

TEENAGE PREGNANCY: DEMOGRAPHICS, MATERNAL AND FOETAL OUTCOMERadhika Gollapudi¹, Jagadeeshwari Sistla²¹Assistant Professor, Department of Obstetrics & Gynaecology, Nizam's Institute of Medical Sciences, Punjagutta, Telangana.²Professor & HOD, Department of Obstetrics & Gynaecology, KIMS Medical College, Andhra Pradesh.**ABSTRACT****BACKGROUND**

Pregnancy though is a physiological event in a woman's life, it has its own associated complications. In teenage pregnancies, the physical and emotional state of stress coupled with biological immaturity leads to adverse effect both on the health of the mother and the foetus.

METHODS

This study is a clinical prospective study analysing the demographics, maternal health issues and the foetal outcome in teenage pregnancies. The study was conducted over a period of one year at a government tertiary care center. Pregnant women in the age group of 13-19 years who delivered during the study period were included in the study group. All pregnant women over 20 years of age who delivered during the same period were taken as control group. Women who had medical disorders complicating pregnancy were excluded from the study. Anaemia, pregnancy induced hypertension, antepartum haemorrhage and mode of delivery were the maternal outcomes that were noted. Intrauterine growth retardation, prematurity, low birth weight, APGAR score were analysed with respect to the foetus.

RESULTS

In this study, the total number of pregnant women who delivered during the study period were 4782, 536 were teenage mothers, constituting 11.2% of the total pregnancies. Of the 536 teenage mothers, 69.78% belonged to the rural areas and 71.64% were found to have inadequate antenatal visits to the hospital. The mean age of teenage pregnancy was 17.18 years. Incidence of anaemia was 44.2% in comparison, the control group had an incidence of 33.02%. In our study, incidence of Pregnancy induced hypertension was 18.64% in teenage mothers and 10.6% in non-teenage mothers. The incidence of Antepartum Haemorrhage in our study was 8.94% in teenage mothers. Incidence of lower segment caesarean section was 22.76% in the teenage group as compared to 14.57% in the non-teenage group. In our study, 13.05% of teenage mothers had preterm deliveries as compared to 6.40% of non-teenage mothers. Incidence of IUGR was 14.18% in teenage mothers and 8.61% in non-teenage mothers. Similarly, low birth weight babies were found to be born to 47.34% of teenage mothers compared to 30% in non-teenage mothers. In our study, 12.85% of neonates born to teenage mothers were found to have varying grades of asphyxia based on APGAR score taken at one and five minutes.

CONCLUSIONS

Illiteracy leading to lack of knowledge about contraceptive measures and prevalent social customs contribute to an increased incidence of teenage pregnancies in third world countries. This coupled with poor access to health care system leading to inadequate antenatal care contribute to an adverse maternal and foetal outcome. Social awareness about the adverse effects of early marriage and teenage pregnancy and importance of antenatal visits during such high risk pregnancies can minimise the complications occurring in the mother and the foetus.

KEYWORDS

Teenage Pregnancy, Demographics, Maternal and Foetal Outcome.

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INTRODUCTION: Teenage pregnancy has emerged as one of the most significant socioeconomic and public health problem all over the world. Although a major cause of concern in developing countries, teenage pregnancy is a significant problem in the developed world too.

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Corresponding Author:

Dr. Radhika Gollapudi,

*Flat No. 401, Maurya Majestic Apartments,
Narayanguda, Hyderabad-500027.*

E-mail: dr.radhika.gollapudi@gmail.com

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Teenage pregnancy has been defined by World Health Organization (WHO) as "A pregnancy in a girl 10-19 years of age".¹ The psychosocial issues of adolescent pregnancy and child bearing are likely to be overwhelming and have a broader impact along with the medical issues. A teenage mother is at a greater risk of complications during pregnancy than a woman above 20 years of age and is more likely to bear an underweight baby which has lesser chance of survival. 90% of teenage pregnancies have been noted in developing countries.² According to WHO, 1.8 billion women are in the age group of 10-25 years and 88% of them are in developing countries.

Early menarche, lack of education, poor knowledge about contraception, younger age of initiation of sexual activity, poor socioeconomic conditions, traditions and customs may all play an important role in promoting teenage pregnancies. Maternal morbidity and mortality have been found to be high in teenage pregnancies due to anaemia, pregnancy induced hypertension, preterm labour, antepartum haemorrhage and increased incidence of operative delivery.³ Adverse foetal outcomes include preterm birth, low birth weight, intrauterine deaths, birth trauma and respiratory distress syndrome due to immaturity. The present study aims to analyse the incidence and the demographics of teenage pregnancies and its attendant maternal and foetal complications.

METHODS: This is a clinical prospective study conducted over a period of one year in the department of obstetrics and gynaecology in a government tertiary care center. All the pregnant women admitted for delivery during this period in the age group of 13-19 years were taken as the study group. All pregnant women above 20 years during the same period were taken as controls. Women with medical disorders complicating pregnancy in both the groups were excluded from the study. Adequate antenatal care (ANC) was defined in our study as minimum three antenatal check-ups by qualified medical personnel, tetanus toxoid vaccination and iron and folic acid supplementation. Age of the women was determined by meticulous history. Complete past medical, surgical and obstetric history was noted in a predesigned format. Complete physical and systemic examination was done.

All patients were subjected to routine laboratory investigations which included complete blood count, complete urine examination, bleeding time and clotting time and blood group analysis. Patients were followed up from admission until discharge. Anaemia, pregnancy induced hypertension, antepartum haemorrhage and mode of delivery were the maternal outcomes that were noted. Intrauterine growth retardation (IUGR), prematurity, low birth weight (LBW) and APGAR score were analysed with respect to the foetus. Statistical analysis was done using Chi Square test or Student T test for comparing mean values. A p value less than 0.05 was considered to be statistically significant.

RESULTS: The incidence of teenage pregnancy during the study period was 11.2%. Majority of the pregnant teenagers were in the age group of 18-19 years, constituting 80% of the study group. With no pregnancy reported at the lowest range of the defining criteria. The mean age of menarche in this group was found to be 12.83 years. The mean age of teenage pregnancy was 17.18 years. Of the 536 teenage mothers, 69.78% belonged to the rural areas and 71.64% were found to have inadequate antenatal visits to the hospital. Literacy rates were low and teenage women who attended high school and beyond constituted 7.00%. It was also found that amongst the study group, 1.87% were unwed mothers (Table - 1).

Teenage pregnancy results in increased risk to the mother as well as to the foetus. Maternal complications include anaemia, pregnancy induced hypertension, antepartum haemorrhage and higher incidence of instrumental and operative deliveries. Anaemia is defined as blood haemoglobin level of less than 11 gm%. (WHO). In India, ICMR defines anaemia as haemoglobin less than 10 gm%. Though anaemia is prevalent in both the groups, in our study its incidence was 44.2% in teenage mothers when compared with 33.02% in the non-teenage mothers. The p value was less than 0.001 indicating statistical significance.

Pregnancy induced hypertension (PIH) is defined as blood pressure reading of 140/90 mmHg measured on two occasions at least six hours apart. In our study, incidence of PIH was 18.64% in teenage mothers and 10.6% in non-teenage mothers indicating statistical significance as the p value derived was less than 0.001. Incidence of PIH was found to be high in 15-17 years age group and showed a decline as the age increased and approached the upper limit of the defining criteria. The incidence of Antepartum Haemorrhage (APH) in our study was 8.94% in teenage mothers. Antepartum Haemorrhage due to abruptio placenta was found to be 4.47% in teenage mothers as compared to 1.76% in non-teenage mothers. The incidence of APH due to placenta praevia showed no difference in the study and control group.

In our study, majority of the teenage women (77.24%) delivered vaginally, amongst these 19.02% needed assistance by forceps or vacuum and 4.66% had spontaneous or assisted breech deliveries. Incidence of lower segment caesarean section (LSCS) was 22.76% in the teenage group as compared to 14.57% in the non-teenage group. Cephalopelvic disproportion (CPD) was the most common indication for LSCS in the teenage mothers (42.62%). Severe PIH (4.9%), foetal distress (5.73%), malpresentations and malpositions formed the rest of the indications for LSCS. High incidence of third stage complications (2.6%) was due to post-partum haemorrhage. Maternal complications of teenage pregnancies in comparison with the control group of our study are illustrated in Table - 2.

Several parameters such as IUGR, Prematurity, LBW, APGAR score were considered to assess the foetal outcome. Preterm delivery is defined as delivery before 37 weeks of gestation. In our study, 13.05% of teenage mothers had preterm deliveries as compared to 6.40% of non-teenage mothers. The p value was less than 0.001 indicating that preterm deliveries in teenage mothers were significantly higher than in non-teenage mothers. IUGR is defined as foetal weight below 10th percentile for gestational age as determined through an ultrasound. Incidence of IUGR was 14.18% in teenage mothers and 8.61% in non-teenage mothers. Similarly LBW babies were found to be born to 47.34% of teenage mothers compared to 30% in non-teenage mothers. The mean weight of an infant in the present study was 2.07 kg in teenage mothers. 91.41% of the births were live births, while still births constituted

8.59% in teenage mothers as compared to 3.44% still births in non-teenage mothers.

APGAR scores at one minute and five minutes were noted. 87.14% of the new born in the teenage mothers had APGAR scores between 7-10 with 9.79% of babies being mildly asphyxiated and 3.06% of babies being severely asphyxiated needing neonatal intensive care support. Perinatal mortality which included intrauterine death, intrapartum death of the foetus and neonatal death in teenage mothers was 12.03% when compared to 4.13% in non-teenage mothers. Foetal parameters are illustrated in Table - 3.

Cohabitation Status	Married-98.13%	Unmarried-1.87%
Type of Residence	Urban-30.22%	Rural-69.78%
Literacy Status	Illiterate-69.4%	Primary Education-23.55% Secondary Education-6.5% Higher Studies-0.5%
Antenatal Care	Adequate-28.36%	Inadequate-71.64%
Table 1: Demographic Characteristics in the Teenage Mothers		

	Teenage Group	Non-Teenage Group
Anaemia	44.2%	33.02%
PIH	18.64%	10.6%
APH	8.94%	3.52%
Operative Delivery (LSCS)	22.76%	14.57%
Table 2: Maternal Complications		

	Teenage Group	Non-Teenage Group
IUGR	14.18%	8.6%
Preterm Labour	13.05%	6.4%
LBW	47.34%	30.0%
Live Births	91.41%	96.42%
Perinatal Mortality	12.03%	4.13%
Table 3: Foetal Complications		

DISCUSSION: Teenage pregnancy is a common occurrence in the developing world due to various socioeconomic factors. The incidence of teenage pregnancy was 11.2% in the present study. In a similar study, Yasmin et al⁴ reported an incidence of 5.10%. Various other studies in other parts of the world reported an incidence ranging from 8.3-23.4%.^{5,6} Majority of teenage pregnancies were in the age group of 18-19 years, with none reported at the 13 years. Amongst the maternal complications, incidence of anaemia was found to be 44.2% in the study group in comparison with 33.2% in the non-teenage group.

Similar results were noted in studies done by Saxena et al⁷ and Rahman et al.⁸ The incidence of anaemia in our study is attributed to low socioeconomic status, illiteracy and poor antenatal care. In our study, only 28.36% of teenage mothers had regular antenatal visits to the hospital. Hypertensive disorders in teenage pregnancy are an important complication. In our study, incidence of PIH amongst teenage mothers was 18.64%, which was significantly higher than in non-teenage mothers (8.6%). Incidence of PIH in our study showed a declining trend as the age of the mother increased. A. Kumar et al⁹ also reported an incidence of 18.4% in teenage mothers of 17 years which declined to 7.8% in the age group of 18-19 years.

Antepartum haemorrhage in our study had an incidence of 8.94% in the teenage mothers. The most common cause of APH was abruptio placenta. Incidence of APH due to placenta praevia showed no significant change in the teenage and non-teenage groups. Studies done by Ziadeh et al¹⁰ and Kumar et al⁹ also showed no significant statistical difference in the incidence of PIH among both the groups. Incidence of LSCS in our study was 22.76% in teenage mothers as compared to 15.57% in non-teenage mothers. High rate of vaginal delivery was attributed to the small size of the foetus due to causes such as maternal anaemia, IUGR and preterm births. Similar results were found in studies by Mukhopadhyay et al¹¹ (34.0%) and Dubashi et al¹² (26%).

Cephalopelvic disproportion was found to be the most common indication for LSCS in our study followed by foetal distress, severe PIH, malpositions and malpresentations. In a study by Rupakala et al,¹³ foetal distress was found to be the most common cause for LSCS, followed by malpresentation, severe preeclampsia and CPD. Incidence of preterm delivery amongst teenage mothers in our study was 13.05% and was found to be consistent with studies done by Sharma et al¹⁴ (13.2%) and Kachroo et al¹⁵ (20.7%). High incidence of anaemia, uncontrolled PIH and poor nutritional status were found to be the main causes for an increase in preterm births in teenage mothers. In our study incidence of IUGR and LBW babies born to teenage mothers was 14.18% as compared to 8.61% in non-teenage mothers. These observations were similar to incidence of IUGR and LBW in studies done by Trivedi et al¹⁶ and Mahavarkar et al.³ In a study done by Mahajan et al,¹⁷ an incidence of 19% of LBW babies was noted in teenage mothers.

In our study, 12.85% of neonates were found to have varying grades of asphyxia based on APGAR score taken at one and five minutes. In a large population based study by Chen et al,¹⁸ babies born to young teenage mothers were associated with varying grades of asphyxia as determined by low to very low APGAR score at five minutes. Perinatal mortality in our study was 12.03% and could be attributed to unbooked deliveries, preterm labour and LBW babies.

CONCLUSIONS: The present study aims to highlight the sociodemographic characteristics of teenage pregnancies and its effect on maternal health and foetal outcome.

Teenage pregnancy remains a major health issue in our country due to prevailing social dogmas, age old traditions and poor access to healthcare in remote rural areas. Illiteracy leads to lack of knowledge about family planning, puts the adolescents at risk for early pregnancy. Education can play a major role in decreasing the incidence of teenage pregnancy and its attendant health and psychosocial issues. Teenage mothers should be counselled to have regular antenatal checkups for early detection of maternal and foetal complications associated with pregnancy. Adequate intranatal and neonatal services can minimise the risks associated with labour and preterm fetuses.

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