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Study of Maternal and Fetal Outcomes of Teenage Pregnancy

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Abstract
World Health Organization defines Teenage Pregnancy as any pregnancy from a girl who is 10-19 years of age, the age being defined as her age at the time the baby is born[1]. Teenage pregnancies represent a high-risk group in reproductive terms because of the double burden of reproduction and growth. 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 anemia, preeclampsia, preterm labor, cephalopelvic disproportion, maternal mortality, perinatal and neonatal mortality, and low birth weight.

Keywords
Teenage pregnancy, high risk pregnancy, maternal morbidity, fetal outcome, obstetrics

Aims and Objectives

- *To study maternal outcome of teenage pregnant women in terms of their gravidity, mode of delivery, complications of pregnancy like postpartum hemorrhage, preeclampsia, anemia, cephalopelvic disproportion, lower segment caesarean section, preterm labor, eclampsia.*
- *To study fetal outcome in teenage pregnant women in terms of complication like low birth weight, neonatal intensive care unit admission, neonatal death, intrauterine death.*

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I. Introduction

Teenage pregnancy rates vary vastly between different countries and different regions within a country. In India, teenage pregnancy is an important public-health problem, although the national policy of the Government of India advocates the minimum legal age of marriage for girls to be 18 years. Data of the National Family Health Survey (NFHS)-3 revealed that 16% of women aged 15-19 years have already started childbearing. This is of serious concern because maternal age plays a significant role in adverse outcome and complications of pregnancy. Teenage pregnancies represent a high-risk group in reproductive terms because of the double burden of reproduction and growth. Complications of pregnancy and childbirth are the leading cause of mortality among girls aged 15-19 years in developing countries. 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 anemia, preeclampsia, preterm labor, cephalopelvic disproportion, maternal mortality, perinatal and neonatal mortality, and low birth weight[2].

In developed countries majority of teenage pregnancies occur to unmarried girls unlike developing countries including India where teenage pregnancies occur to married girls and are associated with early marriages. Teenage pregnancy is coming up as one of the most important social and public health problems all over the world with a varying prevalence rate. In recent years the incidence is increasing due to early onset of puberty, early sexual activity in girls and relative lack of education on contraceptive methods. A high fertility rate, social customs, poverty and ignorance make early marriage a common feature in this part of the world.

II. Material and Methods

This was a prospective observational study conducted at tertiary care hospital during study period of two years after approval of ethics committee.
Sample size: During the study period 100 cases of teenage pregnancy were selected from patients admitted for

delivery, to evaluate their maternal & fetal outcome.
Inclusion criteria: All cases with pregnancy ending at the age of 19 completed years were included in the study.
Exclusion criteria: Cases with pregnancy ending after the age of 20 years were excluded from the study.

The following variables were taken into consideration while performing this study. Maternal and fetal outcomes of interest in this study were maternal age, parity, antenatal complications like anemia (hemoglobin <10gm%), preeclampsia, eclampsia, premature rupture of membrane, intrauterine growth restriction, gestational diabetes, gestational age at delivery, delivery complications, type of delivery, preterm labor (live infant delivered at <37 weeks gestation), low birth weight (live infant weighing <2500 g at birth irrespective of the gestational age), APGAR score at 1 & 5 minutes and neonatal intensive care admissions and intrauterine fetal death.

III. Observation and Results

In the present study, 100 cases were included which fulfilled the inclusion criteria. Observations were tabulated as under.

TABLE NO. 1: Distribution with reference to booked and unbooked cases

ANC Registrationstatus of teenagemother	Number ofcases	Percentage
Booked	35	35%
Unbooked	65	65%
Total	100	

TABLE NO. 2 Distribution with reference to Residential Status

Residential status 6 pregnant women	No. of cases	Percentage
Rural	80	80%
Urban	20	20%
Total	100	

TABLE NO. 3
Distribution with reference to maternal age

Age group of teenage mothers	No. of Cases	Percentage
<16 yrs	9	9%
16-19yrs	91	91%
Total	100	

TABLE NO. 4
Distribution with reference to Gravidity

Gravidity of teenagepregnant women	No. of cases	Percentage
Primigravida	**96**	**96%**
Multigravida	**4**	**4%**
Total	**100**	

TABLE NO. 5
Distribution with reference to mode of delivery

Mode of delivery	No. of cases	Percentage
Vaginal delivery	**82**	**82%**
LSCS	**15**	**15%**

Instrumentaldelivery	03	3%
Total	100	

TABLE NO. 6
Distribution with reference to presence or absence of complications

Complications	No. Of cases	Percentage
With Complications	55	55%
Without Complications	45	45%
Total	100	

TABLE NO. 7
Distribution with reference to other complications of pregnancy

Patient characteristics	No. ofcases	Percentage
Preterm labor	12	21.8%
Pre-eclampsia	10	18.18%
Eclampsia	05	9%
IUGR	04	7.27%
Anemia	11	20%
PROM	05	9%
Oligohydramnios	01	1.81%
IUD	02	3.63%
Twins	01	1.81%
Previous LSCS	01	1.81%
Gestational Hypertension	02	3.63%
Rh negativepregnancy	01	1.81%
Total	55	100%

TABLE NO. 8
Distribution with reference to indication of LSCS

Indication forLSCS	No. of cases	Percentage
Fetal distress	05	33.33%
Malpresentation	03	20%
CPD	03	20%
DTA	01	6.66%
Prolong PROM	01	6.66%
Preeclampsia +Preterm labor	02	13.3%
Total	15	

TABLE NO. 9
Distribution with reference to fetal outcomes

Fetal outcome	No. of cases	Percentage
Alive and healthy	65	65%
Alive and low birth weight	30	30%
NICU admissions	01	01%
IUD & NND	04	04%

1. 100 cases of teenage pregnancy were selected from patients admittedfor delivery, to evaluate their maternal & fetal outcome.
2. The percentage of unbooked (65%) teenage pregnant mothers wasmore than booked cases (35%).
3. The percentage of cases residing in rural area (80%) was more thanurban (20%) cases.
4. The percentage of teenage mother belonging to 16-19yrs of age group(91%) was significantly more than teenage women with age group <16yrs (9%).
5. In the present study out of 100 teenage pregnant women 96 were primigravidas & only 4 were multigravidas. The percentage of primigravida teenage women (96%) was significantly more than multigravidas (4%).
6. In the present study out 100 cases of teenage pregnant women, 82 cases had vaginal delivery, 15 cases required lower segment caesarean section & only 3 were delivered by instrumental vaginal delivery.
7. The percentage of teenage pregnant women with complications (55%) was more than teenage women without complications (45%). In present study, out of 55 teenage pregnant women with complications,the most common complication associated with teenage pregnant women was preterm labor, seen in 12 cases.
8. The present study showed that 11 teenage pregnant women suffered from anemia. The complications like preeclampsia & eclampsia were seen in 10 & 5 of teenage pregnant women respectively. The other complications seen in teenage pregnant women in present study were intrauterine growt0h restriction seen in 4 cases, premature rupture of membrane seen in 5 cases, gestational hypertension seen in 2 cases & the complicationslike twin gestation, Rh negative pregnancy, oligohydramnios, pregnancywith previous caesarean section were seen in 1 case each.
9. The present study showed that out of 15 cases who had caesarean section, the most common indication for caesarean section was fetal distress seen in 5 cases, others were malpresentation seen in 3, cephalopelvic disproportion in 3, pre-eclampsia with preterm labor seen in 2, deep transverse arrest in 1, prolong premature rupture of membrane was present in 1 case.
10. In the present study majority of babies born to teenage pregnant womenwere alive & healthy (65), 30 babies had low birth weight, one required neonatal intensive care unit admission, & 4 were intrauterine fetal deaths & neonatal deaths.

IV. Discussion

Data of the National Family Health Survey (NFHS) [3] revealed that 16% of women who were aged 15-19 years had already started bearing children. Early marriage sometimes means adolescent pregnancies, particularly in rural regions where the rates were much higher, that is 21.21% more than they were in urbanized areas. In India, studies done in Bombay showed a rate of 33.17%, those done in Kolkata showed a rate of 15.7%, those done in Madurai showed a rate of 13.1%, those done in Hyderabad showed a rate of 5.1%, andthose done in Coimbatore showed a rate of 12.69%[3].

The causes of teenage pregnancy in India include early age at marriage due to social reasons, poverty and high prevalence of school drop outs[4].

Despite the magnitude of the problem, it is unknown whether the poor outcomes of teenage pregnancy are partly attributable to the biological challenges presented by young maternal age or whether they are solely the consequence of sociodemographic factors. Sociodemographic variables associated with teenage pregnancy undoubtedly increase the risk of adverse outcomes. However, recent studies have demonstrated that the relative risk remains significantly elevated for both younger and older teenage mothers after adjustment for marital status, level of education and adequacy of prenatal care[5]. The adverse pregnancy outcome in the adolescent has been attributed to gynecological immaturity and the growth and nutritional status of the mother. Many adolescent girls retain the potential to grow while pregnant. Data from a study Camden, New Jersey[6].

A substantial proportion of young girls are already malnourished. Maternal age plays a significant role in adverse outcome and complications of pregnancy. Teenage pregnancies represent a high-risk group in reproductive terms because of the double burden of reproduction and growth. Complications of pregnancy and childbirth are the leading cause of mortality among girls aged 15-19 years in developing countries[7]. 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 anemia, preeclampsia, eclampsia, preterm labor, low birth weight, cephalopelvic disproportion, maternal mortality, perinatal and neonatal mortality[8,9].

The present study aimed to evaluate the maternal & fetal outcomes in teenage pregnant women. It is concluded from the present study that preterm labor, anemia, hypertensive disorders of pregnancy, premature rupture of membrane, malpresentation, intrauterine growth restriction were major maternal complications; low birth weight, intrauterine fetal death and still births were major adverse fetal outcomes. Teenage pregnancy today, still represents one of the most important public health problems. There is no doubt that the obstetrical problems can be managed by modern medicine and so the risk of teenage pregnancy can be diminished. The

health care providers should consider teenage pregnancy as a 'high risk' pregnancy and should educate the pregnant teenagers to have a greater number of antenatal visits so that the signs and symptoms of various complications of teenage pregnancy could be recognized at the earliest. Attention should be given to the use of various screening and diagnostic tests and to the interventions needed if any complication occurs during the course of pregnancy or labor. Proper monitoring of the progress of labor is important to prevent prolonged labor.

V. Conclusion

Education of the female child can play a significant role in delaying marriage and hence delaying childbearing, thus protecting the young girl from being exposed to the various complications of teenage pregnancy. There is a need to promote the use of contraceptives amongst the married teenagers andensuring the availability of contraceptives at a wider scale. Access to contraceptives is the cornerstone in preventing teenage pregnancies while access to abortion services is crucial for managing them. Good antenatal and intranatal services, good neonatal services, contraceptive services and abortion services, all together can minimize the various risks associated with teenage pregnancies to a large extent. With all these measures, we can hope for a world-wide decline in the trend of teenage pregnancy rates and complications in the years to come.

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Aarya Barve, et. al. "Study of Maternal and Fetal Outcomes of Teenage Pregnancy." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS),* 20(11), 2021, pp. 11-15.