



TO STUDY THE CONSEQUENCES OF TEENAGE PREGNANCY- MATERNAL AND PERINATAL OUTCOME IN TERTIARY CARE CENTER

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ABSTRACT **Background:** Teenage pregnancies are associated with high degree of maternal and neonatal complications. As many adolescents are neither physically nor psychologically ready for pregnancy or childbirth, this reproductive event makes them more vulnerable to complications resulting in devastating health sequences for them. **Objectives:** Our objective is to study fetomaternal outcomes in teenage pregnancy for betterment of society & for abetting economic burden on country. **Materials & Methods:** This observational study was done over 2 years at our tertiary care center - Dr DY Patil Medical College, Hospital and Research Institute, Pimpri, Pune. A total of 205 participants were included in the study after obtaining informed consent from the patients who satisfied the inclusion of age more than or equal to 18 years and lesser than 20 years. **Results :** Operative interventions like D&E , LSCS were increased in teenage pregnancies with emergency LSCS in 36.58% of the participants. First trimester & Antepartum complications were common in teenage pregnancies. Even Intrapartum & Post partum complications were contributed significantly to fetomaternal morbidity & mortality . 54.04% had low birth weight and only 40.91% had normal birth weight. A total 64 NICU admissions were needed from 193 live births. Of these 12 expired in early neonatal period (<7 days) whereas 7 expired between 7 to 28 days. Among those who survived, almost 40 % had perinatal hypoxia. There were 96.98% live births whereas 3.01% IUD. **Conclusion :** Teenage pregnancy is a condition which gives rise to further complications and affects both the maternal as well as the neonatal health. Hence it is important that at every level of the society there is awareness regarding sexual education, use of contraceptives and the ill effects of teenage pregnancy.

KEYWORDS : Teenage pregnancy , Fetomaternal outcomes , IUGR , Education

INTRODUCTION

Teenage pregnancies are associated with high degree of maternal and neonatal complications. As many adolescents are neither physically nor psychologically ready for pregnancy or childbirth, this reproductive event makes them more vulnerable to complications resulting in devastating health sequences for them. Teenage pregnancy also known as adolescent pregnancy is defined by WHO as a pregnant female less than 20 years of age^[1]

According to United Nations Population Fund (UNFPA) adolescent pregnancy in India is high with 62 pregnant teens out of every 1000 women^[2] The adolescent girl is forced to leave school, depriving her right to education. She is also denied the right to health. Early drop out from school and health problems jeopardize their in coming potential. Teenage pregnancies are coming up as one of the major social and public health problems. Across the country women have been victims to social pressure and denied to regulate their pregnancies or make decision regarding its outcome. In the Indian subcontinent, early marriage and pregnancy is more common in traditional rural communities than in cities.^[3] Adolescent pregnancy often unplanned and unintentional has a negative impact on both the teenage mother as well as the baby.

These are associated with high amount of pre-term deliveries, caesarean sections, increased morbidity in the mothers both in antenatal and post natal period. There are high instances of extremely low birthweight, very low birth weight and need for NICU admission.^[2,4] Teenage pregnancies are associated with increased health care expenditure and adversely affect the socio-economic status as most of the subjects belong to lower socio-economic strata. Also, a trend was noted where a high number of patients belonged to lower socio-economic strata, were uneducated and hailed from rural areas.^[5]

The motivation to delay further childbearing is low in teenage girls in deprived social circumstances. Thus, lack of motivation with difficulties in obtaining contraceptives result in unprotected

intercourse and repeated pregnancies. Thus the vicious circle of poverty for the teenage mothers and their children begin with early childbearing among poor adolescents.

Teenage marriages and pregnancies thereof should be discouraged by propagation of awareness in the community regarding teenage pregnancy hazards, nutritional support, family planning and the importance of delaying marriage , educating and as well through government regulations. Satisfactory ante-natal care is needed in subjects who are pregnant in their teens and advanced health care facilities should be provided for treatment of the complications.

This will definitely help in transforming today's adolescent girls into healthy and responsible women, giving birth to a healthy future generation. Thus to improve maternal and perinatal outcome of teenage pregnancies, this study will emphasize on sociodemographic factors, risks, complications and outcomes of these pregnancies.

AIMS AND OBJECTIVES

- To study the proportion of teenage pregnancy in a tertiary health care setup.
- To study the consequences of teenage pregnancy .
- To study the maternal complications and perinatal outcome in teenage pregnancy.
- To improve the maternal and fetal outcome in teenage pregnancy.

MATERIALS AND METHODS

This observational study over 2 yrs was done at our tertiary care center - Dr DY Patil Medical College, Hospital and Research Institute, Pimpri, Pune.

A total of 205 participants were included in the study after obtaining informed consent from the patients who satisfied the inclusion of age more than or equal to 18 years and lesser than 20 years. Minor patients and mentally ill patients were not included in the study. Any patients unwilling to give a valid consent were also not considered for evaluation.

Data will be collected over 18 months duration using a pretested performa meeting the objectives of the study.

Institutional ethics committee clearance was obtained prior to start of the study.

Source of Funding: The cost of investigations for ANC patients is nil and free of cost in the institute.

OBSERVATIONS AND RESULTS

A prospective observational study was undertaken in a tertiary care hospital from May 2018- April 2021. Total 205 patients with teenage pregnancies fulfilling inclusion criteria were studied. Following factors were evaluated and the determinants and consequences observed.

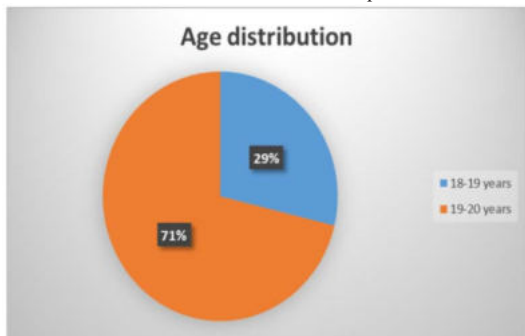


Fig. 1 Age Distribution

Out of 205 patients, 75.12% were primigravida whereas 25.87% were multigravida.

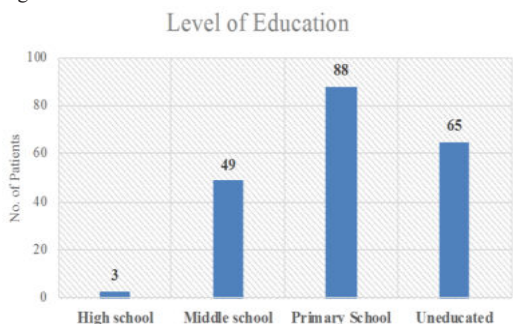


Fig 2 : Level of Education

Table 1 : Socio-economic Status

Socio-economic Status	No. of Patients	Percentage of Patients
Lower	43	20.98%
Middle	12	5.85%
Upper Lower	140	68.29%
Upper Middle	10	4.88%

Most of the mothers were in the upper lower and the lower scale of socio-economic status based on the Kuppusswami Classification.

Table 2: Demographic Distribution

Demographic Distribution	No. of Patients	Percentage of Patients
Rural	182	88.78%
Urban	23	11.22%

Most of the women were from rural areas due to lack of awareness and minimal education about teenage pregnancies.

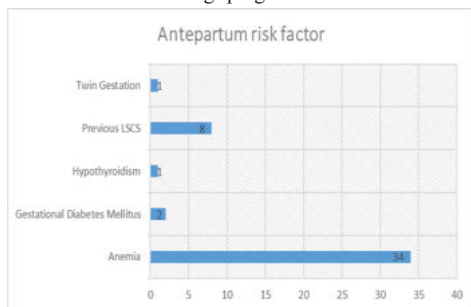


Figure 3: Antepartum Risk Factors

Anemia was the most common antepartum risk factor which was around 16.58% in our study.

Table:3 First Trimester Complications

First Trimester Complications	No. of Patients	Percentage of patients
Abortion	5	2.43%
Blighted ovum	1	0.04%
Hyperemesis Gravidarum	1	0.04%

Table 4 : Antepartum Complications

Antepartum Complications	No. of pts	Percentage of pts
IUGR	25	12.19%
Breech Presentation	1	0.49%
APH	5	2.43%
Intrauterine death	6	2.92%
Oligohydramnios	11	5.36%
Postdatism	4	1.95%
Preclampsia	17	8.29%
Preterm Labour	51	24.87%
Malpresentations	9	4.39%

It was observed that the most common antepartum complication during teenage pregnancies were PRETERM LABOUR which was around 24.89% thereby increasing the maternal and perinatal morbidity and mortality.

Table 5: Intrapartum and Postpartum Complications

Intrapartum Complications	No. of Pts	Percentage of Pts
Cephalopelvic Disproportion	9	4.39%
Deep Transverse Arrest	1	0.49%
Eclampsia	2	0.98%
Failure Of Induction	4	1.95%
Fetal Distress	14	6.82%
Impending Scar Rupture	2	0.98%
Meconium Stained Liquor	10	4.87%
Non Progress Of Labour	8	3.90%
Preterm premature rupture of membranes	27	13.17%
Premature Rupture Of Membranes	11	5.37%

The data shows that the maximum risk during the intrapartum period was PPRM(13.17%).

This led to increased NICU admissions and perinatal morbidity. It also led to increased incidence of puerperal pyrexia and sepsis.

The data shows that the maximum risk during the intrapartum period was PPRM

Table 6 : Management As per Obsteric Indications

Outcome	No. of Patients	Percentage of Patients
Dilatation & Evacuation	6	2.93%
E-LSCS	75	36.58%
FTND	72	35.12%
Preterm Vaginal Delivery	51	24.87%
VBAC	1	0.49%

It was observed that the operative intervention was increased i.e. there were maximum deliveries by Emergency LSCS. Emergency LSCS was the most common intervention done in teenage pregnancies. The commonest postpartum complication was Puerperal pyrexia which was due to increased cases of ppprom and prom leading to chorioamnitis and fever during the postpartum period.

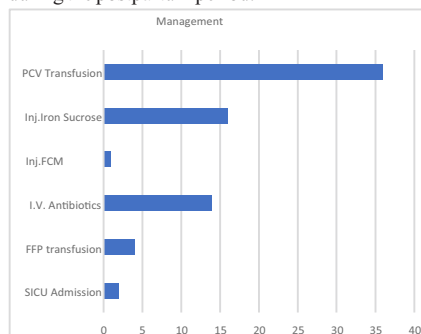


Fig. 4 : Intervention in postpartum period

Inj. FCM (Inj.Ferric carboxymaltose)

PCV transfusion was the most commonly employed management.

Table 7: APGAR Score

APGAR Score - 1 minute	No. of Babies	Percentage of Babies
2	5	2.53%
3	34	17.25%
4	26	13.19%
5	25	12.69%
6	9	4.56%
7	56	28.42%
8	42	21.31%

A normal APGAR Score is 7 to 10.

Low APGAR scores were associated with poor neonatal outcomes.

Table 8: Birth Weight

Birth Weight	No. of Babies	Percentage of babies
Extreme Low Birth Weight (<1000g)	2	1.01%
Very Low Birth Weight (<1500g)	8	4.04%
Low Birth Weight (<2500g)	107	54.04%
Normal Birth Weight (2500-4000)	81	40.91%

Most of the babies were in the Low Birth Weight Group (<2500g).

Table 9: Neonatal Outcome

Outcome of Live Born Babies	No. Of cases(n=193)	Percentage
NICU admission	64	33.16%
Early NND(<7days)	12	6.21%
Late NND(7-28 days)	7	3.62%
Survival Among Newborn	45	23.3%
Meconium Stained Liquor	20	44.4%
Neonatal Jaundice	15	33.3%
Perinatal Hypoxia	10	22.2%

The study depicts 97% babies were live born whereas 3% had Intrauterine demise. Few of them had neonatal complications and required Neonatal intensive care unit. 22.2% had perinatal hypoxia thereby increasing the perinatal and neonatal morbidity and mortality.

Adolescent pregnancy is a high risk pregnancy and poses risk to both mother and the foetus.

DISCUSSION

The current study evaluated the adverse impact of teenage pregnancies on maternal and neonatal health outcomes with emphasis on socio-economic factors, risk factors and complications of such pregnancies.

Adolescent fertility rate (births per 1,000 women aged from 15 to 19 years) in India was reported at 12.07 % in 2018^[6].

In our study of 205 cases of teenage pregnancy, 71.22% cases were between 19-20 years and 28.78% were between 18-19 years. Most of the patients were unskilled at 40.98% and 40% of them were unemployed.

Most of the women in our study were from rural areas due to lack of awareness and minimal education about teenage pregnancies. Moraes AN et al study also noted similar findings.^[7]

Anaemia (16.58%) was commonest risk factor for complications in teenage pregnancies in our study. According to the studies conducted by Moraes AN et al^[7] and Kawakita T. et al^[12], it was observed that the odds of anemia was high in females(0.8%) between the age 16-19 years. Thus, anemia was the antepartum complication found significantly higher in teenage mothers due to poor antenatal care. There was no significant association of multifetal pregnancy with teenage pregnancy (0.6%). Hence, this study was in line with the observations made by us.

Other studies also showed that adolescent pregnancies were associated with higher rates of abortions, blighted ovum and hyperemesis gravidarum which was consistent with our observations.^[7,8]

Many studies showed similar results with IUGR being one of the most common antepartum complication of teenage pregnancy.^[7,9,10] We

found a higher risk of preeclampsia (8.29%) among teenagers in our study. In a study by Yang WY et al.^[9] reported that in the antepartum complications, anaemia, cystitis, and pregnancy induced hypertension occurred more frequently in the teenage pregnancy than the control group.

Moraes AN et al. also noted that mothers younger than 20 years faced a higher risk for CPD (10.6%) and prolonged labour(5.3%) compared to their older counterparts^[7], findings were similar like our study.

Dilatation and evacuation was performed in 2.93% of the patients. Emergency LSCS was performed in 36.58% of the participants whereas.

In our study group maximum teenage pregnancies were preterm accounting to 24.87%. Other studies came up with similar findings, which further support the result that young maternal age is a risk factor for preterm births.^[7,9]

Caesarean sections have been linked to intra- and post-operative complications such as placenta previa and placenta accreta, hysterectomy, and bladder and bowel injury. These findings were parallel with other adolescent studies.^[11] noted significantly higher rates of maternal death, maternal heart disease, PIH, puerperal infection, chorioamnionitis and urinary tract infection which was consistent with our study.

Some Indian studies suggested that there was higher prevalence of eclampsia, preterm delivery, anaemia at labour, PPH, and low birth weight among teenagers.^[12,13] These studies suggested the similar statistics implying that teenage pregnancies are always at a higher risk of antepartum and postpartum complications.

Pergialiotis V et al^[11] noted decreased antenatal surveillance which led to anemia being significantly higher in patients with teenage pregnancies. These females require adequate treatment in form of iron therapy and blood transfusion. Such findings are consistent with our study.

There were 2.43% of the cases with postpartum psychosis observed as per our study, similar findings by Siegel RS et al.^[14] Depression in the perinatal period is also a risk factor for substance and alcohol abuse and a harsher parenting style in adolescents.

Due to depression they are unable to take care of the neonates in a proper way. This causes inadequate breastfeeding leading to dehydration fever, jaundice and increased risk of sepsis in the newborns.

Apart from mothers and children, the health of adolescents came into light as one of the important area mainly because of their role as future or immediate mothers. Role of health care providers especially the grass root level workers becomes particularly important not just in imparting the intending services, but also in imparting knowledge about reproductive health. This is important part of reproductive and child health services, a community outreach programme conducted by government of India.

Low APGAR Score and Stillbirth rate (5.1% vs 0.9% respectively) was also significantly higher in teenage deliveries in the study group as per other studies^[12,14]

Low birth weight (LBW) and extreme LBW were a known complication of the teenage pregnancies^[7,8,11]. This gets added because of high rate of preterm deliveries. According to the study conducted by Amjad S et al and many others the results were almost similar to the study conducted by us.

A total 64 NICU admissions were needed from 193 live births. This accounted for 33.16% of NICU admissions and prenatal complications. Such findings were consistent with many Indian studies.^[7,8,13]

Teenage pregnancy is still a rampant and important publichealth problem in India with unfavourable perinatal outcomes and needs to be tackled on a priority basis.

CONCLUSION

Pregnancy itself is very challenging and teenage pregnancy becomes a

superchallenge since the teenage mother is neither prepared to carry a child physically and mentally.

Teenage pregnancies are associated with high degree of maternal and neonatal complications. These are associated with high amount of pre-term deliveries, caesarean sections, increased morbidity in the mothers both in ante-natal and post natal period. There are high instances of extremely low birthweight, very low birth weight and need for neonatal hospitalization/ NICU admission. Teenage pregnancies are associated with increased health care expenditure and adversely affect the socio-economic status as most of the subjects belong to lower socio-economic strata.

Satisfactory ante-natal care is needed in subjects who are pregnant in their teens and advanced health care facilities should be provided for treatment of the complications.

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