

A Study on The Foetomaternal Outcomes of Teenage Pregnancies in a Tertiary Care Hospital

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Abstract

Background: Teenage pregnancy is defined as pregnancy that occurs after menarche up to the age of 19 years. It is one of the important causes of maternal as well as neonatal morbidity and mortality. There is an increased incidence of preterm deliveries, hypertensive disorders in pregnancy and other maternal complications in teenage pregnant mothers.

Aims and Objectives: 1. To identify the different complications associated with teenage pregnancies. 2. To evaluate the maternal and foetal outcomes of pregnancies in teenage mothers.

Materials and Methods: This study was conducted in the Department of Obstetrics and Gynaecology at our institution for a period of one year from January 2021 to December 2021. It was a retrospective observational study.

Methodology: Medical records of all patients admitted to the Department of Obstetrics and Gynaecology at our institution during the study period who fulfilled the inclusion criterion were reviewed for the study. The demographic information, diagnosis, the course in the hospital, management, maternal and foetal outcomes of all the patients were obtained from these records. 50 patients who came under the teenage pregnancy age group were analysed.

Results: Among the 50 teenage pregnant mothers who were included in this study, 32(64%) had one or more complications and the major complications that occurred were hypertensive disorders of pregnancy (36%), anemia (20%) followed by threatened preterm labour (20%) and foetal growth restriction (14%). Most common indication for caesarean section was fetal distress (38%). The incidence of post-partum haemorrhage was 18%. Low birth weight (26%), and NICU admissions (32%) were the major adverse fetal outcomes.

Conclusion: Effective and prompt preconceptional, antepartum, intrapartum, and postpartum care along with contraceptive guidance given to the teenage population, could go a long way in minimizing the risks and complications associated with teenage pregnancies.

Keywords: teenage pregnancy, foetomaternal outcomes

Introduction;

Teenage pregnancy, also known as adolescent pregnancy, is pregnancy in a female under the age of 20 years according to the WHO.^[1]

Worldwide complications related to pregnancy are the most common cause of death among females of 15 to 19 years of age.^[2]

Teenage pregnancy in developing countries often occurs within marriage and half are planned.^[2] However, in these societies, early pregnancy may combine with malnutrition and inaccessible health care to cause maternal and foetal complications. Educational interventions and access to birth control can reduce unintended teenage pregnancies^[3].

The combination of poor nutrition and early child bearing expose young women to serious health-risks during pregnancy and childbirth, including damage to the reproductive tract, pregnancy-related complications, such as anaemia, hypertensive diseases of pregnancy, preterm labour, cephalopelvic disproportion, malpresentation, maternal mortality, perinatal and neonatal mortality, and low birthweight^[4,5]

There was no greater risk of adverse obstetric outcomes in adolescent women who received adequate prenatal care compared with adult women of similar sociodemographic background^[6]. Another study stated that a teenage antenatal clinic would result in better outcomes among teenage pregnancies^[7]. Our study was intended to study the foetomaternal outcomes of teenage pregnant mothers getting admitted to a tertiary care hospital.

Aims and Objectives: 1. To identify the different complications associated with teenage pregnancies. 2. To evaluate the maternal and foetal outcomes of pregnancies in teenage mothers..

Materials and Methods: This study was conducted in the Department of Obstetrics and Gynaecology at our institution for a period of one year from January 2021 to December 2021.

Study design: retrospective observational study

Study period: January 2021 to December 2021

Sample size: All antenatal mothers satisfying the inclusion criteria admitted in our institution during the study period.

Inclusion criteria: All antenatal mothers with pregnancies occurring from the time of menarche up to the completion of 19 years of age.

Exclusion criteria : 1.All antenatal mothers with pregnancies occurring after the completion of 19 years of age.2.All antenatal mothers with pregnancies occurring up to the completion of 19 years of age who opted for Medical Termination of Pregnancy.

Methodology: Medical records of all antenatal mothers admitted to the Department of Obstetrics and Gynaecology at our institution during the study period who fulfilled the inclusion criterion were reviewed for the study. The demographic information, diagnosis, the course in the hospital, management, maternal and foetal outcomes of all the above mothers were obtained from these records. MS excel was used for statistical purpose.

Results:

In the present study we have analyzed 50 teenage pregnant mothers who were admitted and delivered in our institution.

Table 1: Distribution According to The Gestational Age

Gestational age	N(%)
TERM	39 (78%)
PRETERM	11(22%)
TOTAL	50(100%)

Out of the 50 pregnant mothers in the study group, 39 (78%) were term and 11 (22%) were preterm.(Table 1)

Table 2 Distribution According To The Gravidity

GRAVIDA	N(%)
PRIMI	35(70%)
MULTI	15(30%)
TOTAL	50(100%)

In our study group there were 35 primi gravidae and 15 multi gravidae. Among the 15 multigravidae, 12 had first trimester miscarriages before the current pregnancy which constituted 24% of the study group and was one of the most common complications seen in teenage pregnancy. (TABLE 2)

Table 3: Incidence Of Complications In Teenage Pregnancies

Risk factors	N(%)
GESTATIONAL HYPERTENSION	11(22%)
ANEMIA	10(20%)
THREATENED PRETERM LABOUR	10(20%)

FOETAL RESTRICTION	GROWTH	7(14%)
OLIGOHYDRAMNIOS		6(12%)
PRE ECLAMPSIA		5(10%)
ECLAMPSIA		2(4%)
GESTATIONAL MELLITUS	DIABETES	3(6%)

Among the 50 teenage mothers in the study group, 32(64%) had one or more of the complications mentioned in the above table.

The major complications associated with teenage pregnancy in our study group were gestational hypertension (22%), anemia (20%), and threatened preterm labour (20%). The other complications included oligohydramnios (12%), preeclampsia (10%), eclampsia (4%) and Gestational Diabetes Mellitus (6%). 7 patients had Foetal Growth Restriction which constituted 14% of the study group (TABLE 3). Overall hypertensive disorders of pregnancy was the commonest complication that occurred in 36% of patients. 44% of those with anemia required blood transfusion for anemia correction. Among the 50 patients, 15 patients had more than 1 complication.

Out of the 50 patients 37(74%) had undergone normal vaginal delivery and 13 (26%) had undergone Cesarean Section.

Table 4: Indications for Cesarean Section (N= 13)

INDICATIONS	N(%)
FETAL DISTRESS	5(38%)
MALPRESENTATION	2(15%)
SEVERE PREECLAMPSIA	2(23%)
PREVIOUS LSCS	2(13.3%)
ABRUPTIO PLACENTA	1(7.6%)
ECLAMPSIA	1(7.6%)

Among the 13 mothers who had undergone cesarean section, the most common indication was fetal distress (38%), followed by severe preeclampsia (23%), malpresentation (15%), previous LSCS (15%), abruptio placenta (7.6%) and eclampsia (7.6%). (TABLE 4)

In our study group, we had analysed the blood loss during delivery which included both normal deliveries and cesarean sections. Among the 50 mothers, 41(82%) had blood loss less than <500 ml and 9(18%) had blood loss >500 ml. Among the 9 mothers who had postpartum haemorrhage, 4 required blood transfusion to manage PPH. No maternal mortalities were encountered in this study.

Table 5: Distribution According to Birth Weight of Babies:

Weight of the baby at birth	N(%)
<2kg	5(10%)
2.1-2.5kg	8(16%)
2.6-3 kg	20(40%)
>3 kg	17(34%)

Birth weight of the babies were analyzed in this study. 13 (26%) babies had low birth weight of less than 2.5 kg.

Among them 5 babies (38%) had birth weight less than 2 kg.

Out of the 50 babies in the study group, 16 (32%) babies required NICU care, 13 (26%) babies were of low birth weight and 7(14%) babies had low APGAR at birth. There were no cases of perinatal mortality in our study group. There were no cases of intra uterine foetal demise or still birth in our study group.

Discussion:

Table 6: Comparison Of The Parameters Of Fetomaternal Outcome With Other Studies

PARAMETER	OUR STUDY	OTHER STUDIES
Maternal complications		
Threatened preterm labour	20%	16% (Bhalerao et al) 27.4% (Yasmin et al)
Hypertensive disorders in pregnancy	36%	20.17% (Yasmin et al) 14.2 % (Sharma et al)

Foetal Growth Restriction	14%	8.4% (Yasmin et al) 5.5% (Saxena et al)
Anemia	20%	8.12% (Yasmin et al) 25% (Saxena et al)
Mode of delivery Cesarean section	26%	11.6%(Yasmin et al) 34%(Mukhopadhyay et al)
Fetal outcome Low birth weight	26%	16.8% (Yasmin et al) 33% (Mukhopadhyay et al)

The above table shows the comparison of our study with other similar studies in terms of various maternal complications, mode of delivery and fetal outcomes. Among the 50 mothers in the study group, we had 11(22%) preterm deliveries. Higher incidence of preterm deliveries among teenagers was also seen in other studies by Yasmin et al^[8] and Bhalerao et al^[9]. Other studies also had similar findings, which further support the finding that young maternal age is a risk factor for preterm deliveries .

12 among the 50 patients had previous history of first trimester miscarriage which itself is one of the complications of teenage pregnancy. Similar outcomes have been shown by other studies by Yasmin et al^[8] and Sharma et al^[10].

The most common complication identified in our study group was hypertensive disorders of pregnancy which occurred in 36% and it was also one of the major contributors for preterm deliveries. Studies done by Yasmin et al^[8] has shown similar results . This shows that patients in teenage group have higher risk of developing hypertensive disorders of pregnancy.

The complication with next highest incidence was anemia which occurred in 20% of the study group. This is more likely because of the poor nutrition and also the inadequate antenatal care of teenage mothers. A number of studies have showed that teenage pregnancy was significantly associated with anaemia . Studies by Mukhopadhyay et al^[11] and Ehrenthal et al^[12] have shown that women below 20 years of age had 1.3 times higher risk for peripartum transfusion, compared with women aged 20–34 years.

The incidence of threatened preterm labour of 20% in our study was found to be higher than in other studies. The incidence of foetal growth restriction reported by Saxena et al^[13] and Yasmin et al^[8] was about 5-9% which is comparable to our study which showed an incidence of 14%.

There was a higher incidence of normal vaginal delivery of 74% and cesarean delivery of only 26% in our study group. Majority of studies have shown similar results namely the studies by Yasmin et al^[8] (11.6%), Mukhopadhyay et al^[11] (34%),and Bhalerao et al^[9] (6%).The most common indication for cesarean section in our study group was fetal distress followed by severe preeclampsia and malpresentation. Similar results were shown in other studies with fetal distress being the most common indication followed by malpresentation and cephalopelvic disproportion among teenage mothers.

9 patients (18%) in our study group had postpartum haemorrhage out of which 4 patients (8%)required blood transfusions. According to Farg et al^[14], high percentage of teenage pregnant mothers had perineal tears and postpartum hemorrhage compared to adult pregnant women. This may be related to anemia and increased blood loss during delivery which may increase the risk of postpartum hemorrhage and puerperal infection. Furthermore, teenage mothers are at increased risk of anemia in the postpartum period. Study by Shruti et al^[15] pointed out that severe anemia can lead to preterm labor and postpartum hemorrhage. Treffers et al^[16] has indicated that many health problems are particularly associated with negative outcomes of pregnancy during adolescence such as postpartum hemorrhage.

In our present study, 26% of babies were of low birth weight and 32 % of babies required NICU care. Various studies done by other authors have also supported an increased incidence of low birth weight and foetal growth restriction among adolescent pregnant mothers.

Conclusion:

Teenage pregnancy is a public health problem of great magnitude in both developed and developing countries. According to our study, hypertensive disorders of pregnancy was the most common risk complication associated with teenage pregnancies followed by anemia and threatened preterm labour. There were no cases of maternal or perinatal mortality in our study group. Effective and prompt preconceptional, antepartum, intrapartum, and postpartum care along with contraceptive guidance given to the teenage population, could go a long way in minimizing the risks and complications associated with teenage pregnancies.

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