European Journal of Molecular & Clinical Medicine (EJMCM)
ISSN: 2515-8260 Volume 07, Issue 11, 2020

Original research article

A Prospective observational clinical study to assess the maternal-fetal outcome in teenage pregnancy

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Abstract

Background: Teenage pregnancy due to changing social conditions, it's important to study the implications of the maternal and fetal health. It is a serious health problem, more so in developing countries like India.

Aim: To assess the fetomaternal outcome in teenage pregnancy.

Material and methods: This was a prospective observational study conducted in the department of gynaecology and obstetrics in Patna medical college and Hospital, Patna, Bihar, India, for 12 months from July 2019 to July 2020. It included 50 cases of primigravida teenage pregnancies and 50 cases of adult pregnancies. Primigravida teenage mothers aged 13-19 years were taken as case and primigravida adult mothers aged20-30 years were taken as control.

Results: The results show maximum number of teenage mothers belonged to the age group of 16-19 years (98%). In teenage mothers more cases (56%) were related to lower socio economic status than adult mothers (28%). The study shows that majority of cases (74%) of teenage mothers were illiterate as compared to adult mothers in which 26%were illiterate and shows that ante partum & postpartum complications were much higher in teenage mothers as compared to adult mothers. In our study antenatal complications were higher among teenage mothers as compared to adult mothers.

Conclusion: Prevention of teenage pregnancy and reduced complications of teenage pregnancy can be achieved by improving the utilization of family planning services to reduce the rate of teenage pregnancies and minimizing their hazards and to prevent further pregnancies (by post-partum IUCD).

Keywords: foetal outcome, maternal outcome, teenage pregnancy

Introduction

In recent decade, adolescent pregnancy has become important health issue in a great number of countries, both developed and developing.[1] WHO defines teenage pregnancy as any pregnancy from a girl who is 10 to 19 years of age, age being defined as her age at the time of delivery.[2] Adolescent pregnancy rate is on rise, emerging as serious problem all over the world and more so in developing countries like India. It constitutes 11 percent of all the births worldwide and 23 percent of overall disease burden due to pregnancy and child birth due to improper prenatal care needed for monitoring of maternal and fetal development.[3] The incidence of teenage pregnancy varies dramatically between the different countries, of which 90 percent is contributed by developing countries.[4] Nevertheless teenage pregnancy and

delivery rate is significantly less in developed countries compared to developing countries.[5] Incidence of teenage pregnancy in India is 2 women out of every 1000 pregnancies.[6] Teenage pregnancy is associated with series of maternal and fetal complications. Anaemia, pre-eclampsia, eclampsia, preterm delivery, instrumental delivery, increased LSCS rate due to cephalopelvic disproportion and fetal distress are strongly associated maternal complications in teenage pregnancy. Fetal complications being prematurity, low birth weight, still birth, asphyxia, respiratory distress, birth trauma. Underdeveloped pelvis in adolescents makes them prone to have CPD and end up in caesarean delivery. As girls are still in growing period, pregnancy induces malnutrition leading to inadequate weight gain and low birth in neonates. Low birth weight and prematurity predisposes such children to several infant and childhood disorders and increased risk of mortality and morbidity. Good antenatal care by medical professional makes a big difference in outcome of teenage pregnancy, care provider should stress upon good nutrition, and anticipate the risks of medical disorders associated with it and intervene at the earliest. The need for the study was to know the outcome of teenage pregnancy. To know the socio demographic profile of teenage pregnancies, and incidence. The objective of the study was to know the complications in the teenage pregnancies and outcome.

Material and methods

This was a prospective observational study conducted in the department of gynaecology and obstetrics in Patna Medical College and Hospital, Patna, Bihar, India, for 12 months, after taking the approval of the protocol review committee and institutional ethics committee. It included 50 cases of primigravida teenage pregnancies and 50 cases of adult pregnancies. Primigravida teenage mothers aged13-19 years were taken as case and primigravida adult mothers aged 20-30 years were taken as control.

Only primigravida women selected

- To eliminate the influence of parity
- Age between 20-30 years considered since this age group is generally regarded as safe for childbirth.

Cases to exclude are

Elderly primigravida (>30 year of age)
H/o pre-pregnancy medical illness.e.g.HT, Diabetes, cardiac, renal, endocrine or autoimmune disease
Any perinatal complication occurring after72hours of delivery
Multiple gestations

Maternal outcome measures include

1. Complications during pregnancy
2. Mode of delivery
3. Duration of labour
4. Incidence of maternal death

Neonatal outcome measures include

- Gestational age
- Birthweight
- Apgarscoreat1minute/5minute
- Neonatal intensive care admission

Methodology

All the primigravida teen age patients were included in study until we got 50 cases. For comparative study we took 50 cases of adult pregnancy by random selection. All patients were managed according to the department protocol and followed up clinically until they are discharged. Technically, booked mothers are defined as those who have had at least three antenatal care visits at our centre, while the unbooked mother are those who have had no antenatal care visit in our centre or those who registered at our centre but has less than three antenatal clinic visits, and patients referred as emergencies from other facilities or traditional birth attendants. Socioeconomic measures obtained included age, marital status, educational qualifications and type of employment of the patient and their spouse. Socioeconomic status is computed using the methods reported by Modified kuppuswami scale, this classification is based on the education and occupation of both partners.

Results

The results shows maximum number of teenage mothers belonged to the age group of 16-19 years (98%). (Table 1) In teenage mothers more cases (56%) were related to lower socioeconomic status than adult mothers (28%) (Table2). The study shows that majority of cases (74%) of teenage mothers were illiterate as compared to adult mothers in which 26% were illiterate (Table3) and shows that antepartum & postpartum complications were much higher in teenage mothers as compared to adult mothers. In our study antenatal complications were higher among teenage mothers as compared to adult mothers. HDP 18%, APH 4%, IUGR 6%. Postpartum Complications were higher among teenage mothers as compared to adult mothers. PPH Present in 6% of cases, Retained Placenta 4%ofcases, Perineal Hematoma 4%ofcases, Cervical Tear 6%ofcases (Table 4 &5).Table 6 reveals that most of the complications occurred in unbooked and registered cases where as booked cases had their pregnancy outcome relatively uneventful emphasizing the importance of antenatal care.

Table 1: Distribution of Cases According to Age

Age(Years)	Teenage Mothers		Age(Years)	Adult Mothers	
	No. of Cases	Percentage		No. of Cases	Percentage
Below 15	1	2	20-22	25	50
16-18	14	28	23-27	17	34
19	35	70	27-30	8	16
Total	50	100	Total	50	100
Mean±SD	17.87±0.69		Mean±SD	24.61±3.32	

Table2: Distribution of Cases According to Socioeconomic Status

Socioeconomic status	Teenage Mothers		Adult Mothers	
	No. of Cases	Percentage	No. of Cases	Percentage
Upper	2	4	5	10
Middle	20	40	31	62
Lower	28	56	14	28
Total	50	100	50	100
p-value	0.001 (Sig.)			

Table3: Distribution of Cases According to Literacy Level

Socioeconomic status	Teenage Mothers		Adult Mothers	
	No. of Cases	Percentage	No. of Cases	Percentage
Illiterate	37	74	13	26
Primary Level	11	22	20	40
Secondary Level	2	4	11	22
Graduation	0	0	6	12
p-value	0.000 (Sig.)			

Table4: Distribution of Cases According to Antepartum Complications

Antepartum Complications	Teenage Mothers		Adult Mothers	
	No.of Cases	Percentage	No.of Cases	Percentage
HDP	**9**	**18**	**4**	**8**
APH	2	4	1	2
IUGR	3	6	2	4

Table5: Distribution of Cases According to Postpartum Complications

Postpartum Complications	Teenage Mothers		Adult Mothers	
	No.of Cases	Percentage	No.of Cases	Percentage
PPH	3	6	2	4
Retained Placenta	2	4	1	2
Perineal Hematoma	2	4	1	2
Cervical Tear	3	6	2	4

Table 6: Comparison of Booked Teenage Mothers and Adult Mothers

Complications	Teenage Mothers (Total No. of cases :8)		Adult Mothers (Total No. of cases :36)	
	No.of Cases	Percentage	No.of Cases	Percentage
Anemia	0	0	5	13.89
HT	1	12.5	1	2.86
IUGR	0	0	0	0
Preterm	0	0	0	0
LBW	0	0	1	2.86
IUD	0	0	0	0
Stilborn	0	0	0	0
APH	0	0	1	2.86
PPH	0	0	1	2.86

Discussion

Teenage pregnancy exposes mothers to many health related complications and newborns to poor birth outcome. Adverse outcome of teenage pregnancy arises not only from physical and medical causes associated but also depends on individual, family, social, cultural, economic factors besides lack of access to health care Teenage pregnancy remains major health issue in our country due to prevailing social dogmas, age old traditions and poor access to health care in remote rural areas, illiteracy leads to lack of knowledge about family planning and puts the adolescents at risk for early pregnancy. Education play major role in decreasing the incidence of teenage pregnancy and its attendant health risks and psychological issues. Teenage mothers should be counselled to have regular ANCs for early detection of complications related to both mother and fetus. Adequate antenatal, intrapartum and post-partum as well as

neonatal care can minimize the risk associated with child birth and its effect on maternal and child health. Teenage is basically a time for growing up and the child is not physically and emotionally mature enough to reproduce. Hence, if the girl is taken out of school at this time and pressurized into marriage, it can causes considerable emotional stress. Furthermore, these young girls, having little or no knowledge of contraception, usually become pregnant soon after marriage which further aggravates the physical and psychological stress. Since teenage pregnancy tends to be more common in the lower socioeconomic groups that is responsible for increased obstetric hazards to both mother and foetus. More over pregnancy and delivery in teenage mothers are at higher risk due to poor antenatal care attendance or may be due to poor antenatal services. Lack of health education, religious taboos of child marriage and against use of family planning methods account for increased incidence of teenage pregnancy which is further complicated by poor socioeconomic status, illiteracy, unhygienic living standards, home confinements and lack of transportation in far flung areas.

In our study 98% of teenage mothers were from age group 16-19 years and 2% from age group 15 years or less, whereas maximum number of adult mothers (56%) belonged to the age group of 20-21 years and 16% belonged to the age group of 27-30years. This is comparable to other studies.[7,8] Most of the teenage mothers (56%) belonged to lower socio economic status. It prevents them to take benefit from available facilities. That is why more teenage mothers were associated with pregnancy related complications .Various studies shows similar results.[9-11]

Our study also showed that 74% of teenage mothers were illiterate and thus leading to early marriage, early conception, poor quality of life. Female literacy is correlated strongly with decline infertility, development of self-confidence, increasing age of first sexual intercourse, delaying marriage and use of contraception. This study is comparable to other studies.[10,12-15]

In our study antenatal complications were higher among teenage mothers as compared to adult mothers. In our study the incidence of HDP 18%, APH 4% and IUGR 6%. This is comparable to other studies.[16-18]

Conclusion

Prevention of teenage pregnancy and reduced complications of teenage pregnancy can be achieved by improving the utilization of family planning services to reduce the rate of teenage pregnancies and minimizing their hazards and to prevent further pregnancies (by post-partum IUCD).

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Received :20-09-2020 Revised: 07-10-2020. Accepted:24-10-2020