

ADOLESCENT PREGNANCY AND LOW BIRTH WEIGHT

Dr. Vartika Saxena*

Assistant Professor*

Community Medicine, Era's Lucknow Medical College, Lucknow

Abstract :

Research Question : Is there any difference between educational status, Parity & obstetrical risk status between adolescent & adult pregnant women?

Is there any difference in the incidence of Low Birth weight between adolescent and adult pregnant women?

Objectives : To compare the pregnancy outcome of adolescent mothers with the adult pregnant women.

Study Design : Longitudinal descriptive study.

Setting : Sarojini Nagar Block of Lucknow District, Uttar Pradesh

Study Variable : Educational status, Parity, Obstetrical risk status, Low Birth Weight.

Statistical Analysis : Percentages & χ^2 Square Test

Results : The incidence of abortion (8.7%), still birth (6.2%) was higher in adolescent (<18yrs.) compared to adult pregnant women (>18yrs.) with abortion noted to be 3.8% and stillbirths only 3.1%. Adolescent pregnancy resulted in 5 times higher incidence of birth of low birth weight baby (<2.5kg)- incidence of LBW being 48.7% among adolescent mothers as compared to only 9.8% in adult pregnant women.

Conclusion : Adolescent pregnancies not only terminate into higher incidence of abortion and still births but is a major contributory cause of high incidence of low birth weight.

Key Words : Adolescent pregnancies, Pregnancy outcome, Low birth weight.

Introduction :

At least 17 million infants are born every year with Low Birth weight (LBW), representing about 16% of all newborns in developing countries. Major determinants of LBW in developing countries are poor maternal nutritional status at conception, low gestational weight gain due to inadequate energy intake and high energy expenditure as well as short maternal stature (1) Short stature of mothers is attributed to adverse effect of onset of pregnancy in

adolescent age on the attainment of optimum growth (2). Low birth weight is thus recognized to be an intergenerational problem. Data from developing countries on pregnancy outcome of adolescent mothers as compared to adult woman is limited despite the fact that one of the important cause of high incidence of low birth weight is early marriage and conception occurring before 18 years of age. An opportunity was therefore taken to analyze the data of adolescent pregnancies versus non-adolescent mothers in a

longitudinal follow up study of pregnant women in a northern state of India.

Material and Method :

The present study was carried out at Sarojininagar Block of Lucknow district in Uttar Pradesh a northern state of India. A total of 400 pregnant women were selected at random from those attending the antenatal clinic to study the maternal nutrition status and its impact on the pregnancy outcome. Out of these pregnant women, 51 (12.8%) were adolescent mothers (<18yrs). All the women were interviewed about biosocial characters by an oral questionnaire method. Nutritional status was assessed by measuring height and weight (5). Weight was measured by platform weighing machine and it was recorded up to the nearest of 0.5kg. Height was measured in centimeters up to the nearest of one cm, with the mother standing erect with bare feet on the floor against a measuring scale. Height less than 145 cms and weight less than 45kg were identified as "at risk" pregnancies (6). All the pregnant women were examined monthly till the termination of the pregnancies. Final delivery outcome was recorded. Weight of the baby was recorded by baby weighing machine weighing upto nearest of 100 gms. The data was analyzed in terms of pregnancy outcome of adolescent

mothers versus adult (>18-29years) mothers.

Results :

Total of 400 pregnant women were registered out of which 51 (12.8%) were adolescent girls. All the adolescent pregnant women were registered before 20 weeks of pregnancy. Out of the 400 women, 361 pregnant women were followed up till delivery. A total of 51 adolescent women were registered and 46 were traced for the final delivery outcome. Table I shows most of the adolescent girls (54.9%) were illiterate. Three (5.9%) adolescent girls were noted to be in the second parity.

As per the weight and height criteria of the obstetrical risk (10), 13.7% and 39.3% adolescent girls were at risk respectively while only 6.0% & 27.2% adult women were at risk by weight & height criteria. The rate of abortion (8.6%), stillbirth (6.6%), LBW (48.7%) were found higher among adolescent girls in comparison to the adult women. The percentage incidence of LBW was infact 5 times higher in adolescent pregnancy as compared to adult pregnancy.

Discussion :

The result of the study confirms that young maternal age is a very important etiological determinants of Low Birth Weight (LBW). The

finding indicates that one out of two adolescent pregnant women (48.7%) give birth to LBW babies and the incidence of LBW is three times higher amongst adolescent pregnancies as compared to adult pregnant women. Kushwaha (1993) reported 67% incidence of LBW in his study of 242 adolescent girls in eastern part of Uttar Pradesh. Earlier studies (3,4,11) have reported higher incidence of LBW as well as abortion among the younger age group mother due to physical immaturity. Young maternal age has been recognized as an one of the important etiological determinant of Low Birth Weight in developing countries. Improving pre-pergnancies weight and weight gains during pregnancy have been proposed as effective strategies for preventing LBW (1). This is further supported by the Technical consultation group (8), emphasizing that high energy antenatal dietary supplement, improved maternal weight gain reduces LBW and significantly reduce still birth incidence as well as neonatal deaths. Special effort therefore must be directed to provide additional food supplements to pregnant mothers who are below 18 years.

The importance of breaking the intergenerational cycle of adolescent pregnancy, LBW and undernutrition must be recognised and accorded high priority. The data of NFHS II indicates that mean age of marriage in northern

and central states range from 19.7 years in Madhya Pradesh to 20.0 in Punjab. In the state of Uttar Pradesh, the mean age marriage is 15.0 years and 60% of girls are married below 18 years. An apparent correlation is also evident between the mean age of marriage and other social development indicators such as incidence of malnutrition and literacy rate of women. High rates of adolescent pregnancies and resulting LBW must be viewed as an indicator of not only poor nutrition of children and women but of poor social status of women.

Conclusion :

Recognizing the relationship of adolescent pregnancy with the high incidence LBW we must seriously address the social issue of early marriage as well as early pregnancy. Raising the age of first conception to over 18 years must be accorded high priority in the social development programmes despite the fact that it is complex social issue. A firm policy and comprehensive programme for adolescent girls merits attention and adequate resources.

The importance of adolescent health and nutrition on overall development of women and nation is being increasingly recognized. This is well reflected in the adolescent girls scheme under the ICDS (Integrated child development & services) and the strategy of State Population

Policy. Advocacy and policy implementation for delaying the first conception to over 18 years needs to be given a very high priority since social and economic costs of adolescent pregnancies are very high. In 1978, Government of India had declared 18 yrs as the legal age of marriage for the girls but still not implemented in its full swing. All efforts must be made to implement the legal directive and address this complex social public health issue of adolescent pregnancy and low.

Acknowledgement :

Author is thankful to Dr. V .K. Srivastava, Dr. M. Z. Idris, Uday Mohan and Dr. Vidya Bhushan, Professors, Department of Social and Preventive Medicine, K. G. Medical College, Lucknow for providing the guidance to conduct the study. Author is also grateful to Dr. Sheila Vir, ^{UNICEF, Lucknow} Project Officer (Nutrition) for being instrumental in writing of this paper.

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TABLE-I

A comparison of Educational Status, Parity, Obstetrical risk Status and pregnancy outcome between Adolescent and Adult pregnant women.

S. No	Character	Adolescent women (<18 years) N = 51		Adult Women (>18-36 Years) N = 349		P Value
		No.	%	No.	%	
1	Educational Status					$X^2 = 0.10$ $p > .05$
	Illiterate	28	54.9	195	55.8	
	Literate	23	45.1	154	44.2	
2.	Parity					$X^2 = 81.79$ $p < 0.001$
	Primiparous	48	94.1	100	28.6	
	Second parity & above	3	5.9	249	71.3	
3.	Obstetrical risk Status					
	Women at risk by Height criteria (<145cm.)	7	13.7	21	6.0	$X^2 = .046$ $P > .05$
	Women at risk by Weight criteria(<45Kg.)	30	58.8	95	27.2	$X^2 = 21.4$ $p < 0.001$
4.	Pregnancy Outcome	Adolescent women (<18 years) N = 46		Adult women (>18-29 years) N = 254		
	Live Birth	39	84.8	234	92.1	$X^2 = 1.8$ $P > .05$
	LBW	19	48.7	25	9.8	$X^2 = 41.5$ $P < 0.001$
	Abortion	4	8.7	12	3.8	$X^2 = 2.24$ $P > .05$
	Still Birth	3	6.6	8	3.1	$X^2 = .02$ $P > .05$
