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Adolescent Pregnancy of Maternal and Perinatal Outcome in A Tertiary Centre in Bangladesh

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Abstract

Introduction: Adolescent pregnancy is defined as pregnancy of teen-agers at the age of 10–19 years. About 11% of new-borns worldwide are delivered by adolescent women, the pregnancy complications of adolescent women account for 23% of women of all ages, and more than 90% of them occur in developing countries.

Objective: To assess the Adolescent pregnancy of maternal and perinatal in a Tertiary Centre in Bangladesh.

Methods: This was cross sectional study was contact at Obst & Gynas Department, Shaheed Tajuddin Ahmad Medical College Hospital, Gazipur, Bangladesh from January to June 2023. A total of 100 Adolescent (Age 15 to 19 yrs.) pregnant cases. Patients who were admitted in the emergency or out-patient department, with an adolescent pregnancy were included in this study. An interview based questionnaire was used to collect information from the patients or his/her relatives, regarding age, socio-demographic characteristics, educational level, clinical presentation, risk factors, complications during ante natal period, delivery outcome and perinatal outcome etc. after taking an informed written consent.

Results: Total 100 patients were selected for the study, which fulfill the inclusion criteria. In this series, the maximum number of teenage patients 44 (44.0%) were 18 years of age group, next 31 (31.0%) were the age group of 19 years. Among 36 (36%) teenage mothers come from rural, 57 (57%) from urban slum and 7 (7%) from urban non slum areas. Maximum numbers of patients were in primary level of education 58 (58.0%). Illiterate had 31 (31.0%) and can sign only 10(10.0%). The maximum number of patients 74 (74.0%) was primigravid and Multi gravid were 26(26.0%). In this series, the maximum number of patients 40 (40%) suffered from anemia, 10(10%) developed eclampsia and 6 (6%) developed IUGR. 32(32%) teenage mother developed no complication. Among the adolescent pregnant cases majority of the adolescent delivered normal vaginal delivery 68(68.0%), LUCS have 32(32.0%). No vacuum or forcep has done. The most common overall indication for caesarean section was fetal distress (about 34.2%), followed by eclampsia (22.8%). Shows that 5(5.0%) of teenage mothers suffered from PPH, 4(4.0%) had PPE, 3(3.0%) had wound infection and 7(7.0%) had partial breast feeding.

Study showed 16 (16.0%) of the babies developed birth asphyxia, 9 (9.0%) had prematurity, 6 (6.0%) jaundice. We observed low birth weight is a key predictor for fetal complication and child mortality. It may be due to babies born to adolescent mothers are likely to be premature, and hence, the incidence of low birth weight is higher in them CORE.

Conclusion: Bangladesh is a developing country and her health budget is minimum. Strokes are causing a great burden for the family, society, community as well as the nation. So, we should think about known modifiable risk factors of stroke, proper control of which plays an important role in the primary prevention of the disease.

Keywords: Adolescent, Pregnancy, Maternal and Perinatal Outcome.

Introduction

Adolescent pregnancy is defined as pregnancy of teen-agers at the age of 10–19 years.^[1] About 11% of new-borns worldwide are delivered by adolescent women, the pregnancy complications of adolescent women account for 23% of women of all ages, and more than 90% of them occur in developing countries.^[2] Compared with the pregnancy of adult women, the pregnancy of adolescent women usually increases the risk of adverse pregnancy outcomes, including fetal growth restriction, preterm delivery and neonatal death.^[3] On the other hand in developing countries like Bangladesh early marriage is very common, which is

due to poverty, ignorance, illiteracy and disturbance of surroundings. Women who marry early, on average, are more likely to have their first child at a young age and give birth to more children overall, contributing to higher fertility. Data of the Bangladesh demographic and Health Survey (BDHS-2011) revealed that, marriage occurs early for women in Bangladesh. Among women who are current age 15-19, 17.2 percent married by age 15, and 74 percent married by age 18. Men in Bangladesh tend to marry later in life than women.^[4] In Bangladesh, three women die every hour due to complications related to pregnancy and childbirth. The combination of poor nutrition and early child bearing expose young women to serious health-risks during pregnancy and childbirth, including damage to the reproductive tract, pregnancy-related complications, such as anaemia, pregnancy-induced hypertension, preterm labour, cephalopelvic disproportion, maternal mortality, perinatal and neonatal mortality, and low birthweight.^[5,6] However, in these societies, early pregnancy may combine with malnutrition and poor healthcare to cause medical problems. Early teenage pregnancy and its effects pose very severe problem for the individual, the family and the society as a whole in Bangladesh. In this study, several literatures were reviewed both in national and international levels. Teenage pregnancies represent a high-risk group in reproductive terms because of the double burden of reproduction and growth. Complications of pregnancy and childbirth are the leading cause of mortality among girls aged 15-19 years in developing countries.^[7] Studies on complications in teenage pregnancy have yielded conflicting results, and opinions of different authors vary in this regard. Some have opined that age by itself is not a risk factor, and poor outcomes are associated more with socioeconomic factors rather than with biological factors.^[8] Other researchers have failed to find any evidence for major impairments of pregnancy outcome among teenage mothers with provision of high-quality maternal care with complete coverage.^[9, 10]

Materials & Methods

This was cross sectional study was contact at Obst & Gynas Department, Shaheed Tajuddin Ahmad Medical College Hospital, Gazipur, Bangladesh from January to June 2023. A total of 100 Adolescent (Age 15 to 19 yrs.) pregnant cases. Patients who were admitted in the emergency or out-patient department, with an adolescent pregnancy were included in this study. An interview based questionnaire was used to collect information from the patients or his/her relatives, regarding age, socio-demographic characteristics, educational level, clinical presentation, risk factors, complications during ante natal period, delivery outcome and perinatal outcome etc. after taking an informed written consent. Thereafter thorough clinical examination was performed and some laboratory investigations were sent. This questionnaire was used for collection of information by interviewing adolescents. The data were analyzed by statistical (SPSS Version 2023) method and presented in the form of tables, figures, graphs, diagrams & charts etc.

Inclusion criteria

- Age-15 to 10 years.
- Primi or multigravida without medical complications.
- Gestational age-viable age to term.

Exclusion criteria

- Age more than 20 years.

- Associated with medical complications.

Statistical analysis: After collection, data was checked & analysis was done by Statistical package for social science (SPSS). Result of clinical study with statistical analysis was presented by tables, figures, graphs, diagrams and charts etc. All these had their own legends (i.e. title) and be serially numbered.

Results

Table 1: Age distribution of the adolescent pregnant girls (n=100)

Age (years)	Number of patients	Percentage (%)
19 years	31	31.0
18 years	44	44.0
17 years	19	19.0
16 years	2	2.0
15 years	4	4.0
Habitancy		
Rural	35	35.0
Urban slum	58	58.0
urban non slum	07	0.0
Occupation		
House wife	80	80.0
Service holder	2	2.0
Garments Worker	9	9.0
School teacher	1	1.0
Day labour	3	3.0
Maid servants	5	5.0
Education		
Primary	58	58.0
Secondary	0	0.0
Higher secondary	1	1.0
Can sign only	10	10.0
Illiterate	31	31.0
Adolescent mothers		
Prim gravid	74	74.0
Multi gravid	26	26.0

Total 100 patients were selected for the study, which fulfill the inclusion criteria. In this series, the maximum number of teenage patients 44 (44.0%) were 18 years of age group, next 31 (31.0%) were the age group of 19 years. Among 36 (36%) teenage mothers come from rural, 57 (57%) from urban slum and 7 (7%) from urban non slum areas. The majority of the teenage mothers comprised of housewives 80 (80.0%), then worker 9 (9.0%), maid servants 5 (5.0%) and day labour 3 (3.0%). Maximum numbers of patients were in primary level of education 58 (58.0%). Illiterate had 31 (31.0%) and can sign only 10 (10.0%). The maximum number of patients 74 (74.0%) was primigravid and Multi gravid were 26 (26.0%) (Table-1).

Table 2: Antenatal Checkup of adolescent mothers (n=100)

ANC	Number of patients	Percentage
Regular	9	9.0
Irregular	54	54.0
No check up	37	37.0

The table-2 shows that only 9 (9.0%) of teenage mothers had regular antenatal checkup, and 54 (54.0%) irregular, 37 (37.0%) had got no ANC.

Table 3: Gestational age at admission of teenage mothers (n=100)

Gestational age	Number of patients	Percentage (%)
< 28 weeks	2	2.0
28-37 weeks	17	17.0
37-42 weeks	78	78.0
> 42 weeks	3	3.0

The table-3 shows 78 (78.0%) of teenage mothers got themselves admitted in the hospital at gestational age between 37-42 weeks followed by 17.0% at 28-37 weeks.

Table 4: Antepartum complications (n=100)

Antepartum complication	Percentage (%)	Percentage (%)
Anemia	40	40.0
Pre-eclampsia	10	10.0
Eclampsia	09	9.0
Malpresentation	02	2.0
IUD	01	1.0
JUGA	06	5.0
No complications	32	32.0

In this series, the maximum number of patients 40 (40%) suffered from anemia, 10(10%) developed eclampsia and 6 (6%) developed IUGR. 32(32%) teenage mother developed no complication.

Table 5: Mode of delivery (n=100)

Mode of delivery	Number of patients	Percentage
Normal vaginal delivery	68	68
LUCS	32	32

The table-8 shows that 93(93.0%) babies were born alive, among them 89 (89.0%) take home alive and 4(4.0%) were early neonatal death. There also 7(7.0%) were stillbirth.

Table 9: Fatal complication and morbidities (n=100)

Fetal morbidity	Number of cases	Percentage
Birth asphyxia	16	16.0
Prematurity	9	9.0
IUGR	5	5.0
Jaundice	6	6.0
Septicemia	3	3.0

Among the cases 16(16.0 %) of the babies developed birth asphyxia, 9(9.0%) had prematurity, 6 (6.0%) had jaundice.

Discussion

Adolescent women in the sample were found to be at significantly increased risk of delivering babies extremely preterm and with extremely low birth weights after adjustment for confounding factors. Identifying the risk of delivering babies with an extremely low birth weight is of particular importance due to its association with neonatal mortality and morbidity. Babies with extremely low birth

weight are more likely to die in the first few months of life [10] and are more likely to have long lasting physical and cognitive developmental issues [11] compared with babies born at higher weights. Extreme low birth weight and extreme preterm delivery are intrinsically linked, and thus morbidity and mortality in extremely preterm infants is similar to those with extremely low birth weights [12]. Most young women are the victim of malnutrition, lack of education, low social status and economically weak. The health and life of teenage girls are put at risk by pregnancy and childbirth, especially where living conditions are poor and health care facilities are inadequate. In this series, the maximum number of teenage patients 44.0 (44%) were 18 years of age group, next 31 (31.0%) were between the age group of 19 years. There was no teenage mother aged less than 15 years. This finding correlates with the study of home and abroad. Study of Prianka Mukhopadhyay, R.N Chaudhuri, and Bhaskar Paul "Hospital-based Perinatal Outcomes and Complications in Teenage Pregnancy in India. [13] Shows that maximum number of teenage mothers (age 13-19 years) belonged to the age-group of 18-19 years (approximately 89%). According to the study of Haider SJ. Saleh SN et al. [14] shows that mean age of first marriage is 15 years, and 27% of teenage girls are

Table 6: Indications for LUCS (n=35)

Indications	Number of patients	Percentage (%)
CPD	5	14.2
Malpresentation	2	5.7
Eclamsia	8	22.8
Pre-eclamsia	0	0.0
Obstructed labour	5	14.2
Prolonged labour	3	8.5
Fetal distress	12	34.2

The most common overall indication for caesarean section was fetal distress (about 34.2%), followed by eclamsia (22.8%).

Table 7: Post-partum complication (n=100)

Post-partum complication	Number of patients	Percentage (%)
PPH	5	5.0
Puerperal sepsis	3	3.0
PPE	4	4.0
Token feed	3	3.0
Partial breast feeding	7	7.0
UTI	4	4.0
Wound infection	3	3.0

The table-7 shows that 5(5.0%) of teenage mothers suffered from PPH, 4(4.0%) had PPE, 3(3.0%) had wound infection and 7(7.0%) had partial breast feeding.

Table 8: Perinatal outcome (n=100)

Perinatal outcome	Number of patients	Percentage (%)
Live birth	93	93.0
Take home alive	89	89.0
Early neonatal death	4	4.0
Still birth	7	7.0

weight are more likely to die in the first few months of life [10] and are more likely to have long lasting physical and cognitive developmental issues [11] compared with babies born at higher weights. Extreme low birth weight and extreme preterm delivery are intrinsically linked, and thus morbidity and mortality in extremely preterm infants is similar to those with extremely low birth weights [12]. Most young women are the victim of malnutrition, lack of education, low social status and economically weak. The health and life of teenage girls are put at risk by pregnancy and childbirth, especially where living conditions are poor and health care facilities are inadequate. In this series, the maximum number of teenage patients 44.0 (44%) were 18 years of age group, next 31 (31.0%) were between the age group of 19 years. There was no teenage mother aged less than 15 years. This finding correlates with the study of home and abroad. Study of Prianka Mukhopadhyay, R.N Chaudhuri, and Bhaskar Paul "Hospital-based Perinatal Outcomes and Complications in Teenage Pregnancy in India. [13] Shows that maximum number of teenage mothers (age 13-19 years) belonged to the age-group of 18-19 years (approximately 89%). According to the study of Haider SJ. Saleh SN et al. [14] shows that mean age of first marriage is 15 years, and 27% of teenage girls are

mothers. According to Susan S, et al. [15] pregnancy of teen age patients was 32%. It is comparable to the present study. According to Ghosh N. Ghos B., teenage pregnancy estimated it to be high as 14.9% [16]. The present study shows that 36 (36.0%) teenage mothers came from rural, 57 (57.0%) from urban slum and 7 (7.0%) from urban non slum areas. Study also showed that 44% of the teenage mothers have come from low socioeconomic class, only 18% from upper class. Study revealed that economic instability plays important factor for early marriage in our society, about 39 (39.0%) of cases found economical causes for early marriage, then family tradition 23 (23.0%). Most of the teenage mothers were housewives 80 (80.0%), then worker 9 (9.0%). All these findings are comparable with others study, Study of Sarker et al shows 51.3% of teenage mothers came from rural areas [17]. The current study shows that Illiterate was 31 (31.0%) and can sign only 10(10.0%), 58 (58.0%) had primary and no one had secondary and only 1(1.0%) had higher secondary education. Cooksey et al. have shown that increased maternal education leads to first intercourse at a later age and a higher likelihood of using contraceptives at first intercourse [18]. According to BANBEIS report, 65.5% Bangladeshi are educated [19]. This study shows that only 8(6.66%) teenage mothers used contraceptive regularly and 62 (62.0%) never used contraceptives. The present study showed that planned pregnancy was only 20%; majority of teenage pregnancy was against their desire. Main causes of which are ignorance about contraceptives. The table shows that only 9 (9.0%) of teenage mothers had regular antenatal checkup, and 54 (54.0%) irregularity, 37 (37.0%) had got no ANC. This indicates that the teenage mothers were less careful about their pregnancy probably because of the lack of awareness and maturity. Other authors had reported early registration of pregnancy ranging from 40% to 90% in teenagers; however, the frequency of antenatal check-ups by them was consistently lower [20-22]. In this series, the maximum number of patients 40 (40%) suffered from anemia, 10(10%) developed eclampsia and 6 (6%) developed IUGR. 32(32%) teenage mother developed no complication. According to Osbourne GK et al study showed that 'anaemia was the only antenatal complication that was significantly increased [23]. The current study shows that Caesarean section was 32 (32.0%) and normal vaginal delivery 68 (68.0%). Among teenage mother vaginal delivery was more and caesarean section was lower, this could be due to a higher proportion of smaller babies in that age-group. Our study also showed most common overall indication for caesarean section was fetal distress (about 34.2%), followed by eclampsia (22.8%). This result correlated with study of Prianka Mukhopadhyay, R.N. Chaudhuri, and Bhaskar Paul "Hospital-based Perinatal Outcomes and Complications in Teenage Pregnancy in India [13]" That teenage mothers had a higher proportion (65.7%) of normal vaginal delivery compared to the older mothers (61.4%). Foetal distress and pre-eclampsia were more commonly indication of C/S found among the teenage mothers [13]. In this current study 16 (16.0%) of the babies developed birth asphyxia, 9 (9.0%) had prematurity, 6 (6.30%) developed jaundice. Low birth weight is a key predictor of malnutrition and an important determinant of child mortality [24]. One of the most detrimental outcomes of low birth weight is growth retardation, and if the newborn happens to be a girl, it perpetuates a vicious cycle of female malnutrition throughout adolescence and adulthood. This process gives rise to a

condition of Intergenerational transmission of physical (small mothers have small babies), social and economic disadvantages into the next generation [25]. The present study found that the number of low-birth weight babies, very low birth weight babies were more in teenage mothers (68±34). Babies born to teenage mothers are likely to be premature, and hence, the incidence of low birthweight is higher in them. This observation corroborates the findings of several other authors [26].

Conclusion

The findings of the study suggest that adolescent childbearing and motherhood are common and still deeply embedded among Bangladeshi women. They developed more perinatal complications, such as preterm births, stillbirths, and neonatal deaths, and delivered babies with low-birth weight. Early marriage is directly associated with early childbearing. Higher incidents of maternal mortality, morbidity and perinatal complication in Bangladeshi are result from higher prevalence of teenage motherhood. Future studies should evaluate the associated factors explaining a higher incidence of adverse maternal outcomes among teenagers. Therefore, targeted antenatal and preventive programs can be arranged to prevent teenage pregnancies and its concomitant adverse outcomes.

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