

## Original article

# Pregnancy complication in teenage mother: a cross-sectional analysis

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### Abstract

**Background:** Teenage pregnancy is universally accepted as a high-risk pregnancy. Bangladesh has the highest (1 in 10) teenage fertility rate in South Asia. **Objective:** The study was conducted to find out the common pregnancy complications of teenage mothers. **Methodology:** A comparative cross-sectional study was carried out among 100 respondents (50 teenage and 50 adults) in Munshiganj General Hospital from 1st January to 31st December 2018. Respondents were admitted patients who have delivered either vaginally or by caesarian section. Women aged 15 to 19 years were selected as teenage and those aged 20 to 40 years were selected as adults. Past obstetric history, antenatal checkup, antepartum and intrapartum complications, clinical state on admission, and postpartum complications were recorded in a semi-structured questionnaire. Obstetrical parameters of teenage and adult groups were compared. **Results:** 56% of teenagers had no ANC. Anemia (62%) and hypertension (24%) were prevalent among the pregnant teenagers. Antepartum and intrapartum complication rates were more in the teenage group, like preeclampsia (12%), eclampsia (14%), preterm labor (12%), prolonged labor (14%), and obstructed labor (8%). The cesarean rate was higher (66%) in teenage pregnancy; more commonly due to eclampsia (14%), preeclampsia (6%), prolonged labor (10%) and obstructed labor (8%). Postpartum complications like PPH (4%) and postpartum eclampsia (4%) were more prevalent in teenagers. **Conclusion:** The majority of the respondents had no ANC. Antepartum and intrapartum complication rates were more prevalent in the teenage group. Postpartum complications were more prevalent in teenagers also. As a result, adverse perinatal outcome was observed in teenage pregnancy.

**Keywords:** Teenage pregnancy, Pregnancy complication, Perinatal outcome.

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## Introduction

Teenage pregnancy means pregnancy in females under the age of 20. Teenagers are still growing and their bodies are not yet ready to have babies. Complications during pregnancy and childbirth are the leading cause of death for teenage girls globally<sup>1</sup>. In South Asia, Bangladesh has the highest adolescent fertility rate. Here 1 in 10 girls has a child before the age of 15, whereas 1 in 3 adolescents becomes mothers or pregnant by the age of 19<sup>2-4</sup>. Bangladesh has remarkable progress in human development but adolescent childbearing is highly persistent, mostly due to the comparatively higher prevalence of child marriage<sup>5,6</sup>. 50% of all adolescent births occur in just seven countries: Bangladesh, Brazil, the Democratic Republic of the Congo, Ethiopia, India, Nigeria and the United States<sup>7</sup>.

Early marriage results in too early pregnancy. Early motherhood results in inadequate growth, undernutrition, hypertension and anemia. Motherhood imposed on an immature body, can result in prolonged and obstructed labor and lifelong health problem as their pelvic growth is incomplete. According to the World Health Organization, globally the leading causes of death among girls aged 15-19 years are pregnancy and childbirth complications. Low and middle-income countries account for 99% of global maternal deaths of women aged 15-49 years<sup>8</sup>.

To a vast majority of teenage girls in the developing world, family planning information and services are not accessible. Primarily depend on untrained or relatively less trained traditional birth attendants and older relatives for delivery. So pregnancy complications are much higher in teenage mothers.

The study was conducted to find out the common complications of teenage pregnancy which would help to facilitate generating better policy directions to bring desired changes in teenage childbearing in Bangladesh, which will eventually contribute to ensuring the quality of life of teenage mothers and children.

## Materials and Methods

This comparative cross-sectional study was carried out in Munshiganj General Hospital, Munshiganj from 1st January to 31st December 2018. Respondents were admitted patients who have delivered either vaginally or by caesarian section. Women aged 15 to 19 years were selected as teenage and those aged 20 to 40 years were selected as adults. A purposive and convenient sampling method was done to obtain the samples, 50 teenage and 50 adults. After the formulation of the aims and objectives of the study, a semi-structured questionnaire was made for recording all relevant parameters. Information was recorded through face-to-face interviews of the respondents and from the patient's file about socio-demographic condition, contraceptive method, antenatal checkup, antepartum and

intrapartum complications, mode of delivery, perinatal outcome and clinical state on admission. Antenatal complications like abortion, molar pregnancy, hyperemesis gravidarum, preterm labor, prelabour rupture of membrane, preeclampsia, eclampsia, antepartum hemorrhage, and malpresentation were recorded. Intrapartum complications like eclampsia, prolonged labor, obstructed labor, or postpartum hemorrhage were also recorded. Mode of delivery whether by normal vaginal delivery or by caesarian section and perinatal outcome whether the baby was normal, cried well just after birth, or was asphyxiated or stillborn were also noted. After obtaining the data statistical analysis of the results was performed using SPSS (Statistical Package for the Social Sciences) version 20 software. The obstetrical parameters of the teenage and adult groups were compared using the z-score test. Statistical significance was set at  $\leq 0.05$  level and confidence interval at 95% level.

## Results

Table I: Antenatal checkup

ANC	Teenage		Adult		Test of significance	
	n=50	%	n=50	%	Z	P
Regular	14	28	23	46	2.4425	0.0146
Irregular	8	16	7	14	0.3960	0.6892
No ANC	28	56	20	40	2.8486	0.0044

Most teenage (56%) had no ANC and it was statistically significant ( $<0.05$ ).

Table II: Clinical state

Parameter	Teenage		Adult		Test of significance	
	n=50	%	n=50	%	Z	P
Anemia	31	62	19	38	3.6449	.00
Edema	12	24	11	22	-	-
Hypertension	12	24	2	4	9.0011	.00
Proteinurea	6	12	2	4	4.4915	.00

Anemia (62%) and hypertension (24%) were prevalent among the pregnant teenagers which was statistically significant ( $<0.05$ ).

Table III: Antepartum and Intrapartum complications

Complication	Teenage		Adult		Test of significance	
	n=50	%	n=50	%	Z	P
Hyperemesis	1	2	1	2	-	-
Preeclampsia	6	12	1	2	4.5001	-
Eclampsia	7	14	0	0	-	-
IUD	1	2	1	2	-	-
Preterm labor	6	12	2	4	3.8065	0.423
Malpresentation	5	10	0	0	-	-
Prolonged labor	7	14	2	4	4.605	0.424
Obstructed labor	4	8	2	4	1.1533	0.2460
Scar tenderness	0	0	8	16	-	-
APH	0	0	0	0	-	-
Oligohydramnios	2	4	1	2	1.1533	0.2460
No complication	13	26	31	62	1.1533	0.2460

Complication rate were more in teenage group, like preeclampsia (12%), eclampsia (14%), preterm labor (12%), prolonged labor (14%), obstructed labor (8%).

Table IV: Mode of delivery

Mode	Teenage		Adult		Test of significance	
	n=50	%	n=50	%	Z	P
NVD	22	44	29	58	4.6162	0.00
LSCS	28	66	21	42	3.5714	-

The Caesarean rate was higher (66%) in teenage pregnancy.

Table V: Indication of LSCS

Indication	Teenage		Adult		Test of significance	
	n=50	%	n=50	%	Z	P
Prolonged labor	5	10	2	4	1.0381	0.2984
Obstructed labor	4	8	2	4	1.0081	0.2184
Preeclampsia	3	6	0	0	1.7230	0.0534

Eclampsia	7	14	2	4	0.005	0.005
Fetal distress	3	6	3	6	-	-
Failed trial	1	2	2	4	0.6565	0.5092
Malpresentation	4	8	1	2	0.0381	0.2134
Oligohydramnion	2	4	2	4	-	-
Previous LSCS	1	2	8	16	4.1315	0.2582

LSCS in teenage pregnancy is more commonly due to eclampsia (14%), preeclampsia (6%), prolonged labor (10%) and obstructed labor (8%).

Table VI: Postpartum complications

Complication	Teenage		Adult		Test of significance	
	n=50	%	n=50	%	Z	P
No complication	39	78	43	86	0.3596	0.005
PPH	2	4	0	0	-	-
UTI	3	6	3	6	-	-
Puerperal sepsis	2	4	2	4	-	-
Wound infection	2	4	2	4	-	-
Postpartum eclampsia	2	4	0	0	-	-

Complications like PPH (4%) and postpartum eclampsia (4%) were more prevalent in teenage pregnancy.

Table VII: Perinatal outcome

Condition	Teenage		Adult		Test of significance	
	n=50	%	n=50	%	Z	P
Healthy	28	56	36	72	1.4286	0.1528
Asphyxiated	18	36	10	20	1.5523	0.1212
Stillborn	4	8	4	8	-	-

Better perinatal outcomes were found in the adult group.

## Discussion

During pregnancy, the increased demand for blood flow can put a strain on teenage mothers to carry the extra circulatory load. In pregnancy high blood pressure and other complications like preeclampsia, eclampsia can result in reduced fetal birth weight and growth, placing the mother at

risk of many complications and even death. Combined with a diet poor in iron-rich foods, which is common among teens, anemia can result. A study conducted by Rahman M. et al<sup>9</sup> found that maximum teenage suffered anemia complications during the time of pregnancy. The present study revealed that 62% of teenage were anemic whereas only 38% were anemic in the adult group. 24% of teenage became hypertensive during pregnancy and 6% showed proteinuria, 12% developed preeclampsia, 14% suffered from eclampsia while in the adult group, only 2% were hypertensive, 2% showed proteinuria, 2% developed preeclampsia and no one suffered from eclampsia. Several other studies also observed that pregnancy complications like hypertension, eclampsia, and iron deficiency anemia were common among adolescents<sup>10-14</sup>.

Teenage mothers have the possibility of premature labor. Asphysically teenage mothers have immature reproductive organs that may not be prepared to carry an infant to term. Sexually transmitted diseases also increase the risk of preterm labor and birth. Immaturity in the growth of birth passage leads to prolonged labor and obstructed labor with all its adverse consequences like a perineal tear, uterovaginal prolapse, and vesicovaginal fistula leading to continuous leakage of urine. This study showed pregnancy culminated in preterm labor in 12%, prolonged labor in 14% and obstructed labor in 8% of cases. The adult group showed 4%, 4% and 2% respectively. A study conducted by Rahman M. et al<sup>9</sup> found that about 98% of teenage suffered delivery complications like eclampsia, lengthy delivery, excess hemorrhage, and delay in delivery of placenta whereas only 16% suffered these complications that were pregnant at age 20 years and later. More than fifty percent of adolescents undergo lengthy delivery and very few (2%) adolescents delivered babies safely<sup>9</sup>. In a study, Rebecca also found preeclampsia, preterm labor, LBW, STD, and postpartum depression were more common in teenage pregnancy<sup>15</sup>. Pregnancy during the teenage years is also associated with a higher risk of health problems such as preeclampsia, anemia, contracting STDs (sexually transmitted diseases), premature delivery, postpartum hemorrhage, and poor mental health outcomes<sup>16</sup>.

Prof. Sayeba Akter observed stillbirths and newborn deaths were 50% higher among babies of teenagers. They are also more likely to have low birth weight, having a long-term impact on their health and development<sup>17</sup>. Phuong Hong Nguyen<sup>18</sup> study in Bangladesh showed a greater risk of anemia, and low birth weight affecting the lifelong well-being of a young mother and her child. Economic risks also weighed heavily on younger mothers, who demonstrated higher rates of early school dropout which leaves them less empowered in the long term and thus more vulnerable to sustained poverty<sup>18</sup>.

## Conclusion

Teenage pregnancy is universally accepted as a high-risk pregnancy. The majority of the respondents had no ANC. Antepartum and intrapartum complication rates were more prevalent in the teenage group. Postpartum complications were more prevalent in teenage also. As a result, adverse perinatal outcome was observed in teenage pregnancy.

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