

**COMPARATIVE STUDY OF NEONATAL AND MATERNAL
OUTCOMES IN TEENAGE PREGNANCIES AND ADULT
PREGNANCIES IN TERTIARY CARE CENTRE**

¹*Dr. Hima Bindu Singh, ² Dr. Namala Bharadwaj, ³Dr. Neetika Ashwani, ⁴Dr. Usha Rani Hasthi, ⁵Dr. Suguna Chejeti and ⁶Dr Anusha

¹Professor and HOD of Neonatology, ^{2,4,5}DM Resident, ³Medical Officer
^{1,2,4,5}Department of Neonatology, Niloufer Hospital, Osmania Medical College, Hyderabad.
³Special Newborn Care Unit (SNCU), Niloufer Hospital, Osmania Medical College,
Hyderabad.
⁶MD Pediatric Resident Niloufer Hospital.

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***Corresponding Author**

Dr. Hima Bindu Singh

Professor and HOD of
Neonatology, Department of
Neonatology, Niloufer
Hospital, Osmania Medical
College, Hyderabad.

ABSTRACT

Background: Teenage marriages and pregnancies were common in developing countries over centuries but there is declining trend in India, still it constitutes to significant number of morbidity and mortalities in newborn. **Aims and Objectives:** To evaluate for neonatal complication in teenage pregnancy. **Materials and Methodology:** Hospital based cross sectional study carried out for period of three months. Teenage mothers admitted to hospital were included in study constituted cases. Adult mothers were taken as control group. **Results:** Proportion of mothers who delivered by normal vaginal delivery was 82% in cases and 44.5% in comparison group. Severe anaemia was most common obstetric complication

present in mothers of teenage pregnancy population. Low birth weight was in higher proportion (56%) in teenage group as compared to adult group (36%) and this difference was statistically significant. Preterms are more in teenage group (n= 42) when compared to adult mothers (n=27) which was statistically significant. **Conclusion:** Teenage pregnancies has higher incidence of preterm and low birth weight babies compared to adult mothers. Despite the decreasing trend yet strengthening of the government surveillance is the need of the hour.

KEYWORDS: Teenage pregnancy, anaemia, low birth weight, preterm.

I. INTRODUCTION

Throughout the history of the world until the modern era, teen-pregnancy was the norm. When a young girl attains menarche, she was married off and was expected to accomplish what she was biologically designed for i.e. giving birth to the next generation. With modernization, while teenage pregnancy rate is rapidly declining in developed countries, it is still high in developing countries like India.^[1] 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. Often the terms “Teenage pregnancy” and “Adolescent pregnancy” are used as synonyms.^[2] Teenage pregnancy is a worldwide social problem: an estimated 16 million girls between the ages of 15 and 19 give birth every year, with 95% of these births occurring in developing countries.^[3] According to UNICEF, worldwide every 5th child is born to teenage mother.^[2]

Teenage pregnancies in developed countries are outside of marriage and are usually due to adolescent sexual habits. In developing nations, as in India, they are due to the early age of marriage and tend to be welcomed by family members and society.^[4] According to NFHS 4 (2015-16).^[5] Women age 15-19 years who were already mothers or pregnant at the time of the survey were 7.9%, compared to NFHS 3 (2005-2006) it as 16% which was reduced to half in decade time.^[6]

Teenage pregnancy is an important public health problem in both developed and developing country, as it is a ‘high risk’ or ‘at-risk’ pregnancy due to its association with various adverse maternal and fetal outcomes which results in increased mortality and morbidity of the mother and the child. Adverse Maternal outcomes of teenage pregnancy includes Preterm labour, anemia, Hypertensive Disorders of Pregnancy (HDP), Urinary Tract Infection, abortion, Sexually Transmitted Diseases, HIV, malaria, obstetric fistulas, puerperial sepsis, mental illness and high rate of Cesaerean Sections for cephalopelvic disproportion and fetal distress. Adverse fetal outcomes include preterm births, Low Birth Weight infants, Still Births, birth asphyxia, Respiratory Distress Syndrome and birth trauma or injury.^[2]

II. MATERIALS AND METHODS

A hospital based cross sectional study was carried out in the Niloufer institute for mother and child health in department of neonatology from June 2017 to August 2017. A total of 150 teenage mothers and 150 adult mothers (20-30 years of age) that formed the comparison group were included in the study. Research was carried out after approval from the

institutional ethics committee and informed consent was taken from all participants. All the mothers were approached in the hospitals' postnatal ward. Women aged 30 years or above and women with known conditions that may affect the outcome of fetus (heart disease, syphilis, etc) were excluded. Women who did not give consent were excluded. The necessary data was recorded by interviewing the mothers and additional data was collected from the parturition register. Data was analyzed using MS Excel Sheet and relevant statistical tests were applied. $P < 0.05$ was considered as statistically significant.

III. RESULTS

In our study, 146 of the cases belonged to higher teenage group (17-19 years) and the rest 4 mothers were in 15-17 years of age. No cases were found in the lower teenage group (13-15 years). The mean age of adolescent mothers was 19 years. Majority of teenage mothers were primi gravidae ($n = 134$), rest of 14 mothers were multigravidae.

Proportion of mothers who delivered by normal vaginal delivery was 82% in cases and 44.5% in comparison group. The number of caesarean sections was 55.5% in comparison group while it was only 18% in cases. (Table 1).

Table 1: Mode of delivery among study population.

MODE OF DELIVERY	TEENAGE MOTHERS($n=150$)	ADULT MOTHERS($n=150$)
VAGINAL DELIVERY	122	93
LSCS	28	57

Severe anaemia was most common obstetric complication present in mothers of teenage pregnancy population followed by preeclampsia and eclampsia. other complications were also present in teenage mothers described in table 2.

Table 2: Obstetric complications in teenage mothers.

MATERNAL COMPLICATIONS	TEENAGE MOTHERS ($n=150$)
SEVERE ANAEMIA (Hb < 7 gm/dl)	15 (10%)
PREECLAMPSIA	14 (9.3%)
ECLAMPSIA	6 (4%)
CEPHALO PELVIC DISPROPORTION	6 (4%)
OLIGOHYDRAMNIOS	4 (2.6%)
PROM	4 (2.6%)
HYPOTHYROIDISM	3 (1%)
PPH	1 (0.6%)
HbSAg + MOTHER	1 (0.6%)

Low birth weight was in higher proportion (56%) in teenage group as compared to adult group (36%) and this difference was statistically significant. ($z=1.9, P<0.05$). Preterms are more in teenage group ($n = 42$) when compared to adult mothers ($n = 27$) which was statistically significant ($p = 0.01, p < 0.05$). Other factors were not statistically significant. (Table 3).

Table 3: Foetal complications In the Study population.

FOETAL COMPLICATIONS	TEENAGE MOTHERS (n=150)	ADULT MOTHERS (n=150)
PRETERM	42 (28%)	27 (18%) ($p = 0.039, p < 0.05$)
LBW	77 (56%)	56 (37%) ($p = 0.014, p < 0.05$)
MSL	11	7
APGAR (<7)	5	4
FOETAL DISTRESS	4	2
IUGR	2	3

IV. DISCUSSION

Although the legal age at marriage is 18 years for females and 21 years for males in India, early marriage is common. Despite the legal age for marriage of girls being 18, 26.8% of women in India were child brides according to NFHS 4 (2015-2016) compared to 48% in NHFS3 (2005-2006).^[5,7] Early marriage, pregnancy and early child birth is associated with many complication and morbidity and mortality increased in newborn born to teenage mothers.

Outcomes in our study group showed that number of vaginal deliveries are more in teenage pregnancy which is 83% ($n=122$) compared to adult mothers where it was 62% ($n=93$). The numbers of vaginal deliveries were more in the teenage group probably because of the smaller size of the babies and preterm deliveries compared to adult mothers' babies who were term babies. This outcome correlates with other studies where vaginal deliveries are more in teenage mothers compared to adult mothers.^[4,7]

Maternal complication in teenage pregnant mothers' severe anaemia was most common complication in group with 10% cases. This finding was similar in other studies which have shown that anaemia was major complication teenage mothers.^[8,9] Preeclampsia, eclampsia and cephalo-pelvic dispropotion were major antenatal complication after anaemia in teenage mothers in our study.

Pregnancy in teenage period of life is often associated preterm delivery, low birth weight (LBW) babies and small for gestational age (SGA) babies, perinatal and neonatal morbidity and mortality. There is higher number of premature and low birth weight (LBW) in the teenage group seen even in the developed countries.^[10] Preterm babies were 42 (28%) in teenage group compared to 27 (18%) in adult mothers which was statistically significant finding. This finding also correlated with other studies which showed similar results with preterm babies are more in teenage compared to adult mothers.^[10,11] Susceptibility to subclinical infections increases the risk of preterm delivery among adolescent mothers. Other factors which may be responsible for increased preterm delivery could be immaturity of the uterine or cervical blood supply and psychological instability.^[13,14]

There was also more number of low birth weight babies in teenage mothers 56% compared to 37% in adult mothers which was statistically significant ($p < 0.05$). Previous studies have also suggested that these risks among adolescent mothers are associated with biological immaturity, inadequate antenatal care. Feto–maternal competition for nutrients is a common explanation for the higher risk of delivering low birth weight infants in adolescent mothers.^[13] Other complications like perinatal asphyxia, foetal distress and intrauterine growth retardation were not significantly different in teenage and adult group mothers.

Long term follow up studies have shown that the children born to teenage mothers are at higher risk and are usually plagued by intellectual, language, and socio-emotional delays (4).

V. CONCLUSION

Although early marriages and teenage pregnancies have reduced to half in decade time, it still remains to be social problem in india with higher incidence of preterm babies and low birth weight babies. Teenage childbearing does contribute to adverse obstetric and foetal outcomes provided sufficient antenatal and neonatal care is given. Despite the decreasing trend yet strengthening of the government surveillance is the need of the hour.

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