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Clinical study of teenage pregnancy and its outcome

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ABSTRACT

Aim and Objectives: To assess the quantum of problem of teenage pregnancy. To ascertain the different risk factors associated with teenage pregnancy. **Materials and methods:** It is a prospective controlled assessment of obstetric behaviour and outcome of teenage pregnancies over a period of four month. **Results:** Emergency / unbooked admissions are more in teenagers 61.8% than in adult group 42.7%. Number of late teens are more than early teens. Predominant group distributed based on age is between 20-25 years teenagers comprising of 9.53%. Teenage pregnant woman have a low literacy percentage than the control group. More number of teenage mothers (64%) are from rural areas when compared to the control group (43.6%) which is statistically significant. In the present study it is evident from the above table that teenage pregnancies are predominantly more common in lower socio economic group which is statistically significantly different from the control group. As such there is no statistically significant difference in age at menarche in between two groups. The incidence of Eclampsia is 6.4% as against 1.8% in Adults. Incidence of PET also considerably high in teenagers. The incidence of severe anemia is more in teenagers than in adults. Mod anemia is also high in teenagers when compared to the adults. Mild anemia is common in both groups. 27.7% of teenage pregnants were less than 40 kgs of weight at term. Incidence of LSCS is less in teenagers when compared to the adult group. In teenage pregnancy the perinatal mortality is 9.9% than of adults is 3.6% only. Intrauterine growth retardation is more in teenage pregnancy 42.7% when compared with control group 21.8%. Big babies are less in teenage pregnancy 0.9% when compared with control group 4.5%. From the above study it is statistically evident that the prematurity is more common in teenage pregnancy without antinatal care. Inspite of antenatal care there are an certain case 11.8% which are premature in contrary to 2.7% in control group, which shows teenage pregnancy is more prone to result in prematurity inspite of antenatal care. The study shows there is a statistically significant difference in usage rate of contraceptives between teenagers 8.1% and control group 41.81%. **Conclusion**: Teenage pregnancy is not only a major contributor to the population explosion but also it adds to the mortality and morbidity among the adolescents. Proper education and adequate nutrition should be provided to all adolescent girls. In spite if a teenager becomes pregnant, additional nutritional supplement, timely antenatal care and institutional delivery should be the ultimate aim.

Key words: Teenage pregnancy, Antenatal care, Mortality and Morbidity

Introduction

A girl in her teens is at the most remarkable and significant period of her life, where there is an acceleration of her development-physical, emotional and psychosocial. This is possible, if she receives good nutrition, education and status, however much burdened with family obligations and children early in her life. Adolescence is a period of transition from childhood to adulthood (WHO TRS No. 583)[1].According to WHO the period of adolescence extends from 11 to 19 years (WHO TRS No. 583), WHO-Reproduction, Health of Adolescent, 1989). Almost one fourth of India's population comprises of girls below 20 years of age and adolescent (Teenage) pregnancies constitute 10-15 percent of total pregnancies (Bhatia BD & Chandra R. 1993). This figure may still be higher in some states of our country. In rural areas it is

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as high as 21.12%. This is largely attributed to early marriages, a culture widely prevalent in whole of the Indian subcontinent. In India and other developing countries,[2] early marriages and early pregnancies are unfortunately still socially acceptable. Adolescence is characterized by interrelated, rapid biological changes, Not only does body mass increase but the body changes in size, shape and composition. The rapid maturation of the gonads is accompanied by changes in secondary sex characteristics. Inevitably the rising incidence of pregnancy among young teenagers and is a very traumatic experience, both for the girls and their families. Social factors and education have greatest influence on life of a girl. Good parental care, nutrition, health awareness and sex education will create self-esteem in a girl who can inturn take a responsible decision in planning her pregnancy[3,4]. Child marriages and teenage pregnancies are common phenomenon in India, inspite of the legal constraints viz., legal age of marriage for woman being 18 years (completed) as per amendment of 1978, Government of India, and the recommendation that the first child birth should be after 20 years of maternal age. Maternal age is an important factor is determination of obstetric outcome of pregnancy. Teenage pregnancy is a problem for the society, a hazardous event for the obstetrician[5].The teenage mother bears all this brunt and contributes to the mortality and morbidity in our country. Pregnancies among adolescents are increasing both in the developed well as developing countries. In developed countries the girls are not married early, but their involvement in sex and teenage pregnancy is on the rise. Adolescent girls, comprising of 30% of population in developing countries are physically and psychologically immature for reproduction[6].In addition to this there are certain extrinsic factors such as inadequate nutrition, illiteracy and poor socioeconomic conditions, which adversely affect the outcome of pregnancy in teenage (adolescent) girls. Due to biologic immaturity of the adolescents the body is often ill prepared to sustain the pregnancy and to provide safe delivery for the infant. It is estimated that between 12 and 13 million teenagers are sexually active in United States. One in ten teenage girls become pregnant each year, resulting in more than I million pregnancies. Over 70 percent of females between the age of 15 of 20 are already married on India. In recent times there has been increasing request for abortion on certain grounds. Recent marriage, quick succession of pregnancies, persuasion of study and career development and so on.[7,8] This has created moral conflict and ethical dilemmas. After legalization's of abortion, as a method of choice by the US Supreme Court in 1973 clearly provide a safe option for solving the problems of increasing unwanted pregnancy. In 11 million teenagers, the number of teenage abortions rose from about 1,91,400 in 1972 to 3,25,000 in 1975. In 1988, 78% of adolescent girls and 86% of adolescent boys were sexually active by age 20. A more recent survey by the centers for disease control showed that 40% of ninth grades are sexually active and by the twelfth grade this figure was upto 72%[9].Lack of recognition by adolescents of their symptoms of pregnancy, hesitation in confiding with adults, and lack of independent financial resources all these contribute for the generally recognized disproportionately high number of young women seeking abortion after the end of the first trimester. In our country, most of these young women come from rural areas and urban slums of low socio-economic status and are grossly under-nourished and anemic. Incidence of complications during pregnancy and labour are significantly high in these people. Better antenatal care can reduce the incidence of complications. However it is more important to reduce/prevent teenage pregnancies by increasing social awareness through better education and by implementing the legislation that however already exists. Apart from these major problems the monsters of our society ignorance, poverty, illiteracy and gender discrimination are there to make further problems for the teenagers. Early marriage among young women is universally associated with low levels of schooling. In Bangladesh 75% of women marry before the age of 18, whereas in India almost 50% of marriages take place before 18. In Philippines and Sri Lanka only 14% do so[10].In China, where the government has set a strict minimum age for marriage, only 5% of women wed before 18. But slowly the trend is changing for better. Compared to what there was a generation ago, the levels of early marriage have decreased by 35% in Bangladesh and India. Those who have finished at least 7 years of school in developing countries, and 10-12 years in developed societies are more likely to wait until after 18 years to marry, than are women without a basic education. As the level of education will increase, early marriages will decrease proportionately.

Materials and methods

The present study was conducted in the Department of Obstetrics and Gynaecology of Kakatiya Medical College, Warangal at Government Maternity Hospital, Hanamkonda. It is a prospective controlled assessment of obstetric behaviour and outcome of teenage pregnancies over a period of four months from 1st July 2013 to 31 October 2014. The pregnant women in the age groups of 13 to 19 years were include in study group. Teenage pregnancies which ended in abortions either spontaneous or induced have been excluded from the study. Teenagers are further divided into early teenage 13 to 16 as early-teenage and 17-19 as late teenage to find out

if there is any significant difference. The control group consisted of the earliest equal number of woman in the age group of 20 to 25 years. A detailed history regarding age, marital status occupation, social class and obstetrical examination was made..One of the difficult parts of this study to determine the age of the patient. As most of our teenagers in this study are illiterate, they do not bother to register their age correctly. They are not aware of birth day, month and year. Usually the mother accompanying the teenage pregnant woman will register their daughter's age more than it is perhaps thinking that the daughter has grown old. We have taken every precaution and tried our level best to findout correct age by interviewing the patient and relatives accompanying her regarding the age. Height weight and blood pressure were recorded at first visit weight and blood pressure were recorded at each subsequent visit. Routine investigation like complete urine examination, blood grouping, Rh typing, bleeding time and clotting time were done for all cases. Haemoglobin estimation was done first-visit, 32nd week and 36th week and at term.Labour progress, duration and outcome were closely watched. The mode of delivery, third stage complications were recorded if any. Many of our patients are having least memory about the date of the last menstrual period even the month of last menses. Most of teenage pregnancies are unbooked cases. Pregnant women who had minimum 3 antenatal visits and at least one in each trimester is regarded as booked case.

Women with haemoglobin less than 10 gm% were categorised as anaemic. The degree of anaemia was graded from haemoglobin as follows namely mild 5.1 to 10 gm%, moderate 5.1 to 8 gm%, severe 5 gm% and below. Incidence of maternal complications like PIH, anaemia, premature labour, mode of delivery, complication in labour, birth weight, foetal outcome and maternal mortality were studied. These observations were compared with the control group patients who delivered in this hospital during the same period. Socio economic status of the patient is decided as following class 1 – professionals, managers, class 2- small formers, shop keepers, teachers, class 3 – skilled workers, clerical staff, class 4 – semiskilled workers, class 5 – laborers. All babies were evaluated for gestation age by pubowitz's stone, APGAR score and birth weight noted preterm babies and term sick babies well shifted to pediatric unit. Perinatal mortality was accurately recorded. Patients who were not having any complication decaying antenatal intrapartum period were discharged on *3* post partum day when as patients who undergone LSCS were discharged on 7lh post-operative day aster removal of sutures. On discharge the mother was advised about breast feeding, nutrition, Immunization and advised to attend AP unit for contraceptives. A total of 1820 deliveries took place during 6 months of study period of which 160 were teenage and 160 cases for control group selected during the same period.

Results

Table 1: Demographic distribution in the study

Booked/ Unbooked cases	Teenagers		Adults	
	Number	%	Number	%
Unbooked	68	61.8	47	42.72
Booked	42	38.18	63	57.27
Total	110		110	
Age wise distribution in teenage pregnancy				
Early Teenage	13-16		36	32.72
Late Teenage	17-19		74	67.27

Table 1 shows that emergency / unbooked admissions are more in teenagers 61.8% than in adult group 42.7%. Number of late teens are more than early teens. Predominant group distributed based on age is between 20-25 years teenagers comprising of 9.53%.

Table 2: Literacy status, educational status, geographical distribution, socio-economic status in the study

	Study Group		Control Group	
Literacy Status	Number	%	Number	%
Literates	64	58.18	78	71
Illiterates	46	41.81	32	29
Educational Status				
College	6	54	21	19

Secondary	11	10	27	24.5
Primary	47	42	30	27.3
Illiterates	46	41.81	32	29
Total	110		110	
Geographical Distribution				
Rural	71	64.54	48	43.6
Urban	39	35.45	62	56.36
Socio-Economic Status				
Class 1	0	0	0	0
Class 2	2	1.8	6	5.05
Class 3	17	15.4	39	35.45
Class 4	43	39	51	46
Class 5	48	43.6	14	12.7

Teenage pregnant woman have a low literacy percentage than the control group. More number of teenage mothers (64%) are from rural areas when compared to the control group (43.6%) which is statistically significant. In the present study it is evident from the above table that teenage pregnancies are predominantly more common in lower socio economic group which is statistically significantly different from the control group.

Table 3: Age at menarche, antenatal care, incidence of anaemia in study

	Study Group		Control Group	
Age at menarche (years)	**Number**	**%**	**Number**	**%**
11	7	6.36	6	15.45
12	14	12.7	12	10.9
13	52	47.2	36	32.7
14	35	31.8	53	48.1
15	2	1.8	2	1.8
16	0	0	1	0.9
Number of visits				
6 and more	7	6.36	18	16.36
3-5	35	31.8	48	43.6
1-2	10	9.0	22	20.0
0	58	52.72	20	18.18
Total	52	47.2	90	81.8
Cases not received	58	52.72	20	18.18
Incidence of Anaemia				
Teenagers	Number	Percentage	Adults Number	Percentage
Normal	51	46.4	66	60
Mild	32	29	31	28.2
Moderate	21	19	12	10.9
Severe	6	5.45	1	0.9

As such there is no statistically significant difference in age at menarche in between two groups. Incidence of PET also considerably high in teenagers. The incidence of severe anemia is more in teenagers than in adults.

Table 4: Shows weight at term, mode of delivery, complications in labour

	Study Group		Control Group	
Weight in kgs	**Number**	**%**	**Number**	**%**
31-40	27	24.54	4	3.6
41-50	64	58.1	26	23.63
51-60	19	17.2	74	67.2

61-70	0		6	5.45
Mode of delivery				
Normal	67	60.9	64	58.1
LSCS	32	29	41	37.2
Forceps	7	6.3	3	2.7
A.Breech	4	3.6	2	1.8
Complications in labour				
Uterine Dysfunction	7	6.36	6	5.4
Pretenn Labour	26	23.63	14	12.7
PROM	6	5.45	7	6.4
Abrupt placenta	6	5.45	7	6.4
Placentaprevia	4	3.6	4	3.6
Obstructed Labour	8	7.27	4	3.6
PPH Atonic	---	---	7	6.36
Traumatic	5	4.5	2	1.8

27.7% of teenage pregnants were less than 40 kgs of weight at term. Incidence of LSCS is less in teenagers when compared to the adult group. Where as the instrumental delivery is more common in Teenagers as against adult group. Except a two fold increase in the pretenn labour and high incidency traumatic PPH there is no significant difference in other parameters.

Table 5: Shows the foetal outcome, birth weight, prematurity, use of contraceptives.

	Teenagers		Adults	
Foetal Outcome	**Number**	**%**	**Number**	**%**
Fresh Shillbirths	4	3.6	1	0.9
Macerated Shillbirths	5	4.5	2	1.8
Neonatal deaths	2	1.8	1	0.9
Total	11	9.9	3	3.6
Birth weight				
1.5 kg or less	11	10	3	2.7
1.5 kg to 2.5 kg	47	42.7	24	21.8
2.5 kg to 3.5 kg	51	46	78	70.9
3.5 kg or more	1	0.9	5	4.5
Prematurity				
With Antinatal care	13	11.81	3	2.7
Without Antinatal care	19	17.21	8	7.25
Total	32	29	11	10
Use of contraceptives				
C.C	3	2.7	12	10.9
O.C. Pills	6	5.45	32	29
IUCD	Nil	0	2	1.8
Total	9	8.1	46	41.81

This study shows that the perinatal outcome is bad in teenagers than in adults.

Discussion

Many studies have been carried out in development and developing countries. In the study of perinatal deaths reported by the British Perinatal Mortality Survey higher death rates were noted for babies born to mother under the age of 20 and when these deaths were carefully analysed by cause, it was found that toxemia, congenital defects and prematurity of unknown origin were relatively more frequent[.11]The interaction between the central epithelial cell nucleus and the virus nucleic acid during the phase of dynamic metaplasia would result

in variant epithelial cells. These cells would then become mutants with an undoubted malignant potential. Whether these mutant cells ever progress to become pre-invasive or invasive cancer would obviously depend upon the individual women's imrnunological. In all three groups of adolescents toxemia was found to be major complication giving rise to high incidence of premature labour and perinatal death. Preeclampsia was most common (29.78%) among patients with no antenatal care and least (14.7%) amongst patients with close supervision by regular antenatal care. Feldman *et al.* reported that 70.8 per 1000 smears taken from teenagers had cytological findings consistent with mild dysplasia or worse. The present study is undertaken at Government Maternity Hospital, Hanamkonda with an aim of identifying the problems of teenage pregnancy. The study period is 1 July 2013 to 31s1 October 2014 during which 1154 total deliveries took place among which teenagers comprised of a 53%. The worldwide incidence of teenage pregnancy ranges from 3.2% to 42%. The teenage pregnant women, either they don't seek or late at seeking antenatal advise**.** From present study 61.81% are unbooked among teenagers when compared to 42.72% in control group. Lack of proper antenatal care adds to the problems of teenage pregnancy. The subgroup of early teenagers who are more vulnerable are 32.72% when compared to the late teen adolescents group comprising of 67.27% of total teenage pregnancies. The following inference can be drawn that the percentage of illiterates was more in teenage group 41.8% than in control group 29%. Here illiteracy is both cause and effect of teenage pregnancy which is also evident from Table-VI that most of the teenagers are either illiterate school droppers at primary education, very negligible percent i.e. 5.4% could able to enter college education. The majority of the teenage pregnancies are from rural areas, 64.5% as against 35.45% from urban areas. It is concluded that teenage pregnancies are more common, 39% and 43.6% in class IV and class V respectively comprising of lower socio-economic group. Which is a fact studied and established by many studies worldwide. The mean age at menarche is similar in study group as well as control group, which is evident. These teenagers neither recognize the early pregnancy symptoms nor do they reveal to the elders even if they recognize such symptoms due to lack of knowledge resulting is poor antenatal visits. E.g.: either no visits or inadequate late visits, which is evident.Toxaemia: There are many controversial statements by different authors regarding teenage pregnancy and toxaemia. Marchetti and Menakar [12], Dark , Dott and Fort [13] have found that the incidence and severity of toxaemia is more in teenagers. In contrary, Mirachandani[14] from India reported that the incidence of toxaemia increases with age. Pre-eclampsia was reported to be 31.9% in teenagers in the study carried out by Reddi Rani[15] . Calcium deficiency has been implicated by some, that after mid pregnancy dietary supplementation with 2 gm of elemental calcium per day significantly reduced the incidence of hypertension. In the present study the incidence of eclampsia is 6.9% as against 1.8% in study group. The incidence of PET is also high in teenagers. Lack of physical and endocrine development, emotional stress of early pregnancy, poor diet and inadequate prenatal care are mentioned as factors, contributing to toxaemia, in those every young mothers. Antenatal care though can not prevent toxaemia, can reduce the severity if it and prevent complications. **Anemia:** Anemia during pregnancy continues to take a heavy toll of maternal lives in India. Adolescence is normally a period of high nutritional needs due to rapid growth. In this study there is no much difference in the incidence of mild anemia in the study group when compare to control group where as the incidence of severe anemia in teenagers is 5.45% as against 0.9% in study group which is analyzed . **Mode of Delivery**: Teenage pregnant women are more prone for higher rate of premature labour as noticed by many authours[16].In the present study the percentage of premature labour was 23,63 as compared to 12.7% in control group. The incidence of caesarian section was 29% in study group as against 37-2% in control group. At the same time overall incidence was 33%. The low caesarian section rate was noticed during many studies. From the present study it is evident that the incidence of spontaneous delivery was 60.9% in teenagers as noticed by many studies throughout the world. The incidence of instrumental delivery was higher in teenagers 6.3% as against 2.7& in control group. The teenage mother is unaware of what is expected from her. By the time second stage is reached, she is too exhausted to bear down effectively. Hence the higher incidence of forceps for prolonged second stage in the teenagers. **Fetal Outcome**: Fetal outcome is very disappointing in teenager pregnancy as compared to the control group. There were 3.6% of fresh stillbirths in teenage pregnancy when only 0.9% in control group. This significant high rate is because of higher incidence of toxemia, prolonged obstructed labour, antepartum hemorrhage (abruptio placentae) and congenital anomalies.**Birth Weight:** In this study it was noticed that the Birth weight is significantly low when compared with control group. The percentage of babies with birth weight less than 2.5 kg in teenagers is 52.7% as against 21.8% in control group. These results corresponding to the studies conducted by 17.[17] **Contraceptive methods:** From the present study it is evident that usage rate of contraceptives in teenagers is very low i.e., 8.1% when compared to the control group 41.81%. The lack

of awareness about contraceptives, inhibitions in the approach, lack of proper motivation are the few reasons for low usage rate of contraceptives among teenagers. It is concluded that the eclampsia and low birth weight are only two major complications, which are significantly high in teenage pregnancy, which are directly attributed to adolescence. Other complications, which are observed in teenage pregnancy, appear to be dependent and illiteracy and low socio economic standards of the individuals rather than age itself.

Conclusion

In present study 1154 patients delivered, Out of them 110 were teenager pregnancies and 20 - 25 years of age group cases of equal number were taken as control group. Thus the calculated incidence of teenage pregnancy was 9.53%. In spite of the legal restrictions the early marriages have become very common due to illiteracy, low socio economic status and regional traditions and customs resulting in high incidence of teenage pregnancy. Teenage pregnancy is not only a major contributor to the population explosion but also it adds to the mortality and morbidity among the adolescents. If an adolescent is allowed to become parous there is every possibility of her becoming a inulti and possible danger of becoming a grand multiparous. If proper contraceptive (temporary / permanent) intervention is not undertaken in the appropriate time. Proper education and adequate nutrition should be provided to all adolescent girls. No marriage before 19 years, if married, proper counseling for strict contraceptive measures for no pregnancy during teenage. In spite if a teenager becomes pregnant, additional nutritional supplement, timely antenatal care and institutional delivery should be the ultimate aim.

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