

## Original Research Article

# Comparative study of fetomaternal outcome in adolescent and young adult primigravidas

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### ABSTRACT

**Background:** Adolescent pregnancy is a worldwide public health problem. WHO has defined adolescence as the period from 10-19 years of age. Purpose of the study was to compare the fetomaternal outcome in adolescent and young adult primigravidas.

**Methods:** The study was conducted at a tertiary care centre over a period of six months. 150 adolescent (in our study between 15-19 years of age) and 150 young adults (20-25 years) primigravidas who delivered at our institution were randomly selected for the study. All the data including age, booking status, educational and economic status and address were noted. All essential antepartum, intrapartum and postpartum data were collected for both the groups and compared using Chi square test.

**Results:** In our study the incidence of antepartum, intrapartum and postpartum complications was 86%, 36% and 10% respectively in the study group. But in the control group only 40% of the subjects had antepartum complications, 17.33% had intrapartum complications and the incidence of postpartum complications was only 4%. The difference is highly significant with a p value <0.001.

**Conclusions:** Adolescent pregnancy is associated with adverse fetomaternal outcome and any effort to prevent it is worthwhile.

**Keywords:** Adolescent, Adult, Antepartum, Fetomaternal, Intrapartum, Postpartum, Primigravida

### INTRODUCTION

Adolescent pregnancy is a worldwide public health problem. WHO has defined adolescence as the period from 10-19 years of age. The reason for increasing incidence of adolescent pregnancy in developing countries is illiteracy and poverty but in developed countries it has been attributed to decreasing age of menarche, increased exposure and lack of awareness about contraception amongst adolescents.<sup>1</sup> Poor outcome in adolescent pregnancy has been attributed to biological immaturity, lifestyle factors and inadequate attendance to maternity care.<sup>2</sup> Adolescence is the period of mental,

physical and emotional development of an individual. Development of uterus, vagina and pelvis continues upto 19 years of age. If a girl becomes pregnant before this she is likely to end up with complications. In this study, we have compared the fetomaternal outcomes in adolescents and young adults. Incidence of teenage pregnancy in India is 16%.<sup>3</sup>

#### Aims and objectives

- To study and compare antepartum, intrapartum and postpartum complications, in adolescent and young adult primigravidas.

- To study and compare fetal outcome in adolescent and young adult primigravidas.

## METHODS

The study was undertaken in adolescent primigravidas (<20 years) and primigravidas of 20-25 years' age group. The study was conducted at a tertiary care centre over a period of six months. The study group included 150 young adolescents (<20 years of age) primigravidas who delivered at this centre over period of study. The subjects were randomly selected.

We included adolescents above 15 years of age as below this age many other biological and social factors would have affected the study. The control group included 150 primigravidas between 20-25 years of age. They were also randomly selected. The age of the subject was taken as the age at time of delivery. For both the groups the following points were recorded:

- Name, age, address
- Duration of pregnancy, Date of last menstrual period, Expected date of delivery
- Booked or Unbooked status- Booked cases were those who had three or more antenatal visits whereas unbooked cases were those who had less than three antenatal visits

- General physical and Obstetrical examination was done.
- Routine investigations including Haemoglobin estimation by Sahli's method, Urine for albumin and sugar, ABORh grouping, blood sugar, bleeding and clotting time were done for all subjects.
- Special investigations including Liver and Renal function tests, tests for HIV, Hepatitis B antigen, VDRL, Complete blood counts and ultrasonography were done as needed.
- All antepartum abnormalities were noted. Course of labour, mode of delivery and outcome of labour including fetal outcome were noted. Mother and newborn were followed till discharge.
- Fetomaternal outcome of both groups were statistically analysed using Chi Square test.
- Standard criteria were used to define complications.

## RESULTS

Most of the subjects in adolescent group were of 19 years of age (60%). Maximum number of subjects in control group were of 22 years of age (29.33%). Most of the subjects in study group were unbooked (64%) while in the control group most of the subjects were booked. The difference in antenatal registration is highly significant ( $p$  value<0.001).

**Table 1: Antepartum complications in study and control groups.**

Type of complications	Study group		Control group	
	Number of subjects	Percentage of total (n=150)	Number of subjects	Percentage of total (n=150)
Anaemia	96	64.00	46	30.67
Hypertensive disorder	11	7.33	5	3.33
Eclampsia	5	3.33	0	0.00
Abruptio placentae	3	2.00	1	0.67
Placenta praevia	1	0.67	1	0.67
Intrauterine death	4	2.67	2	1.33
Malpresentation	9	6.00	5	3.33
Total	129	86.00	60	40.00

**Table 2: Distribution of intrapartum complications in study and control groups.**

Type of complication	Study group		Control group	
	Number of subjects	Percentage of total (n=150)	No. Of subjects	Percentage of total (n=150)
Premature labour	14	9.33	7	4.67
Premature rupture of membranes	7	4.67	3	2.00
Foetal distress	18	12.00	11	7.33
Non-progress of labour	4	2.67	2	1.33
Cephalopelvic disproportion	5	3.33	1	0.67
Obstructed labour	1	0.67	0	0.00
Dystocia	1	0.67	0	0.00
Prolonged second stage	4	2.67	2	1.33
Total	54	36.00	26	17.33

**Table 3: Mode of delivery in study and control groups.**

Mode of delivery	Study Group		Control Group	
	Number of subjects	Percentage of total (n=150)	Number of subjects	Percentage of total (n=150)
Spontaneous normal delivery	104	69.33	127	84.67
LSCS	31	20.67	14	9.33
Assisted breech	2	1.33	2	1.33
Forceps	12	8.00	7	4.67
Ventouse	1	0.67	0	0.00
Total	150	100.00	150	100.00

From the Table 1, it can be seen that in the study group 86% of the subjects had antepartum complications whereas in the control group 40% of the subjects had antepartum complications. The difference is highly significant (p value <0.001). The Table 2 shows that the incidence of all intrapartum complications was higher in

adolescent group, 36% as compared to control group in which it was 17.33%. The difference is highly significant.

From the Table 3 it is evident that the overall incidence of complicated delivery was twice in the study group (30.67%) as compared to control group (15.33%).

**Table 4: Postpartum and puerperal complications in study and control groups.**

Type of complication	Study Group		Control Group	
	Number of subjects	Percentage of total (n=150)	Number of subjects	Percentage of total (n=150)
Primary PPH	4	2.67	2	1.33
Retained placenta	1	0.67	0	0.00
Perineal tear	5	3.33	2	1.33
Puerperal sepsis	1	0.67	0	0.00
Puerperal psychoses	1	0.67	0	0.00
CHF	1	0.67	1	0.67
Others	2	1.33	1	0.67
Total	15	10.00	6	4.00

**Table 5: Birth weight of neonates in study and control groups.**

Birth weight of neonates (in Kg)	Study Group		Control Group	
	Number of subjects	Percentage of total (n=150)	Number of subjects	Percentage of total (n=150)
<2	28	18.67	5	3.33
2-2.499	25	16.67	19	12.67
2.5-2.999	93	62.00	95	63.33
3-3.499	4	2.67	21	14.00
≥3.5	0	0.00	10	6.67
Total	150	100.00	150	100.00

**Table 6: Perinatal mortality in study and control groups.**

Perinatal mortality	Study group		Control group	
	Number of subjects	Percentage of total (n=150)	Number of subjects	Percentage of Total
Still Birth	8	5.33	3	2.00
Early neonatal mortality	4	2.67	2	1.33
Total	12	8.00	5	3.33

The Table 4 shows that the overall incidence of postpartum and puerperal complications in study and control groups. The incidence was 10% in study group as compared to 4% in the control group. The difference is highly significant ( $<0.001$ ).

The mean birth weight of neonates in study group was  $2.4 \pm 0.40$  while mean birth weight of neonates in control group was  $2.75 \pm 0.38$ . The difference in both groups was highly significant (p value  $<0.001$ ). The results are shown in Table 5. Perinatal mortality was significantly higher in study group (8%) as compared to control group (3.33%) (Table 6).

## DISCUSSION

Present study shows an increased incidence of fetomaternal outcome in adolescent pregnancies. Present results are in consonance with those of Gilbert W et al and Kumar et al.<sup>4,5</sup>

The study by Kumar et al found that the incidence of gestational hypertension in teenage mothers was 11.4% as compared to young adult pregnancies. In adolescent pregnancies, the incidence of premature labour was 26.1% as compared to 14.6% in young adult females. The neonatal mortality rate in the study group was 3.8% while in control group it was 0.5%.

In contrast to present results, Aparna J in her study found similar fetomaternal outcomes in adolescent and young adult pregnancies.<sup>6</sup>

## CONCLUSION

In present study, we found significant incidence of antepartum, intrapartum, postpartum and perinatal complications in adolescent mothers as compared to their adult counterparts. Antenatal patients should be offered best possible antenatal, intrapartum and postpartum care.

Antenatal care status could be improved by easy access to health care services, better transportation facilities and eradication of illiteracy. Institutional delivery under supervision of experienced obstetrician with added facility of well-furnished operation theatre, availability of services of anaesthetist and neonatologist is highly essential.

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