



MATERNAL OUTCOME OF PREGNANCIES IN WOMEN AT THE EXTREMES OF MATERNAL AGE

Dr. Surayya Tahseen^{*1}, Dr. Syeda Maliha Fathima², Dr. Sowmya Sri K.³, Dr. Nabeeha Mujtaba Ali⁴ and Dr. Fatima Tahniyath⁵

¹Assistant Professor- Department of Obstetrics & Gynecology.

²Assistant Professor- Department of Obstetrics & Gynecology.

³Assistant Professor- Department of Obstetrics & Gynecology.

⁴MBBS 2 nd year student – Deccan College of Medical Sciences.

⁵Pharm D, PGDHHM.

***Corresponding Author: Dr. Surayya Tahseen**

Assistant Professor- Department of Obstetrics & Gynecology.

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ABSTRACT

Background: Extremes of maternal age adversely affect pregnancy outcomes. Teenage pregnancy is regarded as a serious public health problem and often occurs in the context of poor social support and maternal well-being. Teenage pregnancy is known to be associated with adverse pregnancy outcomes such as preterm births, low birth weight deliveries and increased risk of caesarean delivery. **Methods:** A hospital based prospective study carried out in the Department of Obstetrics and Gynaecology from October 2013 to September 2015 at Owaisi hospital and research centre and Princess Esra Hospital, a tertiary care centre, Deccan College of medical sciences, Hyderabad. **Results:** Among 8640 antenatal patients who delivered during the 24 months period i.e. October 2013 to September 2015 at the hospital out of these 241(2.8%) were teenage primigravida aged 15 to 19 yrs. **Conclusions:** In India, 10.3% of the female population belongs to the age group of 15-19 years. In 1997, the age specific fertility rate was found to be 52.5 live births per 1000 rural women aged between 15-19 years. Over the years, there has not been much improvement in the country's scenario as reported by the National Family Health Surveys.

KEYWORDS: Pregnancy, Teenage, maternal outcome, pre term, caesarean.

INTRODUCTION

Extremes of maternal age adversely affect pregnancy outcomes.^[1] Teenage pregnancy is regarded as a serious public health problem and often occurs in the context of poor social support and maternal well-being.^[2] Teenage pregnancy is known to be associated with adverse pregnancy outcomes such as preterm births, low birth weight deliveries and increased risk of caesarean delivery.^[1,3] However, other studies have suggested that these effects are related to some other confounders. Two studies revealed that teenage mothers with adequate antenatal care and full social and family support does not show any increased risk of adverse pregnancy outcomes, and even had lower rates of caesarean delivery.^[4,5]

Teenage pregnancy, pregnancy within 19 years of age, is a public health concern both in developed and developing countries.^[6,7] Evidence in developing world indicates that one-third of women become mothers within 19 years of age.⁸ Relatively the situation in India is severe as there are higher proportions of teenage pregnancies due to the common practice of early

marriage and social expectation to have a child soon after marriage.

Advanced maternal age, defined as age 35 years and older at estimated date of delivery, has become increasingly common.^[9] Effective birth control, advances in assisted reproductive technology, delayed marriage, increasing rate of divorce and remarriage, and women's pursuit of higher education and career advancement all contribute to this trend.^[10,11] Mother's high age is always considered as a risk factor for pregnancy outcome.^[12] Although many studies found an association between delayed childbirth and adverse maternal and fetal outcomes,^[1,9,13,14,15,16] one study challenges these findings.^[17] This study was done to know the effects of both young and old maternal age on pregnancy and its outcome among women registered for prenatal care.

Aims and objectives

1. To determine the incidence of pregnancies in women at the extremes of maternal age (Teenage 15 to 19 yrs and elderly primi ≥ 35 to 41 yrs of age)

amongst antenatal patients registered at Owaisi hospital and research Centre and Princess Esra Hospital.

- To study the maternal outcome at extremes of maternal age (Teenage 15 to 19 yrs and elderly primi ≥ 35 to 41 yrs of age).

Source of data

The following study is a hospital based prospective study carried out in the Department of Obstetrics and Gynaecology from October 2013 to September 2015 at Owaisi hospital and research centre and Princess Esra Hospital, a tertiary care centre, Deccan College of medical sciences, Hyderabad.

Sample size

50 cases of younger primigravida (15 to 19 yrs) and 50 cases of elderly primigravida (≥ 35 to 41 yrs), booked antenatal cases were selected after taking inclusion exclusion criteria into consideration.

Inclusion criteria

- Group I: 15 to 19 yrs Group II: ≥ 35 to 41 yrs.
- Primigravidae were taken in to account for the study, to eliminate influence of parity on maternal complications.
- Singleton pregnancy.
- Pregnancy complications like Anemia, Pregnancy induced hypertension, Gestational diabetes, Premature rupture of membranes, preterm labor, IUGR, Antepartum hemorrhage (placenta previa and abruptio placenta) in the two age groups were included.
- Booked Cases at OHRC and PEH were included.

Exclusion criteria

- Multigravida
- All pregnant women aged 20 to 34 yrs of age.
- Multiple pregnancy.

This study was focused on the extremes of maternal age groups aged 15- 19 years ≥ 35 to 41 years of maternal age at first birth. All the women were married.

Data were also recorded for medical complications during pregnancy including hypertension, pre-eclampsia, diabetes mellitus (type 1 and type 2) and epilepsy requiring treatment. Gestational age was estimated from the calculation based on first day of the last menstrual period, however, the routine booking ultrasound scan estimate was preferred if the dates were uncertain or there was a discrepancy of more than 7 days in the first trimester scan. Delivery outcome measures included gestational age at delivery, birth weight, and infant's Apgar scores at 1 and 5 minutes, admission to the neonatal unit, any suspected congenital abnormalities and whether resuscitation was required.

The major obstetrics parameters compared between these

groups were parity, presentation of fetus, obstetric complication (antepartum hemorrhage and premature rupture of membrane), medical disorder associated with pregnancy (hypertension in pregnancy and gestational diabetes) and mode of delivery (normal vaginal delivery, instrumental delivery and caesarean section).

Miscarriage or abortions i.e fetal loss before 24 weeks of gestation. It was recorded as 1st trimester or 2nd trimester abortions.

Anemia recorded when hemoglobin less than 10 gm. %.(FOGSI criteria).

- Antepartum hemorrhage (APH) was defined as any vaginal bleeding after 28 weeks of gestation and before delivery of baby.
- Premature rupture of membrane (PROM) was rupture of membrane before onset of labor.
- Women who had new onset hypertension ($> 140/90$ mm of Hg) after 20 weeks of gestation without proteinuria was labelled as pregnancy induced hypertension.
- Women who had new onset hypertension ($> 140/90$ mm of Hg) after 20 weeks of gestation with proteinuria were labeled as preeclampsia.
- Women who were diagnosed as having preexisting hypertension was categorized as chronic hypertension.
- Eclampsia was convulsion occurring in women with hypertension. All these type of hypertension were collectively categorized as hypertensive disorder of pregnancy.
- Women were classified as diabetic if they had a history of preexisting diabetes or that diagnosed first time during pregnancy as gestational diabetes mellitus.

Intrapartum data collected were presentation, onset of labour, progress of labor type of delivery, the mode of delivery was classified as spontaneous vaginal delivery, instrumental delivery or caesarean section.

OBSERVATIONS AND RESULTS

The present study is a hospital based prospective study carried out in the department of Obstetrics and Gynecology from October 2013 to September 2015 at Owaisi Hospital and research Centre and Princess Esra Hospital, Deccan College of medical sciences, Hyderabad. Among 8640 antenatal patients who delivered during the 24 months period i.e October 2013 to September 2015 at the hospital out of these 241(2.8%) were teenage primigravida aged 15 to 19 yrs and 86 (1%) were elderly primigravida ≥ 35 yrs to 41 yrs.

Out of these after considering the inclusion and the exclusion criteria, 50 patients teenage primigravida 15 to 19 yrs and 50 patients elderly primi ≥ 35 yrs to 41 yrs and of age were enrolled for this hospital based prospective study.

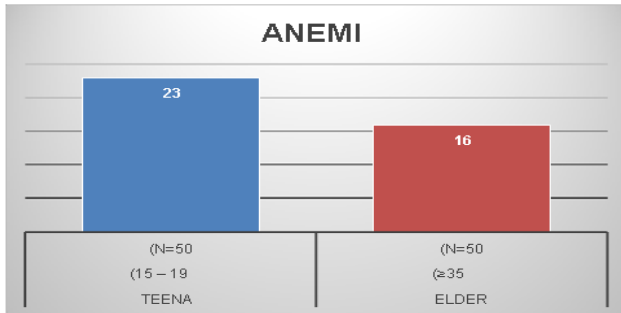


Figure 1: Incidence of anemia among maternal women.

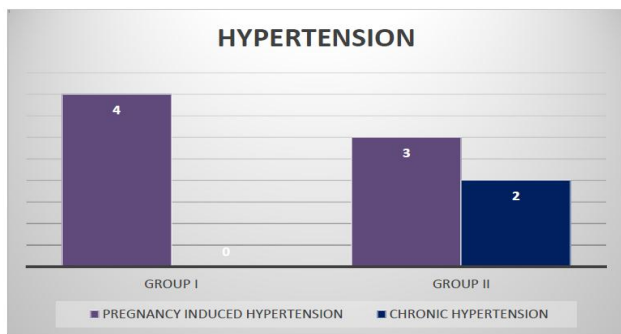


Figure 2: Incidence of hypertension among maternal women.

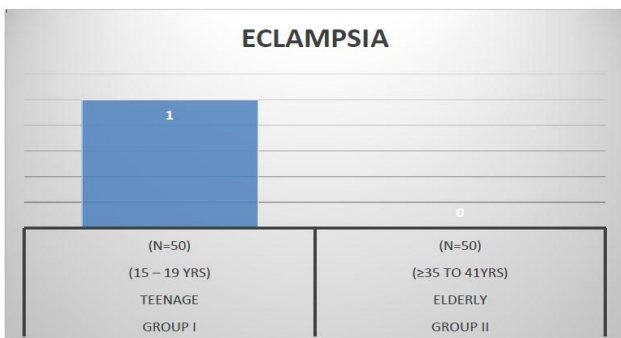


Figure 3: Incidence of eclampsia among maternal women.

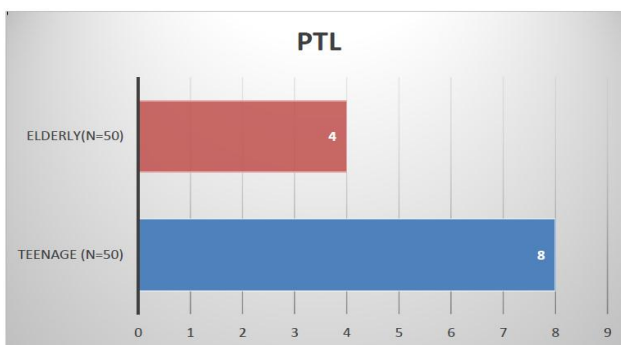


Figure 4: Prevalence of preterm labor.

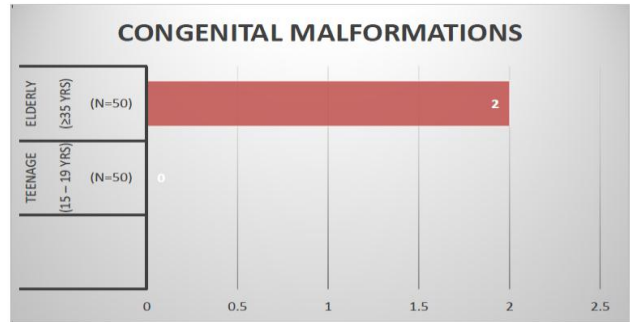


Figure 5: Incidence of congenital malformations.

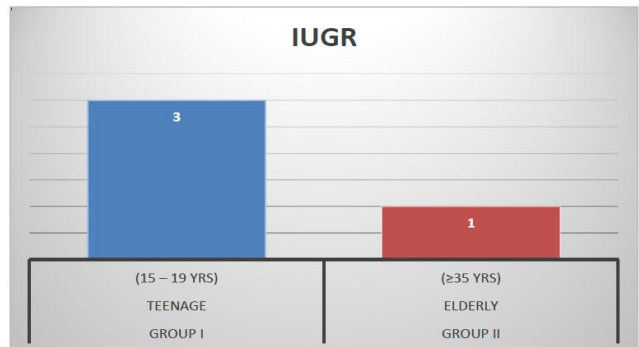


Figure 6: Prevalence of intrauterine growth restriction.

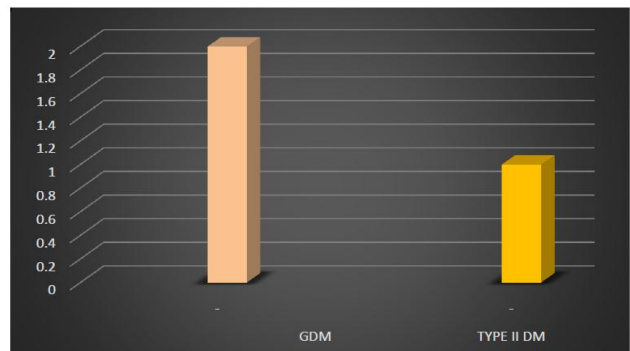


Figure 7: Prevalence of gestational diabetes mellitus/type II diabetes mellitus.

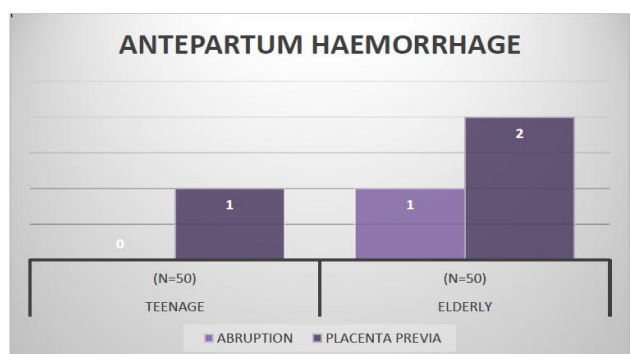


Figure 8: Prevalence of antepartum haemorrhage (abruption /placenta previa).

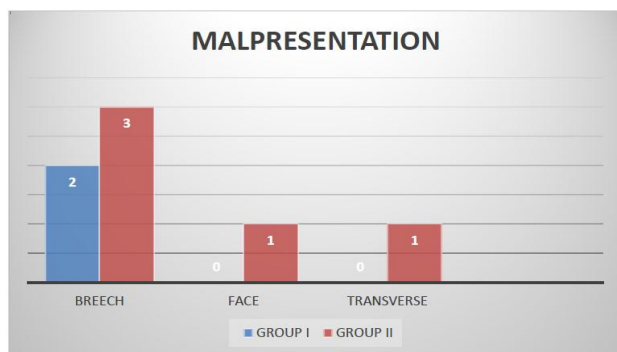


Figure 9: Incidence of malpresentation.

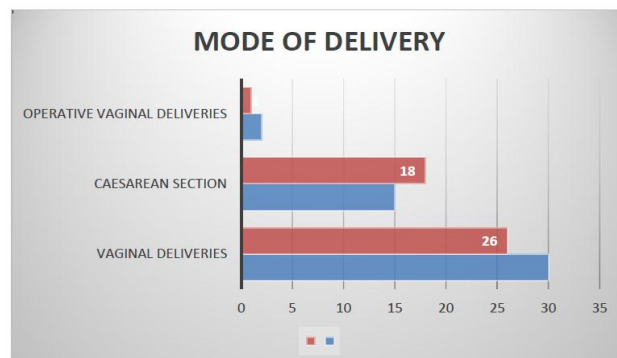


Figure 10: Mode of delivery (vaginal deliveries/caesarean section/ operative vaginal deliveries).

CONCLUSION

When planning healthcare for pregnant women, extremes of maternal age need to be recognized as risk factors for adverse delivery outcomes, and antenatal and intrapartum care needs to be planned accordingly. This study has significantly higher rates of complications in the teenage group. This may cause retardation of growth and development, and also deprive them of their childhood and education with resultant deterioration of the overall health of the nation. The time has come to focus on this problem. Education, nutritional support, and family planning, along with creating awareness among the community and also the school girls about the importance of delaying marriage, reproductive health, family life, and population education will definitely help in transforming today's adolescent girls into healthy and responsible women, giving birth to a healthy future generation.

Advancing maternal age appears to be associated with much with hypertensive complications such as gestational hypertension and preeclampsia and with the medical complications concomitant with aging. This study better defines the importance of both counseling and following patients for specific adverse outcomes associated with advancing maternal age. Patients aged 35 years and older are at an increased risk for miscarriage and fetal chromosomal abnormalities, many of which may be diagnosed prenatally where NT Scan at 11 weeks, triple markers are to be done. Age 40 years and older is an independent risk factor for gestational

diabetes, placenta previa, placental abruption, cesarean delivery, and perinatal mortality. The role of routine antenatal surveillance in women aged 40 years and older requires further investigation because these women seem to be at increased risk for perinatal mortality.

Although the likelihood of adverse outcomes increases along with maternal age, patients and obstetric care providers can be reassured that overall maternal and fetal outcomes are favorable in this patient population if proper antenatal care and follow up are done.

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