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Comparison Of Outcomes Of Teenage And Non-Teenage Pregnancies At A Rural Maternity Hospital In Ramnagara District, Karnataka – A record Review

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Abstract

Introduction: Pregnancy that occurs in the ages of 13-19 years is considered as teenage pregnancy. Pregnancy and child birth related complication are the second biggest causes of death among this age group. India ranks first among countries with the highest number of teenage pregnancies, most of who are from rural areas.**Objectives:**To assess the socio-demographic profile and the outcomes of teenage pregnancies and to compare the outcomes of teenage pregnancies with non-teen pregnancies in a rural area.**Methodology:**This study was a retrospective record review, conducted in a rural maternity hospital in Ramnagara district of South Karnataka. Hospital records for the past one year were reviewed for outcomes of deliveries. A proportion of 1:2 (one teen: two non-teen pregnancies) was maintained while collecting the data after obtaining permission from the hospital authorities. Data was entered in MS Excel and analyzed using standard statistical packages.**Results:**Among the 45 teenage and 92 non teenage pregnancies, 55.5% and 60.9% had completed school education and mean age of marriage was 17.8 years and 20 years respectively. Among teenage and non-teenage pregnancies respectively, 4.4% and 17.4% had anemia, 97.8% and 94.6% were term deliveries, 82.2% and 87% had normal delivery, 8.9% and 4.3% had postpartum hemorrhage and 13.3% and 25% had low birth weight babies. Teen and non-teen pregnancies were not significantly associated with any of the socio-demographic factors or other factors like anaemia, type of delivery, term of delivery, birth weight of the baby, complications in mother and baby.**Conclusion:**Teen mothers had a higher proportion of PPH as compared to non-teens, but there was no statistically significant difference in the outcomes of teen and non-teen pregnancies. This could be attributed to the fact that all the teen pregnancies in the present study were above the age of 18 years.

Key-words: Teenage, pregnancy, rural, record review.

Introduction

The World Health Organization defines adolescence as the age group of 10-19 years.Pregnancies that occur during these ages are referred to as adolescent pregnancies. India accounts for about 20% of the world's adolescent girl population according to 2010 data, making it one among the top ten countries in the world with the greatest number of adolescent girls[1].According to UNICEF, worldwide 14 million children are born to teenage women[2].In India, teenage pregnancy constitutes 8-14% of total pregnancies. Complications of pregnancy and childbirth in teenagers are the leading cause of mortality among women in India. Hence teenage pregnancy is a serious problem in developing countries like India[3].Adolescent girls face higher risks during pregnancy and motherhood like maternal anemia, preterm birth, complications of caesarean section and maternal death. Teen pregnancy leads to violations of right to education, employment and poor reproductive health. There are also complications for the newborn like low birth weight, prematurity and high rates of perinatal and neonatal mortality. Emphasis on maternal and child health has been given by the Indian government with the introduction of programs and government schemes like including RMNCH+A. While there is reduction in the maternal and infant mortality rates in the country[4], the sheer numbers of teenage pregnancies remain high. However, the increasing education levels and increasing prosperity in rural areas around cities, a need was felt to document and compare the outcomes teenage and non-teenage pregnancies in this setting. **Objectives**: To compare and contrast the maternal and fetal outcomes of teenage and non-teenage pregnancies in a rural maternity hospital in South Karnataka.

Methods

The in-patient records maintained at a private rural maternity hospital located inRamnagara district in South Karnataka were reviewed retrospectively for the last one year for outcomes of deliveries conducted in that hospital. For the purpose of this study, pregnant women upto 19 years of age were considered as teenage and those above 19 years were considered as non-teenage pregnancies. It was decided to review records over a one year period, and therefore a sample size was not calculated, instead all the teen pregnancies in that period were included in the study.A proportion of 1:2 (one teen: two non-teen pregnancies) was maintained while reviewing the records after obtaining permission from the hospital authorities. Information collected from records included socio-demographic and obstetric details, HIV/HBsAg/VDRL status, hemoglobin level and outcomes in terms of pregnancy outcomes (abortion/live birth/still birth), term(full term/ pre term/post term), type of delivery (normal/caesarean/ vacuum delivery),birth weight of the baby, congenital anomalies, intra natal complications, post natal complications and complications in the baby. Data was entered in MS Excel and analyzed using Statistical Package for Social Sciences (SPSS) version 16. Descriptive statistics such as mean and standard deviation were computed for quantitative variables.Various outcomes among teenage and non-teenage pregnancies were compared using Chi-square/Fisher's exact test and Odd's ratio as appropriate. A probability level $p<0.05$ was considered for statistical significance.

Results

A total of 137 in-patient delivery records were analyzed which included 45 teenage and 92 non-teen pregnancies. The mean age of the teenage mothers was 18.96±0.21 (18-19) years and mean age of the non-teenage mothers was 22.9±2.83 (20-30) years.Socio-demographic profile of the teenage and non-teen pregnant women is given in Table 1.

Table 1: Socio-demographic variables among teenage and non-teenage pregnancies

Variable	Category	Teenage pregnancy (n=45)	Non-teen pregnancy (n=92)	p value
Highest education	Upto 10th standard	25(55.6%)	56(60.9%)	0.552[a]
	PUC and above	20(44.4%)	36(39.1%)	
Occupation	Home maker	45 (100%)	89(96.7%)	0.551[b]
	Gainfully employed	0	3 (3.3%)	
Marital status	Married	45 (100%)	92 (100%)	
	Unmarried	0	0	-
Age at marriage	<18 years	6 (13.3%)	3 (3.3%)	0.059[b]
	≥ 18 years	39(86.7%)	89(96.7%)	

a = Chi-square test, b= Fisher's exact test

Table 2: Obstetric variables among teenage and non-teenage pregnancies

Variable	Category	Teenage pregnancy (n=45)	Non-teen pregnancy (n=92)
Gravida	Primigravida	44 (97.8%)	48(52.2%)
	Multigravida	1 (2.2%)	44(47.8%)
History of abortion	Yes	1 (2.2%)	10 (10.9%)
	No	44 (97.8%)	82 (89.1%)
Hemoglobin status	< 11g/dl	2 (4.4%)	16 (17.4%)
	≥ 11g/dl	43 (95.6%)	76 (82.6%)

Table 3: Pregnancy outcomes of teenage and non-teenage pregnancies

Variable	Category	Teenage pregnancy (n=45)	Non-teenage pregnancy(n =92)	Odd's ratio (95% CI)
Term of delivery	Full term	44(97.8%)	87(94.6%)	-
	Preterm/ post term	1 (2.2%)	5 (5.4%)	0.39 (0.04-3.48)
Pregnancy Outcome	Live birth	45 (100%)	91(98.9%)	-
	Still birth	0	1 (1.1%)	0.98 (0.97-1.01)
Type of delivery	Normal delivery	37(82.2%)	80 (80.7%)	-
	Caesarean section	5 (11.1%)	9 (9.8%)	0.833 (0.26-2.66)
	Forceps delivery	3 (6.7%)	3 (3.3%)	0.46 (0.89-2.4)
Birth weight of the baby	<2500 grams	6 (13.3%)	16 (17.4%)	0.46 (0.17-1.23)
	≥ 2500 grams	39 (86.7%)	76 (82.6%)	-

All the teenage and non-teenage mothers were married. There was no significant difference in education, occupation and age at marriage between teenage and non-teenage pregnancies. The details obtained from teen and non-teen pregnancy records were described in Table 2. Blood tests including HIV/AIDS, HBsAg were found to be negative and VDRL was found to be non-reactive for all the pregnant mothers.The pregnancy outcomes of both groups were recorded and analyzed. The details are depicted in table 3.

Details of intra natal and post natal complications among the teenage and non-teenage mothers and congenital abnormalities in the baby were also explored. Among teenage pregnant mothers, 4(8.9%) reported to have postpartum hemorrhage while no intra natal complications and congenital anomalies among babies were reported. Among non-teenage mothers, intra natal complication 1(1.1%), congenital anomalies 2(2.2%) and 4(1.1%) postpartum hemorrhage were reported.

Discussion

According to our record review, all the women both teenage and non-teenage had received formal education. Studies have shown that, higher level of education expected out of the younger generation than in the past drives them to obtain at least secondary school education. Parents and community are recognizing the importance of education and are discouraging early marriage and child bearing. Governments have accepted the need to improve the status and health of women and policy makers are increasingly focusing their attention on the situation of youth, especially that of girls and young women[5].While all the teen pregnant women were homemakers, 3(3.3%) of the non-teenagers were gainfully employed. Teenage pregnancy hampers further employment opportunities and makes them economically dependent on their families. In a study conducted in rural Karnataka, 90.2% teenage mothers were housewives[6].

In the present study, 55.6% of teenage mothers had school education up to tenth standard and 44.5% had attended PUC.But none of the teenage mothers were working at the time of pregnancy. In a study conducted in Bhopal, average age of marriage was 17.55 years and 80.95% of teenagers were uneducated. Only 2.9% of the teenage mothers were employed and they were laborers[7]. All were married and majority of the teenagers (86.7%) got married at the legal age of 18years while majority of the non-teenage pregnant women,(85.1%) got married above 18 years of age. This indicates that the teenage pregnancies in our study were due to immediate pregnancy after marriage at the legal age rather than marriage before legal age.

Due to improved education and awareness levels, marriages are occurring at or after the age of 18 years, which is why the pregnancies in our study have all occurred after the age of 18 years.

The pregnancy outcomes of the two groups also did not have marked differences. Majority were full term normal deliveries for both the groups. This may be because of the effective utilization of the antenatal care services which had a positive influence on the health of the mother and child.Complications associated with pregnancy (like preterm labor, hypertensive disorders of pregnancy, Premature Rupture of Membrane, abortion and anemia) can be prevented, diagnosed and managed timely with proper antenatal visits[7].In our study,4.4% of teenage pregnant women were anaemic compared to 17.4% among non-teen pregnant women. There is evidence that teenage pregnant women can have healthier reproductive history due to special attention and greater care[8]. In the current study setting, services available at low-cost, early registration and ante-natal care including timely intake of iron and folic acid by teenage women may have played a role in reducing anemia. Healthy timing and spacing between pregnancies (HTSP) is important toavoid maternal anemia[9]. Prevalence ofanemia is higher among pregnant women with short pregnancy interval and higher parity[10]. Among the non-teen pregnant women in our study,47.8% were multiparous and therefore more likely to have been anaemic. Unmet needs of post-partum spacing also results in low birth weight (LBW) babies[9]. This could be the reason for having higher LBW babies among non-teen pregnant women compared to teens in our study.Both teenage and non-teenage pregnant women may have had adequate institution based antenatal care equally in the present study setting probably leading to no significant difference in delivery outcomes between the age groups.Teenage and non-teenage pregnancies were not significantly associated with any of the socio-demographic factors.In this study, 8.9% of teenage women had post-partum hemorrhage while a study conducted in Ahmedabad reported only 2.1%. But this result was not statistically significant[11]. According to a study conducted in Varanasi, teenagers who are younger ($\leq$ 17 years) are most vulnerable to adverse obstetric and neonatal outcomes. Increased neonatal morbidity and mortality were also seen in babies delivered to those teenage mothers. In the present study, all the teenage pregnant women were 18-19 years of age. Therefore the different adverse outcomes described in other studies pertaining to teenage pregnancies were not evident[12].The better education status of the teenage mothers in the present study may also be the reason for better outcomes[8].In a study conducted in Karnataka on maternal and fetal outcomes of teenage pregnancy, majority of the deliveries were reported to be normal vaginal deliveries and majority were healthy babies which is similar to our study findings[3]. Another study conducted in a different setting also reported that the birth outcomes of early adolescent pregnancies (15 years and younger) were poorer than for pregnant women between 16-19 year of age.This also supports the present study findings were the teenage pregnancies were above the age of 18 years[10].

Limitations: Lack of data regarding previous antenatal checkups, insufficient data regarding identification and management of any complications during antenatal period prior to admission for delivery

Conclusion

Though not statistically significant, a higher proportion of teenage mothers presented with PPH in comparison to non-teenage mothers. All other outcomes like still birth, low birth weight, pre term delivery and complications of delivery were found to be not different between teenage and non-teenage mothers. This may be due to the fact that the teenage deliveries

in our study were all above the age of 18 years. But the findings cannot be generalized.

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