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A Retrospective Study of Obstetrical and Perinatal Outcome in Adolescent Pregnancy in a Tertiary Care Hospital

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Abstract: ***Introduction:*** *Adolescence Means A Transitional Stage Of Physical, Psychological And Physiological Development, Involving Biological, Social And Mental Changes. Pregnancy In This Transitional Stage Puts Them In A Stressful Condition. Teenage Pregnancy Is A Common Public Health And Social Problem With Adverse Medical Consequences Worldwide.*
Materials and Methods: *This is a retrospective study conducted at a tertiary care teaching hospital in rural India between April 2017 and March 2018. Adolescent primigravidae (age 15-19 years) completing 28 weeks of gestation with singleton pregnancy were included in the study group. Primigravidae aged between 20 and 25 years were taken as a control group. Age between 20-25 years was taken as the control group as this age group was considered low risk for pregnancy. The factors excluded from the study group were, pregnancies complicated with overt diabetes, chronic hypertension, renal, thyroid, cardiac diseases.*
Results: *Of 8,567 women who gave birth during the 1-year study period, 450 women were adolescents, giving a pregnancy rate of 18.3% during the study period. Mean age of the adolescents was 18.2 years. (Table1) presents the demographic characteristics of the subjects and the antenatal care they had received (Table 1). In present study, all the mothers were married in both the groups. The mean duration between the marriage and the conception was 3.5±1.2 months in adolescent group and 8.6±1.5 months in adult group. The low socioeconomic status was significantly higher in adolescent group in comparison to control group. In present study, approximately 76% adolescent mothers received antenatal care as compared to 84% in control group.*
Conclusion: *Adolescent pregnancy is associated with poorer feto-maternal outcomes. Regular antenatal visits, adequate nutritional supplementation and early detection of high risk factors may contribute in decreasing the obstetric risk of childbirth in adolescent mothers.*
Key Words: *Adolescence, Primigravidae, singleton pregnancy, feto-maternal outcome.*

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I. Introduction

WHO defines the period between 10-19 years of age as the adolescent period also called as teenage. Adolescence means a transitional stage of physical, psychological and physiological development, involving biological, social and mental changes. Pregnancy in this transitional stage puts them in a stressful condition. Teenage pregnancy is a common public health and social problem with adverse medical consequences worldwide. [1]

WHO estimates that risk of death following pregnancy is twice as great for women between 15 to 19 years than those between 20 to 24 years.[1] The incidence of teenage pregnancy shows marked variation, in developed and developing countries. In India, incidence of teenage pregnancy varies from 3.2% to 18.6%.[2]

According to the UNICEF 2011 report, the adolescent population in India is 20% of the total population i.e. almost 243 million. 27% of girls aged 15 to 19 years are married with a birth rate of 45 per 1000 girls in this age group.[3] Early marriages are a long established custom in India resulting in the high incidence of teenage pregnancy. The rate is higher in the rural than in urbanized areas. Despite the law, the problems of teenage marriages and subsequent pregnancies are widely prevalent in India.[3]

II. Materials And Methods

This is a retrospective study conducted at a tertiary care teaching hospital in rural India between April 2017 and March 2018. Adolescent primigravidae (age 15-19 years) completing 28 weeks of gestation with singleton pregnancy were included in the study group. Primigravidae aged between 20 and 25 years were taken as a control group. Age between 20-25 years was taken as the control group as this age group was considered low risk for pregnancy.

Exclusion criteria

The factors excluded from the study group were, pregnancies complicated with overt diabetes, chronic hypertension, renal, thyroid, cardiac diseases.

The factors under study included demographic data, obstetric complications like pre-eclampsia, eclampsia, severe anaemia, mode of delivery, intrapartum and postpartum complications, neonatal outcomes including low birth weight, APGAR score at 1minute and 5 minutes, neonatal intensive care unit (NICU) admissions and still birth.

Statistical analysis

The data were compiled and analyzed using the SPSS 19. For comparison, chi-square test and unpaired t-test were used for qualitative and quantitative data, respectively. The association was considered significant at P-value <0.05.

III. Results

Of 8,567 women who gave birth during the 1-year study period, 450 women were adolescents, giving a pregnancy rate of 18.3% during the study period. Mean age of the adolescents was 18.2 years.

(Table1) presents the demographic characteristics of the subjects and the antenatal care they had received (Table 1). In present study, all the mothers were married in both the groups.

The mean duration between the marriage and the conception was 3.5±1.2 months in adolescent group and 8.6±1.5 months in adult group. The low socioeconomic status was significantly higher in adolescent group in comparison to control group. In present study, approximately 76% adolescent mothers received antenatal care as compared to 84% in control group.

S.No	Variables	Age (15-19 years) (N=450)	Age (20-25 years) (N=460)
1	Maternal age (Mean)	18.1 years	21.4 years
2	Antenatal care received	76%	84%
3	Marital status (married)	100%	100%
4	Time interval between marriage and conception	3.4±1.2 months	8.7±1.5 months
5	**Socioeconomic status**		
6	Below poverty line	11%	80%
7	Low class	68%	60%
8	Middle class	20%	32%

Table 1: Demographic and antenatal backgrounds of study and control groups

S.No	Variables	Age (15-19 years) % (n=450)	Age (20-25 years) % (n=460)	P value
1	Pre-eclampsia	12.7	8.4	0.03
2	Eclampsia	3.5	1.5	0.01
3	Antepartum haemorrhage	1.21	0.9	0.75
4	Severe anemia	2.42	3.03	0.42
5	Vaginal delivery	71.5	70.3	0.73
6	Cesarean section	24.8	25.6	0.8
7	Vaginal instrumental delivery	3.6	4	0.74
8	Post-partum haemorrhage	1.7	1.2	0.4
9	Preterm delivery	18.5	10.4	0.009

Table 2: Represents the obstetrical characteristics of adolescent mothers and those of adult women aged 20-25 years

S.No	Variables	Age (15-19 years) % (n=450)	Age (20-25 years) % (n=460)	P value
1	Low birth weight	38.2	24.1	0.001
2	Very low birth weight	13.5	8.5	0.01
3	APGAR (<7 in 1 minute)	12.2	13	0.78
4	APGAR (<7 in 5 minutes)	3.5	3.9	0.86
5	NICU admission	20.7	12.4	0.005
6	Still birth	3.65	2.43	0.69

Table 3: Represents the perinatal complications of the adolescent mothers and those of women age 20-25 years

(Table 3) represents the perinatal complications of the adolescent mothers and those of women aged 20-25 years. The incidence of preterm delivery was significantly higher in adolescent group (P=0.0009). The incidence of low-birth weight and very low birth weight was also higher in adolescent age group (P=0.00001, P=0.01) and also the NICU admission (P=0.0005).

IV. Discussion

In developing nations like India adolescent pregnancy is as yet widespread with colossal sway on maternal and child wellbeing. Consequently, adolescent pregnancy turns into a general medical issue in India and necessities are to be handled on a need to need basis. In our investigation, all the pregnancies happened within the institution of marriage, and the larger part of them (80%) got quality antenatal care in our tertiary emergency clinic.[4] In present study, the level of adolescent mothers accepting antenatal consideration is higher than the past announced literary works from India. This is because of successful execution of NRHM (NHM) scheme in this area.[5] Less unfriendly results among adolescents in present study might be because of the value of antenatal, intranatal, and postnatal consideration. The significance of value maternity care in decreasing the unfriendly results of adolescent pregnancy is featured in few reports.[6]

In present study, pre-eclampsia and eclampsia was observed to be essentially connected with adolescent mothers. This finding authenticates with past studies. Supposition with respect to the mode of delivery in adolescent pregnancy varies broadly. Various literatures cited that there is biological immaturity of the adolescent pelvis which causes cephalo-pelvic disproportion leading to an increase in caesarean section rate.[7] present study did not discover any increment in the rate of cesarean segment among adolescent mothers. This can be clarified that adolescent mothers bring forth small sized babies in comparison to other older mothers. Our finding concerning the mode of delivery is in opposition to the broadly held conviction that the adolescent mothers need cesarean delivery.[8] A comparable view has been communicated in a few different studies.[9]

In the study area, pregnancy in this age group is uncommon. Confined instances of pregnancy do happen among more adolescent, yet for the most part without any father present and likely to finish up in lawful/illicit premature birth.[10] Such adolescent mother infrequently comes to benefit human services office at a tertiary focus in light of the social shame related with it. Authors additionally did not assess the mental effect of pregnancy among adolescent mothers.[11]

V. Conclusion

Adolescent pregnancy is associated with poorer feto-maternal outcomes. Regular antenatal visits, adequate nutritional supplementation and early detection of high risk factors may contribute in decreasing the obstetric risk of childbirth in adolescent mothers.

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