

## Maternal and Fetal Outcome at Labor in Primigravid Adolescents

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### Abstract

**Introduction:** Adolescent, as defined by the world health organization is the period of life between 10 to 19 years. It is the time of development involving changes in physical, mental, emotional, spiritual, and social functioning. A primigravid is someone pregnant for the first time. In our country, adolescents are often primigravid in nature, due to early marriage. Aim of the study To evaluate the maternal and fetal outcome of labor in primigravid adolescents.

**Methods:** This descriptive cross-sectional study was conducted at the department of obstetrics and Gynaecology, Dhaka Medical College Hospital, Dhaka from April 2017 to September 2017. A total of 105 participants were included in the study. The sampling procedure followed a purposive sampling technique. Data were analyzed using the statistical package for social science (SPSS) for windows version 16. Ethical clearance for the study was taken from the Ethical review committee of Dhaka Medical College.

**Results:** The majority of adolescent mothers were between the age of 17 years to 19 years (87.62%). The majority were housewives (88.57%). Only 8.57% of patients used the contraceptive method regularly. 77.14% of pregnancy was planned and 22.86% was unplanned. 80% had an irregular antenatal checkup and 20% had regular checkups. Maximum (62.86%) were anemia and 20.95% were edema cases. 53.33% of adolescent mothers had a normal vaginal delivery, 6.67% had assisted breech delivery, 6.67% had ventouse delivery and 33.33% had a cesarean section. Post-partum haemorrhage (7.62%), postpartum eclampsia (12.38%). 59.05% of adolescent mothers were healthy and 1.90% of neonatal death. 5.71% perinatal mortality in adolescent mothers.

**Conclusion:** Adolescents are real assets and can be the driving force of positive change in society. They need to be brought up with care and tenderness and it is our duty to help them grow safe and with high quality of life.

**Keywords:** Adolescents, Primigravid, Fetal outcome

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### Introduction:

Adolescence, as defined by the world health organization is the period of life between 10 to 19 years.<sup>1,2</sup> It is the time of development involving changes in physical, mental, emotional, spiritual, and social functioning.<sup>3, 4, 5</sup> A primigravid is pregnant for the first time.<sup>6</sup> Adolescence is the period of life during which a carefree child becomes a responsible adult.<sup>7</sup> About 14 million women 15-19 years old give birth each year, about 11% of all births worldwide. The adolescent population in Bangladesh (10-19 years) totaled 40.66 million in 2009, indicating an annual growth of about 1.78%. Over 27% of adolescent women in Bangladesh have given birth another 7% are currently pregnant with their first child 2007. Malnutrition in adolescence can cause poor growth or stunt the normal development of the body which can result in a small pelvis that leads to difficult labor with the consequences of chronic morbidity and even mortality for both mother and

child. Early marriage is a social norm in Bangladesh between the age of 15 and 19 years. Over 42% of 15-19 years old are married, whereas about 30% of adolescents are married by the age of 15 and about 60% are married by the age of 18, which is the legal age of marriage.<sup>4</sup> For years it has been accepted that adolescence is a high-risk pregnancy. In our socioeconomic background, early marriage is a tradition, even children are a sign of blessed marriage. For some young women, the school does not hold any great attraction them.<sup>5</sup> Moreover, lack of education and poverty leads to seeking economic and family support through marriage which adds to a contributing factor to early marriage and childbearing.<sup>4</sup> In a study, it has been found that the maternal mortality rate in the 13 to 19 years age group was 5.8/1000 compared to 1.8/1000 for 20 to 25 years age group.<sup>8</sup> The neonatal death rate was 80/1 000 for the younger group and 43/1000 for older.<sup>8</sup> Adolescent mothers are unable to take proper care of themselves and their children.<sup>9</sup> Adolescent pregnancy remains a significant social, economic, and health issue. The unique developmental needs of pregnant adolescents require attention when designing prenatal care services. Prenatal care should provide education and support for young women in an active and developmentally appropriate environment.<sup>10</sup> Early marriage and childbearing, and differential health care utilization are associated with the poor health status of the women, due to the adverse social, cultural, political, and economic environment of societies.<sup>11</sup> Pregnancy outcome showed live births, stillbirth miscarriage, abortion was higher among younger age adolescents.<sup>11</sup> Objectives of this study are to evaluate the maternal and fetal outcome of labor in primigravid adolescents, to find out the prevalence of primi adolescent pregnancy and to evaluate the socio-demographic characteristics of adolescent mothers. To attain successful safe motherhood adolescent pregnancy stands as a burning issue and proper attention and evaluation for the prevention of its devastating effect.

#### Methods:

This descriptive cross-sectional study was conducted at the department of obstetrics and Gynaecology, Dhaka Medical College Hospital, Dhaka from April 2017 to September 2017. A total of 105 participants were included in the study according to the following inclusion and exclusion criteria. The sampling procedure was a purposive technique. After taking written consent from the patient, a thorough history taking, clinical examination & relevant investigations were done. Data were analyzed using the statistical package for social science (SPSS) for windows version 16. With inclusion criteria, All primi pregnant women admitted between the 13-19 years in labour irrespective of gestational age. Some exclusion criteria,

patient with known medical diseases, DM, Heart disease, jaundice, and who were discharge before completion of the study.

#### Results:

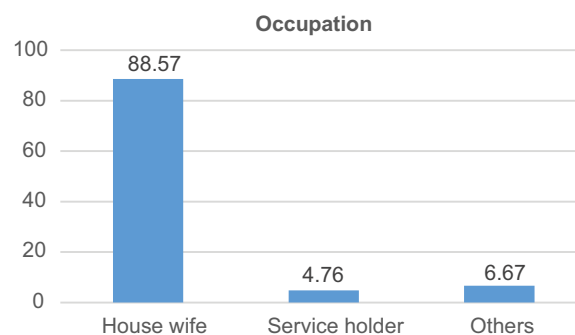
The cross sectional study was done to evaluate the national and fetal outcome of labour in primigravid adolescent.

**Table-I**

*Age distribution of the patient (N=105)*

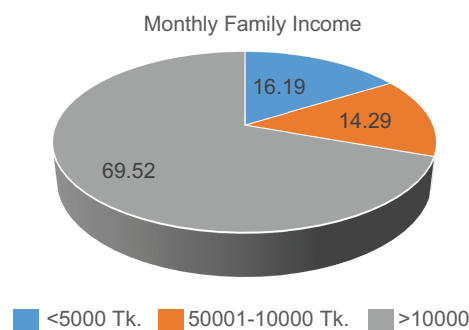
Age	Number	Percentage %
13-16 years	13	12.38
>16-19 years	92	87.62

The majority of the patients were in the age group of >16–19 years (87.62%), with a smaller proportion in the 13–16 age group (12.38%).



**Fig-1:** *Distribution of occupational status (N=105)*

Among the participants, a significant number of patients were housewives (88.57%), while a smaller percentage were service holders (4.76%) and others (6.67%).



**Fig-2:** *Distribution of monthly family income (N=105)*

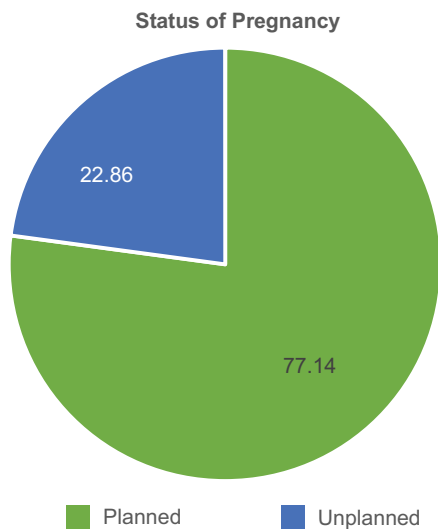
Regarding monthly family income, the majority of patients had an income of less than 5000 Tk. (69.52%), followed by 5001–10000 Tk. (16.19%), and >10000 Tk. (14.29%).

**Table II**

*Distribution of the study patients according to their risk factor(N=105)*

Category	Number	Percentage(%)
Use of contraceptives		
Didn't use	89	84.76
Irregular	7	6.67
Regular	9	8.57
Clinical state		
Anemia	66	62.86
Jaundice	0	0.00
Edema	22	20.95

Among the participants, the majority of patients (84.76%) did not use contraceptives, while a small percentage reported irregular usage (6.67%) and regular usage (8.57%). Regarding clinical states, the most common risk factor observed among the patients was anemia, affecting 62.86% of the participants. The occurrence of jaundice was not reported in any of the patients, and 20.95% of the patients had edema as a clinical state.



**Fig-3:** Present pregnancy status between two groups (N=105)

In this figure, 77.14% of pregnancy was planned and 22.86% was unplanned

**Table III**

*Maternal and Delivery Outcomes (N=105)*

Category	Number	Percentage (%)
Antenatal checkup		
Regular	21	20.00
Irregular	84	80.00
Labor status		
Preterm labor	78	74.28
Term labor	27	25.71
PROM	12	11.42
Mode of delivery		
Normal vaginal delivery	56	53.33
Assisted vaginal delivery	7	6.67
Ventouse	7	6.67
Cesarean section	35	33.33
Complications following delivery		
Postpartum eclampsia	13	12.38
Puerperal sepsis	6	5.71
Wound infection	10	9.52
Postpartum hemorrhage (PPH)	8	7.62
Postpartum spinal headache	6	5.71

The antenatal checkup showed that 20% of women had regular checkups, while 80% had irregular checkups. Regarding labor status, 74.28% experienced preterm labor, 25.71% had term labor, and 11.42% experienced premature rupture of membranes (PROM). The mode of delivery varied, with 53.33% having a normal vaginal delivery, 6.67% assisted vaginal delivery, 6.67% ventouse-assisted delivery, and 33.33% undergoing a cesarean section. Complications following delivery included 12.38% of cases with postpartum eclampsia, 5.71% with puerperal sepsis, 9.52% with wound infection, 7.62% with postpartum hemorrhage (PPH), and 5.71% with postpartum spinal headache.

**Table IV**

*Perinatal Outcome and Mortality (N=105)*

Condition	Number	Percentage (%)
Healthy	62	59.05
Birth asphyxia	37	35.23
Stillbirth fresh	2	1.90
Matured	2	1.90
Perinatal death	2	1.90
Antepartum & intrapartum mortality	4	3.81
Perinatal mortality	6	5.71
Total	105	100

According to the data, the majority of cases, 59.05%, had successful and healthy births. Birth asphyxia was experienced in 35.23% of cases. The percentage of stillbirths and cases where infants were born matured was 1.90% each. Similarly, perinatal deaths also accounted for 1.90% of the cases. Furthermore, there were four cases (3.81%) of mortality occurring before or during childbirth, and a total of six cases (5.71%) of mortality during the perinatal period.

### Discussion:

In our study, the majority of adolescent mothers were between 17 years to 19 years (87.62%). Bangladesh is a developing country with about 140.3 million population. About 50% of them are women and 15.4% belong to less than 20 years of age. 30.57 million women are between the age of 15 and 49 years.<sup>12,13</sup> This study found that most of the adolescents (88.57%) were housewives. Ilesanmi et al<sup>14</sup> observed in their study that adolescent incident was 44%. This study showed that 69.52% of adolescent mothers had come from a low socioeconomic class. The increased risk of adverse pregnancy outcomes associated with low maternal age has largely been attributed to poor socioeconomic conditions among adolescents.<sup>15</sup> A study by Yodev and Yong<sup>16</sup> showed that most adolescent mothers were from a lower socioeconomic background. This study shows that only 11.43% of adolescents used contraceptives and 88.57% of adolescents never used contraceptives. DHS and UNIS<sup>17</sup> and BDHS reports<sup>18</sup> show that contraceptive prevalence in Bangladesh is 53.8%. In a study by Zeck et al<sup>19</sup>, two-thirds of the adolescents had not used any type of contraception before becoming pregnant. This study found 77.14% of pregnancies were unplanned, the main causes of which are ignorance about contraceptives. In a study by Zeck et al<sup>19</sup>, the majority of pregnancies among adolescents were unintended 84%. This study shows that 40% of adolescents had a regular antenatal checkup and 60% of adolescents had no antenatal checkup. According to the BDHS report,<sup>17</sup> 48% of mothers have an antenatal checkup in Bangladesh. A Study by Yodev<sup>16</sup> states that adolescent mothers use prenatal care less than older mothers. This study shows that 6.86% of adolescent mothers are anemic and 20.95% have edema. A study by Susan et al<sup>20</sup> shows that pregnancy with maternal anemia is 26.3%, UTI-19.9%, respiratory tract infection- 5.4%. Another study by Mahavarkar et al<sup>18</sup> found 23% anemia in adolescent pregnancy. Ilesanmi et al<sup>14</sup> study show anemia was more frequent in the younger primigravidae. This study shows that 53.33% of adolescents had a normal vaginal delivery, 33.33% had cesarean section and 6.67% had ventouse

delivery. In a study, Smith CS et al<sup>21</sup> showed that among first births, the only significant difference in adverse outcomes by age group was for emergency cesarean section, which was less likely among younger mothers. In a study of Hull cesarean section rate in the index, the group was 0.56 times that in the elderly primi group.<sup>22</sup> According to the British journal of obstetrics and gynecology-the cesarean section, rates were not higher for younger adolescents in comparison to the control group.<sup>13</sup> In this study complications following delivery were post-partum hemorrhage, postpartum eclampsia, puerperal sepsis, and wound infection were seen in adolescent pregnancy. In this study perinatal mortality, it was 5.71% in adolescent pregnancy. Sundari TK et al<sup>23</sup> found that the perinatal mortality rate was 82/1000. Bangladesh Demographic and Health Survey report<sup>18</sup> shows that in Bangladesh MMR is 1.62 per thousand. However, our study did not identify any cases of maternal mortality in adolescent pregnancies. It should be emphasized that the findings regarding maternal mortality in our study may not be considered reliable due to several factors. These factors include a limited number of participants, short durations of hospital stays, and other challenges such as a shortage of beds. Therefore, it is important to interpret the absence of maternal mortality cautiously in our study.

### Conclusion:

Adolescents are real assets and can be the driving force of positive change in society. They need to be brought up with care and tenderness and it is our duty to help them grow safe and with high quality of life. Finally, it can be said that to reduce adolescent pregnancies, a multi-pronged program should be undertaken on a national level which should target, firstly, the adolescent population so that they are provided with education including sex education which would make them aware of the risk of unwanted and adolescent pregnancies and the risks of sexually transmitted diseases and knowledge of modern methods of contraception and the place of their availability. Secondly, establishing a large number of health and family planning service centers throughout the country so that such services are available to the general population.

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