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Original Article

Obstetric Outcome of Teenage Pregnancy: A Prospective Study

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Abstract

Introduction: Teenage pregnancy is high-risk pregnancy as it is associated with high incidence of preterm birth, low birth weight, and other complications to both fetus and the mother.

Materials and Methods: A prospective study was conducted in Government Theni Medical College during the period of 1 year from January 2015 to December 2015. Teenage mothers admitted in inpatient department were included and outcomes were compared with adult (20-24 years) pregnancies, selected randomly who had delivered during the same study period.

Results: There were total 5416 deliveries during the study period, out of which teenage pregnancy was 528 (9.7%). There were 138 (26%) teenage mothers of age 16-17 years and 390 (74%) of age group 18-19 years. As expected, maximum patients in the test group, i.e., teenagers were primigravida as compared to control group. As for mode of delivery, normal delivery in test and control was 82.9% versus 81.1%, and rate of cesarean delivery (10%) was similar in both the groups. Preterm delivery was in 8% teenage as compared to control which is 2.2%. The percentage of intrauterine fetal death was 0.7% versus 0% in test and control group. Proportion of low birth weight babies in test and control group was 7.2% versus 6%. 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% versus 0.7% in test and control, respectively. The incidence of hypertensive disorders was 6.4% and 5.6% in test and control group. The proportion of babies with intrauterine growth restriction (IUGR) was 3% in test and 1.1% in control.

Conclusions: Teenage pregnancy can have IUGR as a major complication which is statistically proven in our study. Recognition of teenage pregnancies as high-risk and giving proper antenatal care can help these mothers to have good outcome on par with adult pregnancies.

Key words: Fetal outcome, Obstetric complications, Teenage pregnancy

INTRODUCTION

Teenage pregnancy is high-risk pregnancy as it is associated with high incidence of preterm birth, low birth weight, and other complications to both fetus and the mother.[1,2] Younger girls are often immature physically and mentally and have lower body weight than older women[3] as growth may not have stopped among the girls.[4] They may require more nutrients during pregnancy than older women.[5] The risk of death due to pregnancy related causes is double among women aged 15-19 years compared to women in their twenties.[6,7] In Theni, there is the tradition of childhood marriage and early pregnancy. Furthermore, lack of education and unawareness of contraceptive methods make the situation worse. 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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MATERIALS AND METHODS

This is a prospective study in Government Theni Medical College Teaching Hospital. All the teenage mothers

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who delivered during that period were included in the study period January 2015-December 2015, 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, and gestational age) and outcome (medical and obstetrical complications, mode of delivery, complications during delivery, fetal outcome, and fetal birth weight) were compared between the two groups statistical analysis were performed using pH Statz and Z-test for proportion.

RESULTS

There were total 5416 deliveries during the study period out of which teenage pregnancy was 528. There were 138 (26%) teenagers between the age 16 and 17 years and 390 (74%) in the age group 18-19 years. Most of the teenagers were primigravida as compared to control group (Table 1).

The babies delivered preterm was 6.8% in teenage pregnancy as compared to 5.8% in control. As for mode of delivery, normal delivery in teenage and control was 82.9% versus 88.1%, respectively, and rate of cesarean delivery was similar and the incidence of instrumental delivery was more in control group. The percentage of intrauterine fetal death was 0.7% in teenage and 0 control group, respectively. As regard to low birth weight in teenage and control group, it was 7.2% versus 5.9%. Similarly, pregnancy related complications were compared in two groups. The incidence of postpartum hemorrhage was more in teenage pregnancy. Hypertension was 2.9% and 2 in teenage and control group, respectively. Furthermore, intrauterine growth restriction (IUGR) was in teenage and in control, which is the only outcome that was statistically significant (Tables 2-4).

Table 1: Complications of teenage pregnancy compared to control group

Complications	Teenage (%)	Control (%)	*P* value
Hypertension	34 (6.4)	30 (5.5)	NS
Eclampsia	4 (0.7)	6 (1.1)	NS
Postpartum hemorrhage	10 (1.8)	4 (0.7)	NS
IUGR	6 (1.1)	-	S
Congenital anomalies	4 (0.7)	2 (0.3)	NS

IUGR: Intrauterine growth restriction

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.[8,9] Within South Asia, the recorded teenage pregnancy is highest in Bangladesh 35% followed by Nepal 21% and India 21%.[10] National Center for Health Statistics of America reported the incidence to be 13%.[11,12]

The incidence of the teenage pregnancy was 9.7% in our study. The range of age was between 16 and 19 years. Preterm delivery and low birth weight rates were almost similar in teenage and control groups. The rate of normal delivery was also similar between these two groups. Al-Ramahi and Saleh 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.[13]

Regarding pregnancy related complications such as postpartum hemorrhage, hypertension, and congenital anomalies, Ambadekar *et al.* found similar results between teenage and control groups.[14,15] 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 IUGR 4.92% versus 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, urbanization, change in life style, diet, and media and television.[16-18] IUGR was significantly more in teenage pregnancy group, we should work more toward 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. Orsin reported in their randomized trial of the effect on birth weight of a daily multiple micronutrient supplement given during pregnancy that there was average increase in birth weight of 77 g and a reduction of 25% in the rate of low birth weight who received iron and folate.[19] With early booking, regular antenatal visit, encouraging institutional delivery, and teenage pregnancy may not be a health problem after all.

Table 2: Gestational age of teenage and control group

Gestational age	<32 weeks (%)	32-36 weeks (%)	37-39 weeks (%)	40-42 weeks (%)	>42 weeks (%)
Teenage	10 (1.8)	26 (4.9)	254 (48.1)	228 (43.1)	10 (1.8)
Control	10 (1.8)	22 (4)	142 (44.8)	158 (47.7)	8 (1.4)

Table 3: Comparison of birth weight

Birth weight	<1.5 kg (%)	1.5-2.4 kg (%)	2.5-4 kg (%)	>4 kg (%)
Teenage	4 (0.7)	34 (6.4)	486 (92)	4 (0.7)
Control	4 (0.7)	28 (5.2)	502 (92)	6 (1.1)

Table 4: Comparison of type of delivery

Type of delivery	Teenage (%)	Control (%)	*P* value
Normal delivery	432 (82.9)	448 (81)	0.56
Cesarean delivery	54 (10.2)	58 (10.7)	0.84
Delivery at home with retained placenta	18 (3.4)	6 (1.1)	0.07
Instrumental delivery	4 (0.3)	12 (2.2)	0.07
Delivery with intrauterine fetal death	0	4 (0.7)	0.67
Preterm delivery	36 (6.8)	32 (5.8)	0.67

CONCLUSIONS

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

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