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Original Research Article

Prevalence of teenage pregnancy and its obstetric and perinatal outcomes in a rural tertiary care hospital

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ABSTRACT

Background: Teenage pregnancy has been reported as one of the leading causes of death in adolescent girls in both developed and developing countries. In developed countries teenage pregnancies are most common in unmarried girls whereas in developing countries like India where early marriages are more common, teenage pregnancies are seen mostly in married women.

Methods: In this retrospective observational study, data between January 2018 and December 2019 was studied; data was evaluated using MS excel for statistical purpose. In the present study, only pregnant women less than 20 years were included.

Results: Out of 6,028 pregnant women delivered during this period, 686 i.e. 11.3% age of women were less than 20 years, 609 (88.7%) had delivery at term and the remaining 77 (11.2%) women had preterm delivery. As per this study, incidence of hypertensive disorders were 12.24%, 5.5% were associated with anemia and most of them had vaginal delivery (65.01%) including induced and instrumental; cesarean section was 35.5%. In present study, 24.1% babies were of low birth weight and 3.49% of babies were intrauterine growth restricted (IUGR) babies.

Conclusions: This study showed hypertensive disorders were the most common maternal complication and the incidence of vaginal delivery was higher compared to that of cesarean section, incidence of anaemia was less compared with other studies. Proper antenatal care, institutional delivery and postnatal care can reduce fetal and maternal complications in childbearing women in teenage age group.

Keywords: Teenage pregnancy, Preterm delivery, Low birth weight

INTRODUCTION

Teenage pregnancy according to World Health Organisation (WHO) is defined as a pregnancy in a girl who is 10-19 years of age, the age of the woman being defined as her age at the time the baby is born.¹ The terms “adolescent pregnancy” and “teenage pregnancy” are often used as synonyms. Worldwide every 5th child is born to a teenage mother according to the United Nations Children's Fund (UNICEF) and it accounts for more than 13 million births each year.² The incidence of teenage pregnancies

varies dramatically between different countries. Developing countries contribute to about 90% of teenage pregnancies worldwide. Although the teenage pregnancy and birth rate of developed countries are significantly lower than that of developing countries there is also a significant variation in teenage pregnancy and birth rates between developed countries.³

According to a study employed in developing countries the following reasons such as lack of knowledge on sex education, ineffective utilization of modern contraceptives

methods, cultural practices, socioeconomic dependence of females on males, and peer influence are the contributing factors for teenage pregnancies. Several studies found various obstetric and perinatal outcomes among teenage pregnancies. Maternal complications like gestational hypertension, preeclampsia, anaemia, preterm births, preterm premature rupture of membranes (PPROM) and perinatal complications like intrauterine growth restriction (IUGR), intrauterine fetal death (IUFD) and stillbirths were common complications seen among teenage mothers. In addition, operative vaginal deliveries, cesarean section rate, and low birth weight rate were significantly higher among teenage pregnant women than those among older ones. Furthermore, in adolescent women who received adequate prenatal care there was no significant risk of adverse obstetric outcomes compared with adult women of similar sociodemographic background.

Majority of births to adolescents takes place in low and middle-income countries. Tens of thousands of adolescents die annually during the process of pregnancy and childbirth. In India, incidence of teenage pregnancy varies from about 3.2% to 18.6%. As the adolescent girls are not yet matured physically and emotionally for motherhood, pregnancy and childbirth carry more risk in adolescents than in adults.² The aim of this study was to assess teenage pregnancies and their adverse obstetric and perinatal outcomes in PES Institute of Medical Sciences and Research, Kuppam, Andhra Pradesh.

METHODS

This was a two year clinical retrospective study carried out in the Department of Obstetrics and Gynaecology at PES Institute of Medical Sciences and Research, a tertiary care centre in Andhra Pradesh, India. All pregnant females admitted to the hospital in the age group of <20 years during the study period were included and all pregnant women equal to or more than 20 years were excluded from the study. The following maternal and fetal parameters were studied, which included hypertensive disorders, anaemia, mode of deliveries in the mother and low birth weight (LBW) and IUGR in the babies. The required details were collected from medical record maintenance department of the institution and Microsoft Excel was used for statistical purposes.

RESULTS

Prevalence of teenage pregnancies

In the present study there were 686 teenage mothers were admitted during the study period amongst the total obstetric admissions of 6028, giving an incidence of 11.3% of teenage pregnancy (Figure 1).

Out of 686 teenage pregnancies, 589 women were primigravida accounting for 85% and the remaining 97 women were multigravidas accounting for 15% (Table 1).

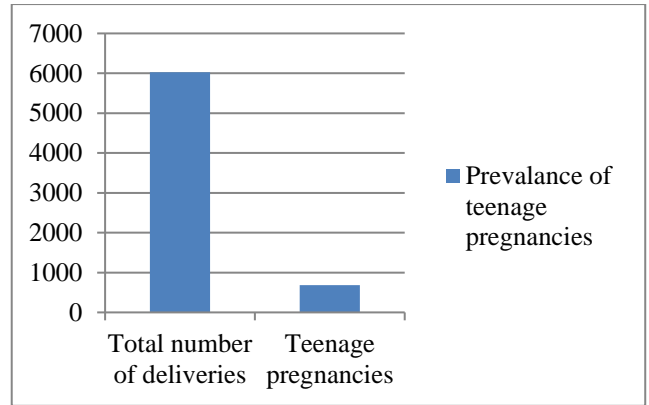


Figure 1: Prevalence of teenage pregnancies.

Table 1: Parity

Total teenage pregnancies	Primigravida (%)	Multigravida (%)
686	589 (85)	97 (15)

Gestational age

In our study, out of 686 teenage pregnant women, 609 (88.7%) were delivered at term gestation and preterm deliveries were 77 (11.2%) (Figure 2).

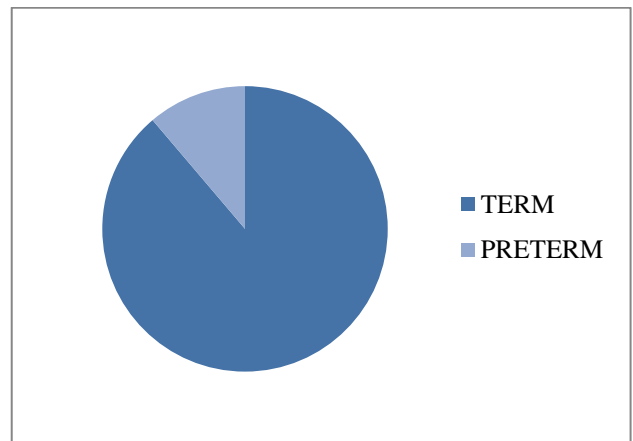


Figure 2: Gestational age.

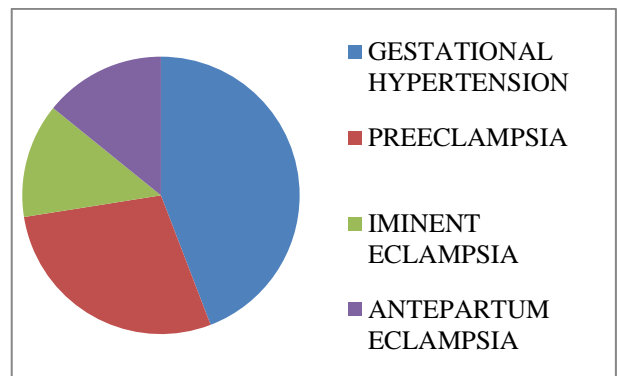


Figure 3: Hypertensive disorders.

Hypertensive disorders

As per this study, out of 686 deliveries, 84 (12.24%) women had hypertensive disorders, of this 24 (3.4%) were preeclampsia, 11 (1.6%) cases were diagnosed as imminent eclampsia, 12 (1.7%) cases were diagnosed with antepartum eclampsia and 37 (5.3%) with gestational hypertension (Figure 3).

Anaemia

In our study only 5.5% of teenage pregnancies were associated with anemia. Of the total anaemia cases, 21 (3.06%) were mild anaemia, 15 (2.1%) moderate anaemia and 2 (0.2%) severe anaemia cases (Figure 4).

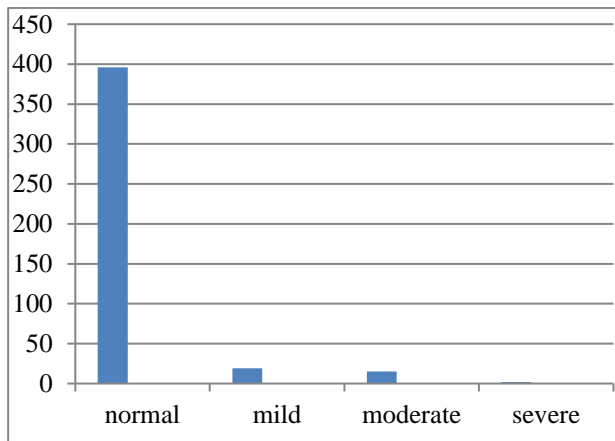


Figure 4: Anaemia.

Mode of deliveries

Our study showed that, most had vaginal delivery (65.01%) including induced and instrumental than cesarean section (35.5%); the most common indication for cesarean section was cephalopelvic disproportion (CPD) followed by fetal distress and malpresentations like breech (Figure 5).

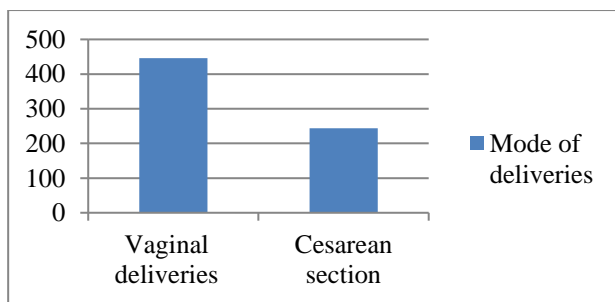


Figure 5: Mode of deliveries.

Incidence of maternal complications

These are various maternal complications noted during the study which included preterm deliveries (11.2%), hypertensive disorders (12.24%), anaemia (5.5%),

oligohydramnios (1.45%) and multiple pregnancies (0.72%). Hypertensive disorders were the most common complication noted during this study followed by preterm deliveries and anaemia (Table 2).

Perinatal outcome

The various perinatal complications noted during this study, which include preterm births (11.2%), NICU admissions (6.1%), low birth weight (24.1%), IUGR (3.49%), and IUFD (0.4%). Low birth weight is the most common perinatal complication followed by preterm birth (Table 3).

Table 2: Incidence of maternal complications.

Maternal complications	Number	Percentage
Preterm delivery	77	11.2
Hypertensive disorders	84	12.24
Anaemia	38	5.5
Oligohydramnios	10	1.45
Multiple pregnancies	5	0.72

Table 3: Perinatal outcome.

Perinatal complications	Number	Percentage
Preterm births	77	11.2
NICU admission	42	6.1
Low birth weight	166	24.1
IUGR	24	3.49
IUFD	3	0.4

DISCUSSION

Prevalence of teenage pregnancy worldwide ranges from 8% in East Asia to 55% in West Africa.⁴ Over past decade, India has successfully reduced the proportion of pregnancy between 15-19 years to half (16% during NFHS-National Family Health Survey 3 in 2005-2006 and 7.9% during NFHS-4 in 2015-2016).⁵ Still, the estimation by United Nations Population Fund (UNFPA) runs to 11.8 million teenage pregnancies for the country. In our study the incidence of teenage pregnancy was 11.3% which is correlating with UNFPA data. According to the NFHS-4, Andhra Pradesh has the highest number of cases of teenage pregnancy in south India. In rural areas, the incidence of teenage pregnancy cases was 13.2% as compared to 8.8% in urban areas. The prevalence of teenage pregnancy in our study which was conducted in our rural tertiary centre was 11.3% which was at par with the numbers quoted by the NHFS-4 data.⁵

In Okram et al, the study conducted in 2019 in India, majority of teenage pregnant women were primiparas accounting for 86%, and 14% were multiparas; this correlates with the current study where primiparas comprised 85% and multiparas 15%; which was comparable with the study by Mahavarkar et al which showed a similar incidence of 86.85%.^{6,7}

Doddihal et al conducted a study on teenage pregnancy in a rural area of south India, which showed majority of teenage pregnancies end in term delivery accounting for 63.9%, and remaining are preterm deliveries.⁸ In our study incidence of term deliveries were high accounting for 88.7% and preterm deliveries were 11.2%. In spite of the complications, teenage pregnancy still had higher number of term deliveries. In our study majority of teenage pregnancies were booked in our institution and hence this may be a contributing factor for good outcome of these pregnancies. The psychological instability/stress because of cultural, social, and economic factors in their living environment could be a possible reason for the preterm deliveries.

The incidence of hypertensive disorders as reported in other studies were as follows: 14.2% by Sharma et al, 10.6% by Sarkar et al and more than 13.05% by Padte et al.¹⁰⁻¹² In our study the incidence of hypertensive disorders were less, accounting for 12.24%; out of this 5.3% were gestational hypertension, 3.4% were preeclampsia, 1.6% were imminent eclampsia and 1.7% were eclampsia. Yasmin et al, conducted a study on teenage pregnancy which showed the incidence of hypertensive disorders to be 20.17%, which was higher than our study.⁹

In the Yasmin et al study the incidence of anaemia was 8.12%. In the current study the incidence of anaemia was 5.5%.⁹ As pregnant teenagers often receive inadequate antenatal care, their anemia during labour and the postpartum period usually get worse. With proper antenatal checkups and follow-up teenage pregnancies can achieve better results like, anaemia correction antenatally with iron supplements. In developing countries more than 25% of teenage mothers were found to be anemic as revealed in studies conducted by Saxena et al, Bhalerao et al and Rahman et al.¹³⁻¹⁵ In contrast to it our study found a lower incidence of anaemia (5.5%).

In current study the percentage of women delivered by cesarean section were 35.5% which was high. Of the cesarean sections, cephalopelvic disproportion (CPD) was the major indication followed by fetal distress and malpresentations. The incidence of cesarean section among teenage mothers were reported 6% by Bhalerao et al, 34% by Mukhopadhyay and 26% by Dubashi.¹⁴⁻¹⁷ These studies also report fetal distress, CPD and contracted pelvis to be leading causes for cesarean section amongst teenage mothers like the present study.

In the current study the incidence of low birth weight is around 24.1%. Other Indian studies found the incidence of LBW babies between 33 and 39%.¹⁸ In the Yasmin et al study, the incidence of LBW is 16%, which was less than that of current study.⁹ The total number of NICU admission in our study was 42 (6.1%) which was higher when compared with Yasmin et al study which is (4.91%).⁹ The incidence of IUGR was 8.2% in the current study, which is as nearly same as that in Yasmin et al (8.4%) but was higher when compared with Saxena et al (5.5%).^{9,19}

CONCLUSION

Teenage pregnancy may cause significant obstetric complications. In our study, a higher prevalence of hypertensive disorders, anaemia, preterm birth and low birth weight was found among teenage mothers. However, the cesarean section rate was found to be significantly higher. The associated factors explaining a higher incidence of adverse maternal outcomes among teenagers needs to be evaluated in further studies. Therefore, preventive programs and targeted antenatal care can be planned to prevent teenage pregnancies and its adverse outcomes. Teenage childbearing does not contribute to adverse maternal or fetal outcomes provided proper antenatal care, institutional delivery and postnatal care are given. Prevention can be achieved by education of the girl child and marriage at a legal age.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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