

# Obstetric Outcome of Teenage Pregnancy

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**Aims:** To assess the prevalence of teenage pregnancies and to compare the obstetric performance of teenage pregnant woman with that of adult pregnant woman.

**Methods:** A prospective study was conducted in Nepal Medical College Teaching Hospital from August, 2010 to February, 2012 (one and half year duration). All the teenage pregnancies were included and outcomes were compared with adult (20-24 years) pregnancies, selected randomly who had delivered during the same period of time. The patient characteristics (age, gravidity, parity, gestation age) and obstetric outcome (medical and obstetrical complications, mode of delivery, complications during delivery, fetal outcome, birth weight) were compared between the two groups. Statistical analysis was performed using PHSTATZ and Z test for proportion.

**Results:** There were total 2708 deliveries during the study period, out of which teenage pregnancy was 264 (9.7%). There were 69(26.1%) teenage mothers of age 16 to 17 years and 195(73.9%) of age group 18 to 19 years. As expected, maximum patients in the test group i.e. teenagers were primigravida as compared to control group. (90.1% vs. 68.5%).

As for mode of delivery, normal delivery in test and control was 82.9% vs 81.1% (p=0.56) and rate of cesarean delivery was similar 10.2% and 10.7%, (p=0.84) in both the groups. The incidence of instrumental delivery was more in control group although it was not statistically significant (0.7% vs 2.2%, p=0.16). Preterm delivery was 3.0% in teenage as compared to control which is 2.2%. The percentage of intrauterine fetal death was 0.7% vs 0% in test and control group (p=0.15). Proportion of low birth weight babies in test and control group was 7.2% vs 5.9% (p=0.55). Similarly pregnancy related complications were also compared in teenage and control groups. It was found that postpartum hemorrhage occurred more in teenage pregnancy 1.8% vs 0.7% (p=0.84) but statistically not significant. Incidence of hypertensive disorders was 6.4% and 5.6% (p=0.66) in test and control group. Proportion of babies with intrauterine growth restriction was 3.0% in test and 1.1% (p=0.009) in control, the only parameter that is statistically significant. Fetal congenital anomaly was 0.7% vs 0.4% (p=0.54)

**Conclusions:** Teenage pregnancy can have an equally good outcome if we give good obstetric care and encourage institutional delivery.

**Keywords:** Fetal outcome, obstetric complications, teenage pregnancy.

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## INTRODUCTION

Teenage pregnancy is considered a high risk pregnancy. It is associated with high incidence of preterm birth, low birth weight and other poor pregnancy outcome.<sup>1, 2</sup> Younger teenage girls are often shorter, their bodies not yet fully mature and have lower body weight than older women<sup>3</sup> as growth may not have stopped among the girls.<sup>4</sup> They may require more nutrients during pregnancy than older women.<sup>5</sup> The risk of death due to pregnancy related causes is double among women aged 15 to 19 years compared to women in their twenties.<sup>6</sup> In Nepal, there is

the tradition of childhood marriage and early pregnancy. Also lack of education and unawareness of contraceptive methods make the situation worse. The problem of teenage pregnancy and its adverse outcome is a major health issue. Contradictorily, some studies have found that teenage pregnancy had favorable obstetric outcome. Konje et al (1992) reported that early adolescents tolerated pregnancy well provided they book early and attend antenatal clinic regularly.<sup>7</sup> The purpose of this study was to assess the extent of the problem in our hospital and to compare the outcome of teenage pregnancies with that of adult pregnancies.

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## CORRESPONDANCE

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**METHODS**

This was a hospital based prospective study in Nepal Medical College Teaching Hospital (NMCTH) conducted from August, 2010 to February 2012 (one and half year). All the teenage mothers who delivered during that period were included in the study and the outcomes were compared with control group of 20-24 years, selected randomly who had delivered during the same period. The maternal characteristics (age, gravidity, parity, gestational age) and outcome (medical and obstetrical complications, mode of delivery, complications during delivery, fetal outcome, fetal birth weight) were compared between the two groups. Statistical analysis was performed using PHSTATZ and Z test for proportion.

**RESULTS**

There were total 2708 deliveries during the study period out of which teenage pregnancy was 264 (9.7%). There were 69(26.1%) teenagers between the age 16 to 17 years and 195(73.9%) in the age group 18 to 19 years. Most of the teenagers were primigravida as compared to control group (90.1% vs 68.5%) {Table 1}.

**Table 1. Complications of teenage pregnancy compared to control group**

Complications	Teenage	Control	p- value	
Hypertension	17 (6.4%)	15 (5.5%)	0.66	NS
Eclampsia	2 (0.7%)	3 (1.1%)	0.67	NS
Postpartum haemorrhage	5 (1.8%)	2 (0.7%)	0.24	NS
Intrauterine growth restriction	3 (1.1%)		0.009	S
Congenital anomalies	2 (0.7%)	1 (0.3%)	0.54	NS

The babies delivered preterm was 6.8% in teenage pregnancy as compared to 5.8% in control (p =0.67). As for mode of delivery, normal delivery in teenage and control was 82.9% vs 81.1% respectively, (p=0.56) and rate of cesarean delivery was similar 10.2% and 10.7%, (p=0.84).The incidence of instrumental delivery was more in control group although it was not statistically significant(0.7% vs 2.2%, p=0.16). The percentage of intrauterine fetal death was 0.7% vs 0.00% in teenage and control group respectively, (p=0.15). As regard to low birth weight in teenage and control group, it was 7.2% vs 5.9%, (p=0.55). Similarly pregnancy related complications were compared in two groups. Table 5 shows that incidence of postpartum hemorrhage was more in teenage pregnancy 1.8% vs 0.7% ( p=0.84) . Hypertension was 6.4% and 5.5% in teenage and control group respectively (p=0.66). Also intrauterine growth restriction was 3.0% in teenage and

1.1% in control, (p=0.009) ,which is the only outcome that was statistically significant. Congenital anomaly was 0.7% vs 0.3% (p=0.54).

**Table 2. Gestational age of teenage and control group**

Gestational age	less than 32wks	32-36 wks	37-39 wks	40-42 wks	More than 42wks
Teenage	5(1.8%)	13(4.9%)	127(48.1%)	114(43.1%)	5(1.8%)
Control	5(1.8%)	11(4.0%)	121(44.8%)	129(47.7%)	4(1.4%)

**Table 3. Comparison of birth weight**

Birth weight	Less than 1.5 kg	1.5-2.4 kg	2.5-4 kg	Above 4 kg
Teenage	2(0.7%)	17(6.4%)	243(92.0%)	2(0.7%)
Control	2(0.7%)	14(5.1%)	251(92.0%)	3(1.1%).

**Table 4. Comparison of type of delivery**

Type of delivery	teenage	control	p-value	
Normal delivery	216(82.9%)	224(81.0%)	0.56	NS
Cesarean delivery	27(10.2%)	29(10.7%)	0.84	NS
Delivery at homewith retained placenta	9(3.4%)	3(1.1%)	0.07	NS
Instrumental delivery	2(0.3%)	6(2.2%)	0.07	NS
delivery with intrauterine fetal death	0(0.0%)	2(0.7%)	0.67	NS
Preterm delivery	18(6.8%)	16(5.8%)	0.67	NS

**DISCUSSION**

In the developing world, one third to one half of the women become mothers before the age of 20 years and pregnancy related complications have become the leading cause of death among them.<sup>8,9</sup> Within South Asia, the recorded teenage pregnancy is highest in Bangladesh 35% followed by Nepal 21% and India 21%.<sup>10</sup> National Center for Health Statistics (1993) of America reported the incidence to be 13%.<sup>11,12</sup>

The incidence of the teenage pregnancy was 9.7% in our study. The range of age was between 16 to 19 years. Preterm delivery and low birth weight rates were almost similar in teenage and control groups. Rate of normal delivery was also similar between these two groups. Favorable outcome

in teenagers was also found in the study done by Pun and Chauhan<sup>13</sup> normal deliveries being more common in teenage pregnancy than adult mothers. In the same study, they found the rate of cesarean delivery less in teenage pregnancy (21.7% vs 19.6%) and rate of instrumental delivery was almost same. Al Ramahi and Salch reported the rate of normal delivery more (83.9% vs 79.4%) and rate of cesarean (7.1% vs 16.8%) and instrumental delivery (4.5% vs 1.4%) lesser in teenage pregnancy as compared to older mothers.<sup>14</sup>

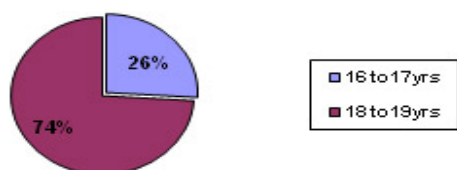


Figure 1. Age distribution of teenage pregnancy

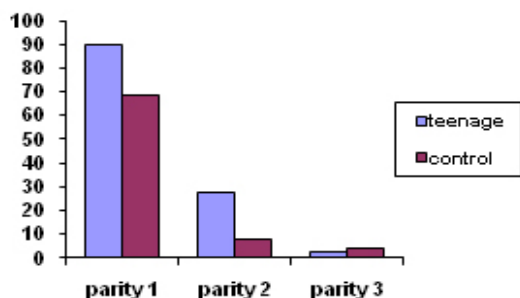


Figure 2. Comparison of Parity

Regarding pregnancy related complications like postpartum hemorrhage, hypertension and congenital anomalies, Ambedekar et al found similar results between teenage and control group.<sup>15</sup>

The obstetric performance of both the test and control were almost same in our study. The only parameter that was significantly more in teenage pregnancy as compared to adult pregnancy was intrauterine growth restriction 4.92% vs 1.11% (p=0.009). The explanation for the similar result in recent studies may be due to earlier physical maturation of young girls to deal with pregnancy and labor just as the adult pregnant women do. Studies have explained earlier menarche with successive generations because of environmental changes like smaller family size, urbanisation, change in life style, diet, media and television.<sup>16,17,18</sup> Intrauterine growth restriction was significantly more in teenage pregnancy group, we should work more towards reducing this problem by counseling about importance of good nutrition, providing the

micronutrient such as iron, folic acid and vitamin B complex to teenage pregnant girls. David Ostrin and co-workers reported in their randomized trial of the effect on birth weight of a daily multiple micronutrient supplement given to Nepalese women during pregnancy, that there was average increase in birth weight of 77 gm and a reduction of 25% in the rate of low birth weight who received iron and folate.<sup>19</sup> With early booking, regular antenatal visit, encouraging institutional delivery, teenage pregnancy may not be a health problem after all.

### CONCLUSIONS

Teenage pregnancy itself is not a public health problem if regular antenatal visit and hospital delivery is encouraged. However, intrauterine growth restriction in teenage pregnancy is definitely a significant neonatal health problem which needs further research to reduce perinatal morbidity and mortality.

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