

Original Article

Fetomaternal Outcome of Teenage Pregnancy

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Corresponding Author*Abstract**

Background: Teenage pregnancy has emerged as a challenge to obstetrician due to changing social conditions. It is a major health problem, more so in developing countries like Bangladesh. Therefore, it is imperative to study the implications of teenage pregnancy on maternal and fetal health.

Objectives: To evaluate the fetomaternal outcome of teenage pregnancy.

Materials and Methods: This cross sectional study was conducted in the department of Obstetrics & Gynaecology, Rangpur medical college hospital, Rangpur from July 2019 to June 2021. Total 100 mothers, age 13-19 completed years at delivery, fulfilling the selection criteria were enrolled into this study. Mothers having pregnancy complicated with medical disorders were excluded from the study.

Results: Incidence of teenage pregnancy among total deliveries was 4%, 87% were muslim, 73% were homemaker. Majority had primary education (40%), followed by secondary education (35%) and illiterate (25%). 73% came from low socioeconomic condition. Most of them had either irregular or infrequent or no antenatal checkup. All the teenage mothers had anaemia either in mild (47%) or in moderate form (39%). Complications during delivery were prelabour rupture of membrane 34%, preterm delivery 31%, preeclampsia 11%, eclampsia 31%. Modes of delivery were vaginal delivery 59%, caesarean delivery 40%. 12% suffered from post partum complications. Incidence of low birth weight babies was 55%, 12% got admitted in neonatal special care unit.

Conclusion: Teenage pregnancies have a significantly higher risk of adverse outcomes. It's important to reduce teenage pregnancy by improving the socioeconomic condition, education, public awareness, strict implementation of law, good Antenatal care (ANC) care, nutrition, access to contraceptive services.

Keywords: Teenage pregnancy, Fetomaternal outcome, Anaemia, Eclampsia.

Introduction

Teenage or adolescence is the transition from childhood to adulthood.¹ World Health Organization (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 Teenage proceeds across three distinct periods of life: early, middle and late.³ Teenage is the transitional stages of physical, biological and psychological changes. Most of the teenage mothers are psychologically and emotionally immature which can damage infant bonding.⁴ Younger teenage girls are often shorter, their bodies not yet fully mature and have lower body weight than older women as growth may not have stopped among the girls. They may require more nutrients during pregnancy than older women.⁵

Teenage pregnancy is considered as high-risk pregnancy and has enormous negative socioeconomic impact at the individual level as well as on the society.⁶ Teenage pregnancy is a common social phenomenon with public health and medical consequences worldwide.⁷ According to United Nations International Children's Emergency Fund about 10% of all births worldwide occur in teenage mother, which are about 13 million births every year.⁸ The incidence of teenage pregnancy varies dramatically between the different countries of which 90% is contributed by developing countries. The reason for increasing incidence of teenage pregnancy in developing countries is illiteracy and poverty but in developed countries it has been attributed to decreasing age of menarche, increased

exposure and lack of awareness about contraception amongst teenage.⁹ Nevertheless teenage pregnancy and delivery rate is significantly less in developed countries compared to developing countries.¹⁰ The impact of maternal age on obstetric and neonatal outcomes has been studied in various parts of the world and with variable results. A WHO multicountry study including 29 low-income and middle-income countries found teenage mothers were at higher risk of several adverse outcomes.¹¹ Anaemia, pre-eclampsia, eclampsia, preterm delivery, instrumental delivery, increased lower (uterine) segment caesarean section (LSCS) rate due to cephalopelvic disproportion are strongly associated maternal complications in teenage pregnancy.¹⁰ Teenage mothers are more likely to have children with low birth weight, inadequate nutrition and anaemia.¹² WHO estimated that in developing countries, about 16 million girls aged 15 to 19 years and 2.5 million girls below the age of 16 years give birth every year. In the poorest regions of the world, one in three girls gave birth by the age of 18. In Bangladesh, 66% girls are being married before they reach the age of 18. Another report mentioned rate of teenage pregnancy as 33% indicating the situation of early marriage and early pregnancy in Bangladesh.¹³ Pregnancy in this age group adds to the national hazards by contributing to population explosion especially in our country.¹²

Objectives of the Study

The aim of this study was to evaluate the fetomaternal outcome of teenage pregnancy in tertiary level hospital in Bangladesh.

Materials and Methods

This cross sectional study was conducted in the department of Obstetrics and Gynaecology, Rangpur medical college hospital, Rangpur from July 2019 to June 2021 .

The protocol of this study was approved by the Protocol review and Ethical Committee of Rangpur Medical College. Total 100 mothers fulfilling the selection criteria were enrolled into this study. Teenage mothers, age 13-19 completed years at delivery was taken as cases. Mothers having pregnancy complicated with medical disorders was excluded from the study.

Meticulous history taking and thorough physical examination was performed on every patient and available investigations in hospital was done. Mothers' characteristics (age, gravidity, parity, gestational age) and obstetric (medical obstetrical complication, mode of delivery, complications during delivery, fetal outcome, birth weight) was noted. Data was processed and analyzed by using SPSS software package version 23. Ethical considerations was met through achieving an informed written consent after briefing objectives.

Results

The present study was done among 100 teenage patients admitted in Obstetrics and Gynaecology department in Rangpur Medical College Hospital (RpMCH) which is a tertiary level hospital in Bangladesh.

Table I: Distribution of teenage pregnancies among total number of deliveries (n=100)

Total number of deliveries	Teenage pregnancy	Percentage (%)
2492	100	4

Table I: Shows total number of deliveries, where total number of babies delivered 2492. Where teenage pregnancy was 100 (4%).

Table II: Distribution of teenage women's according to antenatal checkup and contraceptive history (n=100)

Variable	Number	Percentage (%)
Antenatal care		
Regular	29	29
Irregular	71	71
Never	0	0
Contraceptive history		
Yes	44	44
No	56	56

Table II Shows a large number (71%) of teenage pregnancies was irregular in antenatal care, only 29% were aware or received this service on regular basis. There was a big difference between regular and irregular antenatal care. Considering the use of contraceptive history on the other hand, 44% teenage pregnancies were accustomed to it and the difference between contraceptive

Table III: Distribution of respondent according to the age group (n=100) and sociodemographic profile (n=100)

Variable	Number	Percentage (%)
Age group		
15-17 years	01	1
18 years	43	43
19 years	56	56
Mean, $\pm$ SD	18.55, $\pm$ 0.520 years	
Religion		
Islam	92	92
Hindu	08	08
Education		
Illiterate	25	25
Primary	40	40
High school & above	35	35
Residence		
Rural	68	68
Urban	32	32
Occupation		
Homemaker	73	73
Employed	27	27
Socioeconomic status		
High income	0	0
Middle income	27	27
Low income	73	73

Table III: Shows only one respondent was found in the age group of 15-17 years, 43% was 18 years old and 56% was 19 years old. The difference among the age group was high. Sociodemographic profile shows 92% of respondents were found Muslim which is expected scenario for Bangladesh. In terms of education, 25% were at illiterate, 40% at primary level and 35% at high school level, the difference in the education qualifications of the respondents was not too much. According to the residence 68% respondent were lives in urban area and 32% in rural, the difference between living status of rural and urban area is almost double. In occupation 73% were housemaker and 27% were employees, similarly 73% included low income and 27% middle income.

Table IV: Distribution of teenage pregnancies according to the antepartum, intrapartum, postpartum and puerperal complications (n=100)

Variable	Number	Percentage (%)
Anaemia		
Mild	47	47
Moderate	39	39
Severe	14	14
Preeclampsia	11	11
Eclampsia	31	31
Placenta praevia	01	1
Intrauterine death	05	5
Malpresentation	12	12
Preterm labour	31	31
Prelabour rupture of membranes	34	34
Fetal distress	02	2
Cephalopelvic disproportion	03	3
Obstructed labour	01	1
Prolonged second stage	04	4
Primary PPH	04	4
Perineal tear	02	2
Puerperal sepsis	01	1
Wound infection	05	5

Table IV: Shows about half (47%) of the respondent were anaemic where mild, moderate level was 39% and severe 14%, it means the distribution was not equal. On the other hand it was found that, preeclampsia 11%, eclampsia 31%, placenta praevia 1%, intrauterine death 5% and malpresentation 12%, in all the cases mentioned the distribution was not equal & preterm labour was found in 31% of teenage pregnancies, prelabour rupture of membranes 34%, fetal distress 2%, cephalopelvic disproportion 3%, obstructed labour 1% and prolonged second stage 4% under intrapartum complications and primary PPH was found in 4% of teenage pregnancies, perineal tear 2%, puerperal sepsis 1% and Wound infection 5% under postpartum and puerperal complications, distribution in all cases has also been found to be uneven.

Table V: Distribution of mode of delivery of teenage pregnancies (n=100)

Mode of delivery	Number	Percentage (%)
VD	59	59
LSCS	40	40
Forceps	01	1

Table V: shows three types of mode of delivery were found among the respondent, of which VD was 59%, LSCS 40% and forceps 1%, it means the distribution of mode of delivery was not equal.

Table VI: Distribution of neonatal outcome of teenage mothers (n=100)

Variable	Number	Percentage (%)
Birth weight		
1.5-2 kg	26	26
2-2.5 kg	29	29
2.5-3.5 kg	44	44
>3.5 kg	01	1
Mean,±SD	2.5910,±.41902	
Apgar score		
0-2	05	05
3-4	02	02
5-7	68	68
>8	25	25
Mean, ±SD	6.8400, ±1.69801	
IUGR	02	2
Still birth	01	1
RDS	03	03
Neonatal special care	12	12

Table VI: Shows maximum 26% of neonate weights were found in between 1.5 to 2kg and mean, SD 2.5910,.41902, APGAR score >8 was 25% and mean, SD 6.8400, 1.69801, IUGR 2%, still birth 1%, RDS in 3% and neonatal special care in 12% under neonatal outcome and distribution in all cases has also been found to be uneven.

Discussion

Early marriage and early childbirth has more detrimental effect on the health of girls. The aim of this study was the evaluation of fetomaternal outcome of

teenage pregnancy in tertiary level of hospital in Bangladesh. The present study was done in one hundred teenage patients among total 2492 deliveries (4%) admitted in Obstetrics and Gynaecology department in Rangpur Medical College Hospital (RPMCH) which was a tertiary level hospital for Rangpur city with surrounding districts. So, the present study reflects well about the adverse outcome of teenage pregnancies who attended in this referral hospital. The rate was lower (4%) in this study, indicates that the condition is improving, though there were some limitations as no opportunity to determine bone age as x-ray is contraindicated in pregnancy and birth certificate was not available. As per government rules, age of marriage for women is 18 years and the maximum teenage pregnancy occurred in the age distribution of 19 years (56%) followed by 18 years (43%), only one was found in the age group 15-17 years and so mean age of teenage mothers was high, 18.55 ± 0.520 year. It is consistent with the study of Meherda and Mathur where maximum teenage mothers were of the age of 19 year (60%).⁹ Also consistent with Aung SH where mean age of teenage mothers was 18.01 years.⁴ This series showed that majority of the teenage mothers were Muslim (92%). This attributed to the Muslim majority society of Bangladesh. Educational status among teenage mothers showed very low educational background of the respondent. Majority of the teenagers 40 (40%) had only primary education. These finding corroborates with previous studies conducted by Mehdi R⁶ and Ezegwui HU.¹⁷ Education play a major role in decreasing the incidence of teenage pregnancy and its attendant health risks and psychological issues. Out of 100 cases in study group 68% were from rural area and 32% from urban area. In rural area there was lack of antenatal care facilities, women were less empowered due to lack of education and also the study was conducted in Rangpur Medical College Hospital which is a public hospital where maximum cases were came from low affluent society and referred from different rural zone. This study was consistent with Jain and Gupta.¹⁴ These findings are similar to another study from Nepal where maximum number of teenage mothers were from rural areas 68%.³ Regarding

occupation of respondents, 73% were homemaker, 27% were employee, and was very similar to the study done by Doddihal CR.¹ Importance of good antenatal care is well established for achieving good fetomaternal outcome and is an important measure for the prevention and early recognition of complications during pregnancy and teenage mothers are no exception 29% women were booked and had regular antenatal visits compared to the 71% women having no previous antenatal visits. There was a big difference between regular and irregular antenatal care. These findings are comparable to a study done by Jain and Gupta.¹⁷ Teenagers are not used to take contraceptives despite the availability of it because they are discouraged by their family. Regarding the use of contraceptives among teenage mothers, there were no use of contraceptive among 56% of the women, use of contraceptives among 44%, similar to study done by Seneesh KV et al.¹⁹ Since the study was conducted among hospital teenage mothers, the cause of admission was to be emphasized. These included preterm labour (31%), prelabour rupture of membrane (34%), preeclampsia (11%), eclampsia (31%), prolonged labour (4%), obstructed labour (1%). The present study revealed PROM (34%), is similar to study done by Aung SH,⁴ preterm labour in 31% women and similar to a study by Mahesar ASZ et al that showed preterm labour in 23.07% teenage women.⁸ The incidence of eclampsia is 31%, which is consistent with study done by Ruman MU and Rhaman MM.² This study found that teenage mothers had a higher incidence of anaemia. The increased risk of this complication was most likely to have resulted from poor nutritional habits and low calorie intake by teenage mothers similar to that found by Tripathi M.⁷ Rate of caesarean delivery was high (40%) due to poor maternal efforts, underdeveloped pelvis and predominant indication being eclampsia, preeclampsia, cephalopelvic disproportion, fetal distress. Vaginal delivery (59%) was seen in cases with low birth weight baby's secondary to growth restriction or prematurity. It is consistent with study done by Jain and Gupta.¹⁴ Rate of instrumental delivery was (1%). In this study, postpartum

complications following delivery were more common in teenage group. Primary PPH (4%), wound infection (5%), perineal tear (2%), puerperal sepsis (1%) were more common in teenage mothers, which is very similar to the study done by Jain and Gupta.¹⁷ Regarding perinatal outcome, low birth weight was a major fetal complication (55%), mean birth weight was $2.5910, \pm 0.41902$ kg, as a result of inadequate nutrition, anaemia and the occurrence of preterm labour, with delivery of premature babies among teenage parturients in this study. This was noted in study conducted by Kasso T et al¹⁶, Derme M et al.¹⁸ Seneesh KV et al¹⁹ and IMR Goonewardene et al.²⁰ Low apgar scores was reported to be more common in adolescents and mean apgar score was 6.8400, ± 1.69801 . It is consistent with the study done by Usta IM et al.¹⁵ As there was only study group and no control group, so p value cannot be obtained. Results were presented as mean $\pm$ standard deviation for quantitative variables and numbers (percentages) for qualitative variables. This results refer to special situation of a developing country like Bangladesh characterized by poverty, problem with food, water and fuel supply and strong movement to the population towards the city and traveling difficulties. It must be reemphasized more over that the study population is represented by high risk women delivered in a big referral hospital; therefore both patient's characteristics and local obstetrical practices could influence the findings and limit their generalizability. Still, young teenagers are the only group of women who even in a developing country may perceive pregnancy as a negative event. This may be an important factor in strengthening the efficacy of the programs of health education, reproductive education and family planning whose priority clearly emerges not only in relation to perinatal outcome but also reduce maternal morbidity significantly.

Conclusion

Teenage means the youth of the population who are the future of the nation. A pregnant teenage "a child in a child" has to meet the growing demands of her fetus in addition to her own growing needs and putting her in a stressful situation. The younger the mother, the

higher the rate of maternal and neonatal complications. So, more emphasis should be taken on further reduction of teenage pregnancy. Greater emphasis should be placed on improvement of socioeconomic condition, female education, increased public awareness, enforcing marriage law, proper sex education and contraception to avoid teenage pregnancy. A sincere approach to the problem, preventive interventions and appropriate care during pregnancy, delivery and to neonates can do much in improving the situation.

Recommendations

Awareness should be created and spread regarding the adverse effects of teenage pregnancy. Media, social workers and NGOs can help in this. Government should take appropriate legislative measures discouraging under age marriages and consider necessary legal actions in strict implementation of the laws. More emphasis should be given on reduction of teenage pregnancy either by awareness, education, delaying the age of marriage or by increasing the use of any contraceptive method. If any pregnancy occur during teenage, there should take special care & regular antenatal checkup should ensure so that the major complications can be adequately dealt with.

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