

## Teenage Pregnancy: Maternal and Fetal Outcomes.

Snigdha Kamini<sup>1</sup>, Dr. Krishna Veni Avvaru<sup>2</sup>

<sup>1</sup>(3rd year MBBS student, Andhra Medical College, Visakhapatnam)

<sup>2</sup>(Professor of Community Medicine, Andhra Medical College, Visakhapatnam)

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### Abstract:

**Background:** Teenage pregnancy remains a public health problem as about 70,000 adolescent mothers die every year due to early childbearing. The NHFS III 2005-2006 estimates that the overall teenage pregnancies in India are 16%. In developing nations, as in India, teenage pregnancies are due to early age of marriage and tend to be welcomed by family members and society. Despite legal age for marriage of girls being 18, 47.4% of women in India were child brides. Teenage pregnancies have shown association with higher risks of prematurity, low birth weight, preeclampsia and anaemia as compared to adult pregnancies. This study aims to look into the differences in the obstetric and foetal outcomes of teenage pregnancies and adult pregnancies.

**Methodology:** A hospital based comparison study was done in the post natal ward of a tertiary care hospital in Visakhapatnam, Andhra Pradesh. 100 teenage mothers and 100 adult mothers were included in the study. All were primi gravidae and received sufficient antenatal care. Study Variables were age, literacy status, age at marriage, mode of delivery, LBW, etc. Data was analysed using MS Excel and relevant statistical tests were applied.

**Results:** Majority of adolescent mothers were in the age group of 17-19 years and their mean age was found to be 19 years. The mean age of adult mothers was 22 years. 66% of teenage mothers and 58% of adult mothers had normal vaginal deliveries. The number of caesarian sections was high (38%) in adult mothers as compared to teenage mothers (25%). Anaemia, PROM, Obstructed labour was found to be higher among teenage mothers when compared to adult mothers. Low birth weight was in higher proportion (25%) in teenage group as compared to adult group (18%). The differences in outcomes were not statistically significant.

**Conclusion:** Although teenage mothers had higher incidence of anaemia, preterm babies and low birth weight babies, the difference between cases and controls was not statistically significant. Teenage childbearing does not contribute to adverse obstetric or fetal outcomes provided sufficient antenatal care is given.

**Keywords:** Anaemia, Low birth weight, Obstetric outcome, Preterm, Teenage pregnancy

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### I. Introduction

Pregnancies that occur below the age of 20 years are called as teenage pregnancies. Worldwide, according to the World Health Organisation about 16 million women aged 15-19 years give birth to children every year, accounting for 11% of births. It remains a public health problem as about 70,000 adolescent mothers die every year due to early childbearing[1]. The prevalence varies widely in different countries. In India, it was 83/1000 population in the years 2005-2010[2]. The NHFS III 2005-2006 estimates that the overall teenage pregnancies in India are 16%.

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. Despite the legal age for marriage of girls being 18, 47.4% of women in India were child brides, a higher proportion of them being in rural areas (NHFS III 2005-2006).

During adolescence, the body is in a growing stage. If pregnancy occurs during these years nutrition must suffice the growth of the mother in addition to the baby. The outcomes are influenced by this biological immaturity, unintended pregnancy, inadequate perinatal care, poor maternal nutrition and stress[3]. Studies show maternal and fetal mortality and morbidity is directly related to the age of the mother [4]. The outcomes are more adverse in the lower teenage group of 13-15 years than the higher teenage group of 16-19 years. Teenage pregnancies have shown association with higher risks of prematurity, low birth weight, preeclampsia and anaemia as compared to adult pregnancies[4,5,6]. 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.[7]

Some studies, however have shown that adverse outcomes of teenage pregnancies are more the result of socioeconomic factors rather than the biological age itself. These factors may cause a delay in health care seeking by the mother[8]. This other risk factor, like non-utilization or non accessibility to antenatal care may be more of a contributing factor rather than the young age of the mother[9,10,11]. Sufficient and even higher level of antenatal care can promote good outcomes of teenage pregnancies[12].

Despite controlling all other risk factors for high risk pregnancies, a few studies have shown a consistent association of teenage childbearing with adverse obstetric outcomes. It remains unclear whether age or socioeconomic factors are more contributing to the outcomes of teenage pregnancies.

In view of the contrasting literature, this study aims to look into the differences in obstetric outcomes of teenage and adult pregnancies. Teenage pregnancy is an important factor in national development and more research is needed in this area to understand the exact outcomes of teenage pregnancies and the contributing factors to these outcomes so that preventive measures can be taken.

## II. Materials and Methods

A hospital based cross sectional study was carried out in the Obstetrics and Gynaecology departments of King George Hospital and Government Victoria Hospital, both tertiary care hospitals in Visakhapatnam, Andhra Pradesh over a period of two months from June 1st 2013 to July 31st 2013.

A total of 100 teenage mothers and 100 adult mothers (20-30 years of age) who 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 hospital postnatal ward. The necessary data was recorded by interviewing the mothers and additional data was collected from the parturition register.

To minimize the confounding effect of parity on pregnancy outcomes, only primi gravidae were included in the study. Only those women who had essential components of antenatal care, i.e. at least 3 antenatal visits, 2 doses of TT immunization and who consumed 100 Tablets of IFA were included to minimize the confounding effect of inadequate antenatal care.

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. Data was analysed using MS Excel Sheet and relevant statistical tests were applied.  $P < 0.05$  was considered as statistically significant.

## III. Results

In our study, 98% of the cases belonged to higher teenage group (17-19 years) and the rest 2 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 the adult primi gravidae (75%) belonged to the age group of (20-23 years) and the mean age of adult mothers was 22 years.

Regarding literacy status, 61% of study population were literate as compared to 73% of the comparison group. The number of working mothers was less in the teenage group (27%) as compared to the adult group (39%). The mean age at marriage was found to be 18 years in the study population as compared to 21 years in the adult primigravidae. Majority of teenage mothers (97%) and all adult mothers possessed antenatal card.

TABLE 1: Mode of delivery among study population

MODE OF DELIVERY	TEENAGE MOTHERS (n=100)	ADULT MOTHERS (n=100)
NORMAL VAGINAL DELIVERY	66	58 (P>0.05); NS
FORCEPS DELIVERY	9	4
EMERGENCY LSCS	24	37
ELECTIVE LSCS	1	1

Proportion of mothers who delivered by normal vaginal delivery was 66% in cases and 58% in comparison group. The number of caesarean sections was 38% in comparison group while it was only 25% in cases. Forceps deliveries were 9% in cases and 4% in comparison group.

TABLE 2: Obstetric complications

MATERNAL COMPLICATIONS	TEENAGE MOTHERS (n=100)	ADULT MOTHERS (n=100)
SEVERE ANAEMIA (Hb <7gm/dl)	16	8 (P>0.05); NS
PREGNANCY INDUCED HYPERTENSION (BP > 140/90mm Hg)	3	7
PREECLAMPSIA	2	2
ECLAMPSIA	2	4
OLIGOHYDRAMNIOS	3	6
POLYHYDRAMNIOS	0	1
PROM	14	9 (P>0.05); NS
APH	0	1
PLACENTA PREVIA	0	1
PPH	1	0
CPD	6	6
OBSTRUCTED LABOUR	7	2

Anaemia, PROM, Obstructed labour was found to be higher among teenage mothers when compared to adult mothers. PIH and eclampsia were found to be higher in comparison group than in cases. Cephalopelvic disproportion was found to be equal in both the groups.

TABLE 3: Foetal complications In the Study population

FOETAL COMPLICATIONS	TEENAGE MOTHERS (n=100)	ADULT MOTHERS (n=100)
PRETERM	12	5(P>0.05);NS
IUGR	1	1
LBW	25	18(P>0.05);NS
APGAR (<7)	8	6
FOETAL DISTRESS	7	3(P>0.05);NS
BREECH	4	3

Low birth weight was in higher proportion (25%) in teenage group as compared to adult group (18%) and this difference was not statistically significant.(z=1.2,P>0.05) Foetal distress is another foetal complication which was higher among teenage mothers (7%) compared to adult mothers (3%) and their difference was not statistically significant.

#### IV. Discussion

Illiteracy was higher in cases(39%) than in the comparison group (27%). This finding is consistent with other studies [4,13]. The number of working women was also lesser in teenage group. An early start of childbearing greatly reduces the educational and employment opportunities of women and is associated with higher levels of fertility. 98% of the teenage mothers were married, indicating that premarital sex is not an important contributing factor to teenage pregnancies in this community.

The number of vaginal deliveries were more in the teenage group probably because of the smaller size of the babies. Similar results were found in other studies[5,13,14,15]. However two studies have shown higher rate of caesarian sections. This may be due to a difference in the setting [17,18]. Cases of obstructed labour are higher in the teenage group and may be due to weaker physical strength of the teenage mothers.

Severe Anemia was found to be two times higher in the teenage than in adult group. This may be due to inadequate nutrition in the former group. Similar results were found in other studies[5,14,15]. Pregnancy induced hypertension and eclampsia were higher in the comparison group. Although anemia,PIH and eclampsia were higher in the cases, the difference was not statistically significant. Similar results were found in [4,14].Preeclampsia was equal. A higher study population is needed to conclude this finding. Underdevelopment of the pelvis as a contributing factor to CPD could not be properly studied as the cases were only in the higher teenage group (16-19 years) and lower teenage group(13-15) could not be assessed. This may be the reason for equal number of CPD cases in both the groups.

Consistent with previous studies, cases of preterm, LBW and foetal distress were higher in teenage group. But unlike other studies, the difference was not statistically significant [4,5,13,14,16]. The higher number of LBW are probably in turn due to the preterm cases as 9 of the 12 preterm babies were found to be of low birth weight. No maternal or foetal deaths were reported in this study.

#### V. Conclusion

Although teenage mothers had higher incidence of anemia, preterm babies and low birth weight babies, the difference between cases and controls was not statistically significant. Teenage childbearing does not contribute to adverse obstetric or foetal outcomes provided sufficient antenatal care is given.

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