

Original article

Obstetric Profile of Primi Teenage and Non-teenage mothers: A comparative study from Maharashtra, India

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Abstract:

Introduction: Early marriages and teenage pregnancies are important contributing factors for high maternal as well as neo-natal morbidity and mortality. **Objectives:** To assess the magnitude of obstetric profile of teenage and non-teenage primi mothers and to determine the association among them. **Methodology:** A cross-sectional study was conducted at OB/Gynac clinic Krishna hospital Karad over a period of first quarter of year 2012. 93 eligible teenage primi mothers and equal number of non-teenage primi mothers admitted to Krishna hospital for delivery were enrolled, interviewed and observed for socio-demographic, obstetric outcome and its complications by investigator according to pre-designed structured proforma. Frequency percentage distribution and association was determined by applying tests of significance. **Observations:** Magnitude of teenage primi pregnancy was 6% during study period and most of them 92.50%, 76.30% and 46.20% were Hindus, housewives and belonged to lower class by religion, occupation and economically with mean age at marriage and delivery was 17.8 yrs and 18.8 yrs respectively. Max. 81.7% teenage primi mothers were anaemic and the percentage of obstetric complications like PIH, Oligohydramnios, PROM, Foetal distress among teenage primi mothers was 24%, 8.6%, 1%, and 6.4% which was higher than non-teenage mothers. IUGR, cord prolapse, breech presentation and abruption placenta also reported among teenage primi mothers, however absent among non-teenage mothers. Max 55.9% teenage mothers were delivered before expected date of delivery and proportion of low birth weight baby was also high (39.8%) in teenage mothers than non-teenage mothers. Chance of delivery of male baby also increases as age at marriage increases. **Conclusion:** Adolescent pregnancy is an issue that calls for more education & support to encourage girls to delay motherhood until they are ready.

Keywords: Teenage, Primipara, Obstetric profile, Anaemia

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Introduction:

The transition from childhood to adulthood may be referred to as 'adolescence' or 'teenage', which has been defined by the World Health Organization as the period between 10-19 years¹. The structural, functional, and psychosocial developments occurs in this period, however teenage pregnancy assuming additional responsibility of motherhood. Early mar-

riage and teenage pregnancies are contributing factors for high maternal and neo-natal mortality and morbidity². Teenage pregnancy is pregnancy in a female/girl under the age of 20 yrs (when the pregnancy ends)³.

Teenage pregnancy rates vary between countries because of differences in levels of sexual activity, general sex education provided and access to afford-

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able contraceptive options. Teenage pregnancy is a fairly common occurrence in India, due to factors such as early marriage, poor education, lack of health care services, poverty, cultural factors etc⁴⁻⁵. Similarly due to environmental and geographical influences, girls reaching the puberty at younger age and high specific fertility rate in such age group observed. Save the Children found that, annually, 13 million children are born to women under age 20 worldwide and among them, >90% teenage deliveries mainly from developing countries⁷ and the complications of pregnancy and childbirth are the leading cause of mortality among women between the ages of 15 and 19 in such areas⁸. In India teenage pregnancy rate varies from 8 – 14%. The obstetric outcome of teenage pregnancy is influenced by factors such as socio-demographic, economic, health care and others. Maternal and perinatal morbidity & mortality in teenagers is influenced by medical complications like toxemia, anaemia, cephalopelvic disproportion (CPD) and social problems viz. out of wedlock pregnancy, unwanted pregnancy etc⁶. In view of this, a study was organised to collect and provide the data to health care providers in respect to magnitude of teenage primi pregnancy, its complications and outcome among the mothers residing in rural area and compare it with non-teenage primi mothers with age more than 20 yrs but less than 30 yrs from same area for decision on health of teenage pregnancy and making the farm policy to avoid its bad influences on mother and child if any.

Material & Methods:

A Cross-sectional study was conducted at Ob/Gynac dept. of Krishna Hospital, Karad among primi teenage and non-teenage pregnant mothers during first quarter of year 2012. Total 93 teenage primi mothers admitted for delivery during study period and equal number of non-teenage primi mothers, age > 20 but < 30 yrs for the same without any systemic illness were enrolled for present study. After obtaining the permission from Medical Director Krishna hospital, data was collected from study subjects by using a pre tested, structured proforma after verbal consent. The proforma include socio-demographic, economic, reproductive as well as information related to complications of pregnancy and outcome of it. The data was collected by investigator from study subjects in the presence of female relatives in hospital by personal interview method and complications of pregnancy and its outcome was reported by per-

sonal observation as well as case paper records under the supervision of treating Gynaecologist and Paediatrician.

Ethical considerion: Clearance for the study was taken from the Institute Ethical Committee and from the hospital authority. Informed verbal consent was taken from the subjects.

Statistics: Data so collected was compiled into MS Excel & analysed by applying statistical software SPSS Version 17. Frequency percentage distribution, mean, SD was calculated. Student t test was applied to find out difference and chi-square test was applied to determine the association.

Results:

Total 93 teenage primi mothers were delivered at Krishna hospital, Karad during study period which came around 6% of total deliveries. Mean age at marriage and primi delivery was 17.8 and 18.8 yrs among teenage, however it was 20.5 and 21.9 yrs among non-teenage mothers. Majority of mothers were Hindu and housewives but 46.2% teenage were from low economic class (Modified B.G Prasad classification). Majority of mothers were literate however proportion of graduation was higher (22.6%) among non-teenage mothers whereas proportion of tobacco use was higher (23.65%) among teenage mothers. Significant difference was observed between age at marriage, age at primi delivery, education and use of tobacco among teenage and non-teenage mothers (Table 1).

Table 1: Demographic and Reproductive distribution of study subjects

Study Variable		Teenage primi mothers Freq. (%)	Non-teenage primi mothers Freq.(%)	Tests of significance
Mean age at delivery (in years)		18.8 (SD=0.39)	21.9 (SD=1.96)	t=14.95, p=0.001*
Mean age at marriage (in years)		17.8 (SD=0.39)	20.5 (SD=1.76)	t=14.44, p=0.001*
Religion	Hindu	86 (92.5)	82 (88.2)	X ² =0.98, p > 0.05
	Muslim	07 (7.5)	11 (11.8)	
Occupation	Housewife	71 (76.3)	79 (84.9)	X ² =2.20, p > 0.05
	Agriculture	22 (23.7)	14 (15.1)	
Socio-economic status	Upper class	50 (53.8)	62 (66.6)	X ² =3.2, p > 0.05
	Lower class	43 (46.2)	31 (33.3)	
Education	Illiterate	06 (6.5)	05 (5.4)	X ² =9.05, p =0.02*
	Primary	07 (7.5)	02 (2.2)	
	Higher- secondary	72 (77.4)	65 (69.9)	
	Graduation	08 (8.6)	21 (22.6)	
Tobacco use	Yes	22 (23.65)	08 (8.6)	X ² =7.79, p =0.02*
	No	81 (76.35)	85 (91.4)	

Proportion of Anaemia was high (81.7%) among teenage mothers as compared to non-teenage mothers (31.2%) and obstetric complications also high (48.32%) among teenage mothers than non-

teenagers (24.73%). Among the teenagers proportion of obstetric complications like PIH (24%), Oligohydramnios (8.6%), Fetal distress (6.4%) was high than non-teenagers. However IUGR, cord prolapse, breech presentation and abruption placenta also reported among teenage mothers. The statistical association was found significant among teenage & non-teenage mothers in respect to anaemia & complications of pregnancy (Table 2).

Table 2: Anaemia and Obstetric Complications of pregnancy among teenage and non-teenage mothers

	Teenage primi mothers Freq. (%)	Non-teenage primi mothers Freq. (%)	X ² , (p value)
Anaemia: Present (<11g %) (Aḡḡḡḡ)	76 (81.7) 17 (18.3)	29 (31.2) 64 (68.8)	48.3, (0.001*)
Obstetric Complications: Present Absent	45(48.38) 48 (51.62)	23(24.73) 70 (75.27)	10.22, (0.001*)
PIH	23 (24)	13 (13.9)	
Oligohydramnios	08 (8.6)	05 (5.3)	
PROM	01 (1.0)	01 (1.0)	
Fetal distress	06 (6.4)	04 (4.3)	
IUGR	02 (2.1)	00 (0)	
Cord prolapse	01 (1.0)	00 (0)	
Breech presentation	03 (3.2)	00 (0)	
Abruption placenta	01 (1.0)	00 (0)	

Max, 55.9% teenage mothers were delivered before EDD, whereas max, 50.5% non-teenage mothers were delivered on EDD and proportion of mode of delivery by LSCS was higher (36.6%) in teenage mothers as compared to non-teenage mothers (21.5%). The proportion of LBW was high (39.8%) in teenage mothers as compared to non-teenage mothers(16.1%), however proportion of delivery of male baby was high in non-teenage mothers(66.7%) as compared to teenage mothers(49.5%). The significant statistical association was existed between time of delivery, mode of delivery, gender and birth wt of baby among teenage and non-teenage primi mothers (Table 3).

Table 3: Obstetric profile of teenage and non teenage primi mothers

Obstetric Profile		Teenage mothers Freq. (%)	Non-teenage mothers Freq. (%)	X ² test, (p value)
Delivery	Before EDD	52 (55.9)	41 (44.1)	6.25,(0.04*)
	On EDD	31 (33.3)	47 (50.5)	
	After EDD	10 (10.8)	05 (5.4)	
Type of delivery	Vaginal	59 (63.4)	73 (78.5)	4.41,(0.03*)
	LSCS	34 (36.6)	20 (21.5)	
Outcome	Live birth	90 (96.8)	92 (98.9)	1.02,(0.31)
	Still birth	03 (3.2)	01 (1.1)	
Gender of baby	Male	46 (49.5)	62 (66.7)	5.65,(0.01*)
	Female	47 (50.5)	31 (33.3)	
Birth weight	LBW	37 (39.8)	15 (16.1)	12.9,(0.001*)
	Normal wt.	56 (60.2)	78 (83.9)	

Discussion:

Present study revealed the proportion of teenage primi pregnancy was 6%, similar observations also reported by Chahande MS et al⁹. among primi pregnancies delivered in Nagpur. Bhalerao AR et al⁶. found 200 teenage deliveries over a period of four months in Mumbai, however Dhuhashi SS et al³. found 4.4% teenage pregnancy rate in Mumbai over a period of one year. The difference in results was mainly due to rural study area and duration of study. Mean age at marriage and primi delivery among teenage mother was 17.8 and 18.8 yrs in our study and results were comparable with study conducted by Chahande MS et al⁹ (16.5yr & 18.5yr). Study found high proportion (46.2%) of teenage mothers were from lower economic class as compared with non-teenage and similarly proportion of tobacco use was higher(23.65%) among teenage mothers and difference was significant(p<0.05). similar observations also reported by Chahande MS et al⁹, Pal A et al¹⁰. and Asha Pratinidhi¹¹ among teenage mothers.

Our study revealed proportion of anaemia and overall complications during pregnancy among teenage mothers were 81.7% and 48.38% and which was higher as compared to non-teenage mothers and difference was significant(p<0.05). The individual proportion of complications of pregnancy like PIH, Oligohydramnios, Fetal distress was 24%, 8.6% and 6.4% among teenage mothers. Study conducted by Bhalerao AR et al⁶. found 25.5% mothers were anaemia and toxemia of pregnancy was seen in overall 10% teenage mothers. Dhuhashi SS et al³. also found 13.3% teenage mothers with PIH and anaemia was reported in 31% mothers where as 15% teenage mothers were suffering from PIH was observed by Pal A et al¹⁰. The difference in proportion of anaemia was mainly due to rural residence, poverty, low level of education, cultural and faulty cooking and dietary factors. The difference in proportion of PIH was mainly due to anaemia. Proportion of IUGR was 2.1% in our study and comparable observations also reported by Bhalerao AR et al⁶. as 1.5% among teenage mothers. Proportion of delivery by caesarean section was higher, 36.6% among teenage mothers as compare to non-teenage and difference was significant (p<0.05), however a study conducted by Bhalerao AR et al⁶. was found 6% rate of caesarean section among teenage mothers

and difference was mainly due to high proportion of complications of pregnancy in our study like PIH, anaemia, pre-term labour etc. Still birth rate was 1.25% in our study and which is higher than non-teenage mothers and comparable observations also reported by Chahande MS et al⁹. and Ambadekar NN et al¹². as 2.4% and 3.2%. Complications of pregnancy, anaemia and use of tobacco mainly responsible for still birth. Pre-term labour was found in 55.9% teenage mothers and which was higher as compared to non-teenage mothers and difference was significant ($p < 0.05$), however proportion of pre-term labour was 4.6%, 10% and 16% in teenage mothers among study conducted by Ambadekar NN et al¹². Dhubashi SS et al.³ and Bhalerao AR et al⁶. and difference in results was mainly due to anaemia, PIH, lack of access to health care services, poor nutrition, deficit in health care services or poverty.

Present study found 39.8% babies born to teenage primi were having Low birth weight as compared to non-teenage and difference was significant ($p < 0.05$). Study conducted by Ambadekar NN et al.¹², Bhalerao AR et al.⁶ and Sarkar CS et al.¹³ observed proportion of

LBW babies was 39.5% , 46.2% and 30% among teenage mothers and results were comparable with our study. Chance of delivery of male baby was increased as age at marriage and delivery increased and this was observed in our study ($p < 0.05$), however not a single study yet observed such finding.

Conclusion:

The teenage pregnancy is most important cause for high maternal complications during pregnancy and it also affects the outcome of delivery. Chance of delivery of male baby increases as age at marriage and delivery increases. Need to highlight the issues related with teenage pregnancy and develop a firm health policy to avoid morbidity and mortality associated with teenage pregnancy.

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