

Study of Maternal and Foetal Outcome and Incidence in Teenage Pregnancies

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Abstract

Introduction: Teenage pregnancy is a serious problem all over the world and more so in developing countries like India, as early marriages and early pregnancy are the accepted cultural norms of our society. The present study aims to look at the incidence and maternal and foetal outcomes in teenage pregnant women in hospital visiting patients in Sion, Mumbai. **Aim of the Study:** To study incidence of teenage pregnancy and to study maternal and foetal outcome in this age group. **Materials and Methods:** This was a prospective study done over a period of two years. For all the antenatal cases complete history was taken. Antenatal course and labour management was observed and findings were noted. Intrapartum and post-partum course in the wards was studied. Various parameters were noted and analysed like incidence of pregnancy in teenagers, the marital status, age, parity, medical disorders, pregnancy related complications, incidence of malpresentations, mode of delivery, birth weight of babies and duration of hospital stay. **Results:** The incidence of teenage pregnancy was 6.45%. Most of the teenagers (85.1%) in the study were primigravida. The incidence of preterm delivery among teenagers was higher (37.76%) than in the non-teenage patients (22.07%). The incidence of malpresentations was found to be higher in the teenage patients (4.3%) as compared to non-teenage patients (6.9%). Lower birth

weight babies and still births were more common in teenage pregnancies than in non-teenage pregnancies. **Conclusion:** The overall incidence of teenage pregnancy in the study was 6.45%. Most of teenagers were married and desirous of child bearing. Teenagers were predisposed to PIH, preterm labour and anaemia. Teenage mothers tolerated pregnancies well and there was no increase in operational intervention when compared to adult group.

Keywords: Teenage Pregnancies; Maternal and Foetal Outcome; PIH.

Introduction

Teenage pregnancy (15-19 years) is on the rise, emerging as a serious problem today all over the world and more so in developing countries like India, as early marriages and early pregnancy are the accepted cultural norms of our society [1].

In India, a study reports that 18.2% of women aged between 20 and 24 years were married by the age of 15 years and 47.4% by the age of 18 years. 16% of adolescents between 15 and 19 years have begun childbearing. Only 13% of married adolescent girls use any contraceptive method and the unmet need for family planning in the age group of 15-19 years is 27% [2].

Tsai et al. [3] identified a number of risk factors that contribute to teenage pregnancy. Those factors are: unsafe sexual activity, underuse of contraception, numerous sexual partners, substance misuse, deprivation, insufficient attendance and bad performance at school and sometimes school drop-outs, low family income or single parent family.

The outcomes are more adverse in the lower teenage group of 13-15 years than

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the higher teenage group of 16-19 years. Teenage pregnancies have shown association with higher risk of prematurity, low birth weight, preeclampsia and anaemia as compared to adult pregnancies. Also maternal and foetal mortality and morbidity is directly related to the age of the mother [4]. Long term follow up studies have shown that the children born to teenage mothers are at higher risk and are usually plagued by intellectual, language, and socio-emotional delays [5].

“Lina Medina”, a Peruvian girl from Andean village of Ticrapo, is the youngest mother documented in literature. She delivered a six pound baby boy by caesarean section at the age of 5 years 7 months and 21 days on 14th May 1939, ironically the date on which “Mother’s Day” was celebrated that year [6].

India has one of the world’s largest population of teenagers over 23 million representing about 26% of the total in the world [7].

According to the National Health family survey 1998-1999, 16.4 % of all women in the age group of 15 – 19 years have atleast one child born [8].

Among currently married women in the age 15-19 years, nearly 35 % have at least one child [9].

Aim of the Study

To study incidence of teenage pregnancy and to study maternal and foetal outcome in this age group.

Materials and Methods

No ethical issues were involved in this study. This was a hospital based, observational study. Informed consent was taken from all the teenage pregnant women and from their guardians in case of minors. This was a prospective study done over a period of two years from May 2005 to April 2007 in the Department of Obstetrics and Gynaecology, at

LokmanyaTilak Municipal Medical College and General Hospital, Sion, Mumbai.

Thorough antenatal history was taken. Antenatal course and labour management was observed and findings were noted. Intrapartum and post-partum course in the wards was studied. Various parameters were noted and analysed like incidence of pregnancy in teenagers, the marital status, age, parity, medical disorders, pregnancy related complications, incidence of malpresentations, mode of delivery, birth weight of babies and duration of hospital stay.

Inclusion Criteria

Age group 13-19 years

Exclusion Criteria

Age group more than 19 years

Observations and Results

Incidence of teenage pregnancy

Total number of admissions in labour ward during the study period of two years was 20,577 out of which 1328 were in the teenage age group.

Incidence of teenage pregnancies was 6.45%.

About 89.5% of teenagers were registered cases. About 10.4% of the teenagers were not registered while 8.3% of non-teen patients were unregistered cases.

According to religion studied about 914 (68.8%) were Hindus and 409 (30.8%) were Muslims.

Most of the teenagers (85.1%) in the study were primigravida.

The incidence of preterm delivery among teenagers was higher (37.76%) than in the non- teenage patients (22.07%).

Table 1: Distribution of cases according to age

Age in years	Married teenagers	Unmarried teenagers	Total (%)
13 years	1	1	2 (0.15%)
14 years	1	1	2(0.15%)
15 years	0	1	1(0.07%)
16 years	0	3	3(0.23%)
17 years	18	2	20(1.5%)
18 years	481	3	484(36.45%)
19 years	814	2	816(61.45%)
Total	1315	13	1328 (100%)

Table 2: Relation of marital status to pregnancy

	Married		Unmarried	
	Teenage group	Non teenagegroup	Teenagegroup	Non teenagegroup
Total deliveries	1181(99.33%)	16761(99.8%)	8(0.67%)	33(0.20%)
Spontaneous abortions	108(98.1%)	1437(99.31%)	2(1.82%)	10(0.69%)
Medical termination of pregnancy (MTP)	19(86.36%)	734(98.79%)	3(13.64%)	9(1.21%)
Ectopic pregnancy	04(100%)	221(98.79%)	0	2(0.90%)
Vesicular mole	03(100%)	40(95%)	0	2(0.90%)
Total confine ment	1315(99.02%)	19,193(99.71%)	13(0.98%)	56(0.29%)

The incidence of malpresentations was found to be higher in the teenage patients (4.3%) as compared to non-teenage patients (6.9%).

Most of the teenagers delivered vaginally (77.55%). The caesarean section rate in the teenagers was lower

(18.9%) than non-teenagers (24.4%). Most common indication for LSCS was foetal distress (6.43%) followed by malpresentations (3%) and cephalo-pelvic disproportion (CPD) seen in 2.91 % cases.

Table 3: Parity and confinement

Parity	Teenage pregnancy		Non Teenage pregnancy	
	No. of cases	Percent (%)	No. of cases	Percent (%)
Primigravida	1,1130	85.15%	7321	38.03%
2 nd gravida	163	12.27%	6541	33.98%
3 rd gravida	29	2.18%	1044	21%
4 th gravida	06	0.45%	1343	6.99%
Total	1328	100%	19249	100%

Table 4: Medical disorders of pregnancy

Disorder	Teenage pregnancy No. of cases (%)	Non Teenage pregnancy No. of cases (%)
PIH	240(20.19%)	1684(10.03%)
Eclampsia	31(2.61%)	334(1.99%)
Mild/Moderate Anaemia	219(18.42%)	2538(15.11%)
Severe Anaemia	109(9.17%)	1014(6.03%)

Table 5: Pregnancy related complications

Disorder	Teenage pregnancy	Non Teenage pregnancy
Preterm labour	449 (37.76 %)	4237 (25.2%)
IUGR	132 (11.09 %)	1907 (11.07%)
Abruptio	11 (0.93%)	382 (2.27%)
Placenta previa	4 (0.34%)	198(1.18%)
Deep transverse arrest	10 (0.8425/2%)	197 (1.16%)

Table 6: Incidence of mal-presentations

Mal-presentation	Teenage pregnancy	Non Teenage pregnancy
Breech- Vaginal	16 (1.35%)	328(2%)
Breech- LSCS	30(2.52 %)	430(2.56%)
Brow	2(0.17%)	26(0.16%)
Face	1 (0.08%)	27(0.17%)
Occipitoposterior	2 (0.17%)	154(0.95%)
Face to pubis	1 (0.08%)	32(0.26%)
Oblique	3(0.25%)	80(0.49%)
Transverse	3 (0.25%)	84(0.52%)
Total Malpresentations	58(4.3%)	1160(6.9%)

Table 7: Mode of delivery

Mode of delivery	Teenage pregnancy	Non teenage pregnancy
Vaginal delivery	922 (77.55%)	12246 (72.91%)
Caesarean section	225 (18.93%)	4110 (24.27%)
Forceps delivery	42 (3.52%)	421 (2.51%)
Vacuum delivery	0	17 (0.11%)
Total	1189 (100%)	16794(100%)

Birth Weight of Babies

Babies of teenage mothers had birth weight less than 2.5 kg in 46.82% (557/1189) cases as compared to the non-teenage mothers where only 37.7% (6336/16794) were under 2.5 kg. These babies included preterm as well as IUGR babies.

Stillbirths

The incidence of still births (both fresh and macerated) among the teenage pregnancies was 4.96% (59/1189 cases) and among non-teenage patients, it was 2.69% (828/16794 cases).

There were a total of 91 perinatal deaths which accounted for 7.65% of total deaths in teenage group. The perinatal death rate in non-teenage group were marginally higher at 8.32% (1397/16794 cases).

Duration of Hospital Stay

79.3% of all teenagers who were admitted in the labour ward went home within 3 days, while 20.1% were hospitalised for 3-7 days and only 7% teenagers required prolonged hospitalization beyond 10 days.

Religion

According to religion studied about 914 (68.8%) were Hindus and 409 (30.8%) were Muslims. The incidence of teenage pregnancy was nearly similar in the Hindu (6.65% and Muslim patients (6.08%).

Discussion

Teenage pregnancy is an important public health issue that is common and largely preventable [10]. WHO has considered teenage pregnancy as "High Risk Pregnancy." [11].

Incidence of teenage pregnancy found in the study was 6.45%. This is in accordance with incidence of teenage pregnancy in the general population of India which varies from 3.5% to 8.2% [12].

On evaluation of teenagers below the age of 16 years (99.02%) in the present study, 5 out of 8

(62.5%) patients delivered vaginally, 25% aborted spontaneously and 1 out of 8 (12.5%) opted for termination of pregnancy. In a study by Roy [12] for underage teenagers below 16 years age, 45.1% delivered, 19.6% of them aborted spontaneously and 37.25% opted for termination of pregnancy.

Miscarriages are not a common occurrence in pregnant teenagers. Only 1.67% of the pregnant suffered a spontaneous abortion. The reported rate of spontaneous abortion in the study by Klein is 8% higher than the present study but lower than that in the study by Roy et al. who reported it to be 11.9% [12].

Table 8: Comparative studies of incidence of teenage pregnancy

Studies	Incidence
Rural India [12] (12)	21.1%
Karnataka (India) [13] (13)	5.2%
Varanasi (India) [14] (14)	4.1%
Goa (India) [15] (15)	10.09%
Sub Saharan Africa [16] (16)	14.3%
Netherlands [17] (17)	1.4%
Present study	6.45%

In the present study, the spontaneous abortion rate for primigravida patients was 7.69% which increased to 14.28% for 3rd ordered births. Similar findings were seen in a study by Pallikadavath et al. [18] where, the overall abortions rate was 17 per 1000 pregnancies.

In the present study, 68.75% of the teenagers between 13-16 years were booked while about 89.86% of the teenagers of 18-19 years were registered antenatally. In the study by Hollanders et al. [22] antenatal registration rate was found to be more in the older teenagers (62%) than the younger teenagers (of less than 17 years old). In a study carried out in California, 46.62% of the teenagers younger than 17 years were registered while 66.69% of the teenagers of 18-19 years were antenatally registered.

Out of a 20,577 confinements included in the study, 66.74% teenagers were Hindus and 32.70% were Muslims. This corroborates with the findings of a study carried out by Chahande et al. [23] where 65.3% of the teenagers and 62.6% of non-teenage patients were Hindus.

Table 9: Comparison with other studies for marital status in teenage pregnancies

Studies	Married teenagers (%)	Unmarried teenagers (%)
Roy et al [12]	91.3%	8.7%
Thekkekkara et al [13]	97.00%	3.00%
Shrinivasan et al [19]	98.6%	1.4%
Fraser et al [20]	79.00%	21%
Klein [21]	21.1%	78.9%
Present study	99.02%	0.98%

Table 10: Status of antenatal case registration in teenage pregnancies

Study	Registered cases (%)	Unregistered cases (%)
Padte et al ^[15]	57.34%	42.66%
Fraser et al ^[20]	92%	8.00%
Present study	89.57%	10.43%

In the present study, incidence of anaemia (27.59%) in the teenagers was found to be lower than that in the study by Sharma et al. [24] who observed it to be 68.6% and Kumar et al. [14] who reported it to be 63.9%.

In the present study, incidence of preterm labour was found to be significantly higher in the teenage patients (37.76%) than non-teenage patients (25.23%). Our findings compare well with the observations of Kumar et al. [14] where they found the incidence of preterm labour in teenage patients (26.10%) to be higher than in non-teenagers (14.60%).

IUGR was found to be less prevalent in the present study (11.09%). Nilli et al. [17] and Raatikainen et al. [25] in their studies reported it as 12% and 14% respectively.

Incidence of malpresentations in the present study was 4.88%. The incidence of malpresentations was observed as 4.88% by Sharma et al. [24].

Most of the teenagers (77.5%) in our study delivered vaginally. Among the non-teenage pregnancies 72.9% delivered vaginally. Similar results (77.8%) were seen in the study by Raatikainen et al. [25].

In the present study, 46.82% of babies born to younger teenagers were having birth weight less than 2.5 kg compared to 37.7% of non-teenage mothers. Our findings are similar to that of Kumar et al. [14] where they found 50% of babies born to younger teenagers having birth weight less than 2.5 kg while 32.3% of non-teenage patients had low birth weight babies. Similar high incidence of 57.1% was reported in a study by Sharma et al. [24].

Conclusion

The over-all incidence of teenage pregnancy in the study was 6.45%. Most of teenagers were

married and desirous of child bearing, though pregnancy may have been unplanned. Teenage pregnancies were predisposed to complications like pregnancy induced hypertension, preterm labour and anaemia. Teenage mothers tolerated pregnancies well and there was no increase in operational intervention when compared to non-teenage adult group.

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