reproductive age (18). It is crucial

to have readily available, reasonably priced health care services, as well as to be aware of PIH, as this will assist to reduce PIH-associated morbidity and death. Although the study was conducted in a hospital, the findings may not be relevant to the larger population. As a result, the study has to be expanded by employing a larger population to develop stronger statistical relationship that takes into account sociodemographic factors and other subjects of study.

Conclusion

Our study concludes that frequency of pregnancy induced is high amongst teenage. In Pakistan, efforts must be made to ensure that the rule against young marriage is strictly enforced. The promotion of health education and public awareness of pregnancy-induced hypertension and the risk factors that affect their blood pressure through media coverage will not only save the lives of mother and child but will also be helpful for the growth of a good, healthy nation.

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