

Obstetrics and Perinatal Outcome of Adolescent Pregnancy



Medical Science

KEYWORDS : Adult pregnancy, adolescent pregnancy, neonatal outcomes, pregnancy complication, pregnancy outcomes.

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ABSTRACT

OBJECTIVE: To compare maternal & neonatal outcome between pregnant adolescent girls (age<20yrs) and pregnant adults (age 20-30 yrs).

MATERIAL AND METHODS: 45 adolescent admitted and delivered at NMCH during (may 2010-april 2011) were enrolled in the study. A control group included 45 pregnant adults delivered during the same period.

RESULTS: Preterm labour and abortion were the significant complications in the adolescent mothers. Adolescent mothers had significantly higher incidence of caesarian delivery than that in the adult mother Perinatal complications were more in adolescent group .

CONCLUSION: Pregnant adolescent girls had more maternal and neonatal complications than those of pregnant adults.

INTRODUCTION:

Adolescent period of females is the transitional stage of physical and mental developmental period between childhood and adulthood. Therefore pregnancy occurring in adolescent girls are generally classified to have a higher risk, Than those in adult females. Nevertheless, risk outcomes in adolescent pregnancy are in ambiguity. Several studies reported conflicting results of obstetrical complication in adolescent pregnancy. Some researchers observe that pregnant adolescent showed higher incidence of anemia (1) pregnancy induced hypertension(PIH), Premature labour (1,2) than those in pregnant adults ; while the others have reported similar results of these incidence when comparing between both groups (3,4).Currently the incidence of adolescent pregnancy is considered high as compared to earlier days .The main contributing factors are earlier onset of puberty and earlier first sexual intercourse in adolescent compared with those in the past. The present study was conducted to compare the pregnant adolescent girls (age < 20 yrs) with pregnant adult women (age 20-34 yrs) in the following variables.

- 1) Maternal outcomes of pregnancy such as route of delivery , antepartum, intrapartum and post partum complications.
- 2) Neonatal outcomes of pregnancy such as birth weight apgar score at 1 and 5 mins and neonatal complications.

MATERIAL AND METHODS:

The present study was approved by ethical committee, written informed consent was obtained from the participants. The present study group included 45 adolescent mothers (<20yrs) who were delivered in NMCH. During the same period the control group of 45 adults mothers (20-34 yrs), Who were delivered after each study case in ratio 1:1 . Both groups were taken care during labour and delivery. All participants were interviewed and the information of the demographic characteristics was recorded in the designed record form. The demographic characteristics maternal and neonatal date was analyzed using chi- square root , fisher exact test, unpaired t- test , arithmetic mean , median, standard deviation was set at $p < 0.05$. All statistical analysis conducted by using the computer software programs SPSS/PC.

INCLUSION CRITERIA:

- a) Pregnant women in age group of 15-30 years.
- b) Free from systemic disease like hypertension, bronchial asthma, thyroid disease, endocrine & connective tissue disease, tuberculosis.

EXCLUSION CRITERIA:

- a) Age < 15 years and >30 years.
- b) Mothers with major illnesses existing from previous pregnancy like diabetes mellitus, hypertension, tuberculosis, asthma, hypothyroidism, connective tissue disorder.
- c) Not willing to participate.

RESULTS:

DISTRIBUTION OF PREGNANT WOMEN ACCORDING TO AGE (IN YEARS) :

The Mean age was 20.97 with standard deviation of 2.87.the

minimum age was 18 years and maximum age was 30 years. In the present study the age related distribution was more in adolescent group and in adult group maximum was between 20- 24 years i.e 30%

DISTRIBUTION OF ADOLESCENTS AND ADULTS ACCORDING TO SOCIO ECONOMIC STATUS:

36(80%) belongs to low socio-economic status in adolescent group compare to 28(62.2%) woman in adult group, 9(20%) woman belongs to middle socio-economic status and 17(37.8%) woman in adult group.

Distribution Of Adolescents And Adults According To Education:

Literate in adolescent 9(20%) 19(42.2%) adult group, the number of illiterates were 36(80%) in adolescent and 26(57.8%) adult group. Adolescent group was having more number of illiterates than the adult group, may be because of their low socio-economic status and unawareness of education.

**TABLE -I
DISTRIBUTION OF ADOLESCENTS AND ADULTS ACCORDING TO BMI**

BMI	Adolescents	%	Adult	%	Total
Underweight	3	6.7	0	0.0	3
Normal	31	68.9	34	75.6	65
Overweight	11	24.4	11	24.4	22
Obese	0	0.0	0	0.0	00
Total	45		45		90

3(6.7%) women in adolescent group belongs to underweight category V/S 0(0.0%) woman in adult group.

TABLE-II DISTRIBUTION OF ADOLESCENTS AND ADULTS ACCORDING TO ADMISSION STATUS :

Admission status	Adolescents	%	Adult	%	Total
Booked	32	71.1	34	75.6	66
Unbooked	13	28.9	11	24.4	24

13(28.9%) were unbooked cases in adolescent group and 11(24.4%) cases were unbooked in adult group.

Overall majority of cases belongs to booked cases in both the groups.

TABLE - III COMPARISON OF ANTENATAL COMPLICATIONS BETWEEN ADOLESCENT AND ADULTS

Complications	Adolescent	Percent	adult	Percent	p-value
Abortion	12	26.7	0	0.0	0.006
IUD	1	2.2	1	2.2	-
Anemia	7	15.6	5	11.1	0.75
PIH	6	13.3	5	11.1	0.74
Preterm	18	40.0	15	33.3	0.66
PROM	2	4.4	1	2.2	-
RH negative	2	4.4	0	0.0	0.49

Abortion was 12(26.7%) versus 0 cases in adult group. The p value was highly significant i.e. 0.006. Anemia in adolescent group was 7(15.6%) versus 5 (11.1%), Incidence of PIH was same in both the groups i.e. 6(13.3%) versus 5(11.1%) in adult group.

Preterm labor in adolescent group was 18(40%) which was higher when compared to adult group 15(33.3%), PROM was almost similar in both the group.

TABLE - IV

DISTRIBUTION OF ADOLESCENTS AND ADULTS ACCORDING TO MODE OF DELIVERY					
Mode of delivery	Adolescents	%	Adult	%	Total
Elective LSCS	2	4.9	3	6.8	5
Emergency LSCS	16	39.0	16	36.4	32
Vaginal Delivery	12	29.3	20	45.5	32
PTVD	7	17.1	4	9.1	11
Instrumental delivery (Vacuum Delivery & Outlet Forceps)	4	9.8	1	2.3	5

The Number of elective LSCS and emergency LSCS in both the groups were all most similar, normal vaginal deliveries were more in adult pregnant woman.

Preterm Vaginal Deliveries was more in adolescent as see in table, Instrumental deliveries were even more in adolescent group.

TABLE - V

COMPARISON OF PERINATAL OUTCOME BETWEEN ADOLESCENTS AND ADULTS

Complications	Adolescents	%	Adult	%	Total	p-value
Prematurity	19	42.2	12	26.7	31	0.18
Low birth weight	18	40.0	12	26.7	30	0.26
Birth asphyxia	15	33.3	8	17.8	23	0.14
Perinatal fetal loss	1	2.2	0	0.0	1	-
Multiple anomalies	2	4.4	0	0.0	2	0.49

Prematurity was 19(42.2%) V/S 12(26.7%), LBW which includes premature, Short for gestational age and IUGR babies, i.e., 18(40%) V/S 12 (26.7%).

Birth asphyxia in 15(33.3%) V/S 8(17.8%), fetal distress 10(22.2%) V/S 9(20%), Perinatal fetal loss 1(2.2%) V/S 0 (00%), congenital anomalies 2(4.4%) V/S (0) .

DISCUSSION: In present study the mean age of adolescent gravid is 18.69 and that of adult is 23.27. We did not find any significant difference in registration between adolescent and adult group .Did not come across any unmarried adolescent mother in our study. It is common practice for unmarried mother to go for termination of pregnancy .No abortion was found in any age group. Incidences of anemia, preclampsia were found to be higher than the adults in the present study. This is in accordance previous studies (7,10,11,13,14,15,16,19,20). And contrast other shows no difference in incidence of anemia (12, 15). Regarding the mode of delivery incidence of cesarean section was similar in both groups. This is in accordance to previous studies. (12, 13, 15, 16). Whereas other have shown less incidence of cesarean section (9, 10, 13, 17, 19, 21). Were as instrumental deliveries were more in adolescent group which is similar to some authors (7, 9, 11, 13, 15, 17). This could be due to under development of pelvis in adolescent mothers. others have shown no significant difference in the mode of delivery between two groups (9,11,12, 13, 14, 21). The common indication of cesarean was CPD followed by fetal distress. Incidence of preterm delivery is higher this is in accordance with previous studies (7,8,10,11,13,14,16,18,19,20,21). Other have shown no significant statistical significance in preterm delivery in two groups (12,15,17,18). Immaturity of the uterine and cervical blood supply may predispose adolescent mothers to subclinical infection, an increase in prostaglandin production, and a consequent increase in the incidence of preterm delivery (7,14, 15). Many studies have reflected poor perinatal outcome in the form of preterm delivery , LBW and increased perinatal mortality (7,8,9,10,11,16,19,20,21). Which is in accordance with the present one; whereas others found significance between two groups (12, 14, 15,17,18) .

LIMITATION: The primary limitation of the study was that , it is a hospital based study and it may not truly reflect the prevailing situation in a community. Another limitation of the study was that sample size was less.

CONCLUSION: Adolescent pregnancy is upcoming topic associated with multiple maternal and perinatal poor outcome so we should take steps not only to improve the reproductive outcome but also reduce incidence of adolescent pregnancy by increasing public awareness, ensuring female education and enforcing marriage law. Adolescent pregnancy need to be tackled as a priority to ease the burden of socioeconomic and health problems.

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