

Maternal and perinatal outcome of teenage pregnancy in a tertiary care centre

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Aims: To evaluate the maternal and perinatal outcome in adolescent pregnancy,

Methods: This was a cross-sectional study conducted in Department of Obstetrics and Gynecology, Manipal Teaching Hospital, Pokhara from October 2017 to March 2018 for duration of 6 months.

Results: There were total 82 cases of teenage pregnancy in the study duration with incidence of 6% among total deliveries. Majority of cases were of age 19 and were primigravida. Fifty five percent of the cases had normal vaginal delivery and cesarean section accounted for 39% of cases. The major indication for cesarean section was meconium stained liquor (52%) followed by oligohydraminos (15%) and cephalopelvic disproportion (11%). The maternal complication accounted for 59% of total cases. Among them, anaemia was highly prevalent comprising 11% of cases followed by PPRM (9.8%) and hypertensive disorders in pregnancy (8.5%). In perinatal outcome, the incidence of preterm birth was 15.9% and low birth weight was 13.4%. The rate of NICU admission was 2.4% and there was one case of still birth.

Conclusions: The study showed that teenage pregnancy is at increased risk of adverse maternal and perinatal outcome. So if we lay an effort for reducing the incidence of teenage pregnancy, we can bring in positive changes in the indicators of maternal and perinatal morbidities.

Keywords: adolescent; anemia; low birth weight; pregnancy; perinatal; teenage

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INTRODUCTION

Adolescence is the period between the ages of 10-19 years that encompasses time from puberty onset to full legal age (WHO, 2002b). It is generally a complex period where a number of factors may lead to sexual behaviors and reproductive health (RH) risks. Pregnancy in this period of life is often associated with pregnancy related complications such as anemia, hypertensive disorders, preterm delivery, low birth weight babies, maternal mortality, perinatal and neonatal morbidity and mortality.^{1,2}

Adolescent pregnancy is a rising public health issue globally especially in developing countries due to tradition of early marriage, low socioeconomic status and illiteracy. Every year, an estimated 21 million girls aged 15 to 19 years and 2 million girls aged under 15 years become pregnant in developing countries.^{3,4} Approximately 16 million girls aged 15-19 years and 2.5 million girls under age 16 give birth in developing countries.^{3,5}

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Adolescents make up about 23% of population in Nepal (UNICEF, 2013). NDHS (2011) reported that 17% of teenage girls had already given birth or were pregnant with their first child. This percentage is increasing rapidly from 1% among those aged 15 to 39 % in those aged 19. A WHO study stated that adolescents aged <16 years face four times the risk of maternal death than those women aged in their 20s, and the death rate of their neonates is about 50%. It has been projected that the incidence of teenage pregnancy will rise by 2030 due to early engagement of adolescents in sexual life and reluctance and ignorance of contraception.⁶ Hence this issue has been prioritized by UN in sustainable developmental goal.

This study aims to evaluate the maternal and perinatal outcome in adolescent pregnancy.

METHODS

This was a prospective cross-sectional study conducted in Department of Obstetrics and Gynecology, Manipal Teaching Hospital (MTH), Pokhara from October 2017 to March 2018 for duration of 6 months. All pregnant women aged 13-19 years who were admitted to Obstetric ward of MTH were enrolled in the study after their consent. Information was

noted in a predesigned performa. Maternal outcome measures recorded were anemia, hypertensive disorders in pregnancy, operative deliveries with their indications and maternal mortality. Perinatal outcomes recorded were stillbirth, low birth weight, any NICU admissions with their indications and early neonatal death. The cases were followed till the time of discharge from the hospital. The data were entered and analyzed using SPSS software version 17. Descriptive statistics in terms of mean and standard deviation were calculated for continuous variables while frequencies and percentage were calculated for categorical variables.

RESULTS

There were 82 (6%) teenage pregnancies with mean age of 18.4 years (range= 14-19) and 46.35% were at 19 years of age. Around 93% of cases were primigravida and the mean gestational age was 38 weeks. There were 3 cases below 28 weeks, out of which two were cases of incomplete abortion and one was case of molar pregnancy. There was increased tendency of postdate (40 weeks or above) pregnancy among adolescents by 41.5%. Cesarean Section appears to be high [Table-1]. There were two cases of manual vacuum aspiration for incomplete abortion and one suction and evacuation for molar pregnancy.

Table-1: Mode of delivery

Mode of delivery	Frequency	Percentage
Vaginal	45	54.9%
Cesarean Section	32	39%
Instrumental (vacuum)	2	2.4%

The most common indication for Cesarean Section was meconium stained liquor (52%) followed by oligohydraminos (15%), prolonged labor (11%) and cephalopelvic disproportion (11%).

There were two cases of vacuum delivery and both applied for prolonged second stage of labor [Figure-1].

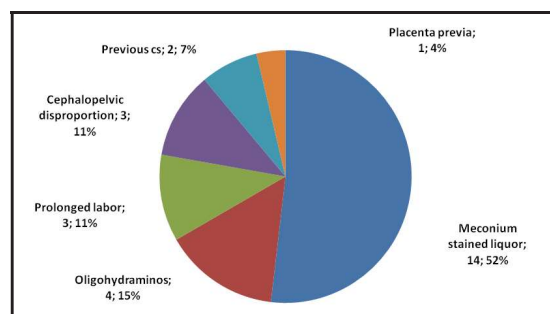


Figure-1: Indication for cesarean section

There were total 49 cases of maternal complications among teenage pregnancy accounting for 59%. Anemia was the most common complication followed by PPROM, hypertensive disorders, PROM and preterm. There were 3 cases of early pregnancy complications out of which two were incomplete abortion and 1 was molar pregnancy [Table-2].

Table-2: Maternal complications

Maternal complications	Frequency	Percentage (n=49)
Anemia	9	10.97%
Preterm premature rupture of membranes (PPROM)	8	9.75%
Hypertensive disorders in pregnancy	3	8.53%
Gestational hypertension	3	
Severe preeclampsia	3	
Eclampsia	1	
Premature rupture of membranes (PROM)	7	8.53%
Preterm labor	3	3.65%
Early pregnancy complications (Incomplete abortion/molar)	3	3.65%
Twin pregnancy	2	2.43%
Rh -ve	2	2.43%
Infectious disease (chicken pox, syphilis)	2	2.43%
Previous cesarean section	2	2.43%
Antepartum hemorrhage	1	1.2%
Malpresentation (breech)	1	1.2%
Rheumatic heart disease	1	1.2%
Gestational diabetes mellitus	1	1.2%

The mean birth weight of newborn was 2.8 kg with minimum of 1.5 kg to maximum of 3.7 kg. Greater proportion of newborns had appropriate birth weight i.e. 2.5 kg or more. Only 13.4% had low birth weight. Preterm birth accounted for 15.9% of cases. There were only two neonates admitted in NICU and both for preterm. And there was one case of still birth with no any early neonatal death. Regarding the sex of newborns, female baby predominated with 50.63% of total newborns [Table-3].

Table-3: Perinatal complications

Perinatal complications	Frequency	Percentage
Low birth weight	11	13.4%
Preterm	13	15.9%
NICU admission	2	2.4%
Still birth	1	1.2%

DISCUSSION

Teenage pregnancy is on the rise due to increased vulnerability of adolescents in unsafe sex, lack of knowledge regarding contraception and also their reluctance to its use. The incidence of adolescent pregnancy in this study was 6%, which was similar to the study done by Suwal A. in one of the tertiary care centre in Bharatpur, Nepal.⁷ cross sectional study was carried out in College of Medical Sciences Teaching Hospital (CMSTH). However, in contrast to this study, the incidence of teenage pregnancy was high (10-15%) in other studies done outside Nepal.⁸⁻¹⁰ The reasons for low incidence in our study may be due to the fact that majority of teenagers have no antenatal care, and they prefer home delivery because of their illiteracy and low socioeconomic status as shown by various studies.¹¹⁻¹²

Majority of adolescent mothers were of age 19 in this study, which is similar to other studies as well.^{11,13-15} As expected majority of cases were primigravida. Regarding the mode of delivery, around 55% cases had normal vaginal delivery and 39% cases had Cesarean Section. Findings similar to this study have also been shown by studies of Kamini S and Suwal A.^{7,11} We usually anticipate the increased rate of cesarean and instrumental deliveries in teenagers due to gynecological immaturity leading to cephalopelvic disproportion and obstructed labor.^{8,16} However, our study showed increased proportion of vaginal delivery and this may be due to the reason that majority of cases were late teenagers and also may be due to good prenatal and intranatal care received in our centre. The mean birth weight of newborn in this study was 2.8 kg which might have also contributed to increased rate of vaginal delivery. Various studies have shown that pregnancy outcomes in late teens were better than that of early teens.¹⁷

For cesarean section deliveries, the most common indication was meconium stained liquor followed by oligohydraminos, prolonged labor and cephalopelvic disproportion in our study. The increased incidence of meconium stained liquor can be attributed to the fact that the majority of cases (41.5%) were postdate in this study. In contrast to our study, the literature shows that the common indications for cesarean in adolescents were cephalopelvic disproportion, hypertensive disorders and acute fetal distress.^{8,18} All LSCS were emergency may be due to arising complications (low maternal age, maternal illness and fetal complications) during pregnancy and during delivery.¹⁹

Maternal complications accounted for 59% of cases

in our study which signifies that teenagers are at higher risk for pregnancy related adverse outcomes. Varying degrees of anemia was the most common complication among the study population which was a consistent finding in other studies as well.^{15,18,20} Low iron stores are common in these growing teenagers before pregnancy and are hence predisposed to the risk of developing iron deficiency anemia during pregnancy, which is further aggravated by their insufficient dietary intake.

The incidence of hypertensive disorders among teenagers in our study was 8.53%, with three cases of severe preeclampsia and one case of eclampsia. In the study by Kumar et al found the frequency of hypertensive disorders significantly higher in teenagers than in adult women. Although various studies have documented increased maternal mortality among adolescents, there were no cases of maternal mortality in the present study, most likely due to small sample size.¹⁹

Among the perinatal outcome, our study showed 15.9% cases of preterm birth. The incidence of PPROM was around 10% in our study and this fact can be attributed to increased cases of preterm birth. The incidence of low birth weight was 13.4 % with neonatal admission rate of 2.4% and indication of both neonatal admissions was preterm. There was only one case of still birth accounting for 1.2%. In the study conducted by Rita D, the incidence of low birth weight was 12% and perinatal mortality was 2% which was similar to our study. Aparna J⁸ did a study where the incidence of low birth weight was 16.7%, preterm birth was 11.7% and rate of NICU admission was 3.3%.¹⁷ Hence the findings of our study correlated to other studies as well. Various studies have compared the perinatal outcome of adolescent pregnancy with that of adult mothers and the results have shown poor perinatal outcome in teenagers.^{19,21} The increased incidence of poor maternal health, increased prevalence of anemia, hypertensive disorders in teenagers, and inadequate antenatal care may have major contribution to preterm birth, low birth weight and increased rate of still birth and early neonatal death in teenage pregnancy.

CONCLUSIONS

Anemia, hypertensive disease and prelabor rupture of membrane were thr common complications among teenage pregnancy. One-third of teenage pregnancy had adverse perinatal outcome as low birth weight,

preterm labor and NICU admission.

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