Chattagram Maa-O-Shishu Hospital Medical College Journal
Volume 23, Issue 1, January 2024

Original Article

Perinatal Outcomes of Teenage Mothers and Their Babies

Jannatul Ferdoues[1*]
Tanuka Barua[2]
Farjana Ahmed Surovi[1]
Farah Naz Mabud[1]
Serajun Noor Rosy[1]

[1]Department of Obstetrics & Gynaecology
Chattagram Maa-O-Shishu Hospital Medical College
Chattogram, Bangladesh.

[2]Department of Paediatrics
Chattagram Maa-O-Shishu Hospital Medical College
Chattogram, Bangladesh.

*Correspondence to:
Dr. Jannatul Ferdoues
Registrar
Department of Obstetrics & Gynaecology
Chattagram Maa-O-Shishu Hospital Medical College
Chattogram, Bangladesh.
Mobile : +88 01815 95 42 45
Email : nishujannatul@gmail.com

Date of Submission : 15.11.2023
Date of Acceptance : 20.12.2023

www.banglajol.info/index.php/CMOSHMCJ

Abstract

Background: *Teenage pregnancy is coming up as one of the most important social and public health problem in both developed and developing countries and has an increased risk of both maternal and fetal complications specially in developing countries like Bangladesh. The purpose of the study to determine the fetal and maternal outcomes of teenage mother in Chittagong Medical College Hospital (CMCH)*

Materials and methods: *A cross-sectional observational study was conducted at the Obstetrics and Gynaecology Department of Chittagong Medical College Hospital for a period of six months from 10th October 2013 to 9th April 2014. One hundred teenage mothers (Aged 15-19 completed years at delivery) who got herself admitted to the Department of Obstetrics and Gynaecology were included in this study. Diagnosis was established by history, presenting complaints, physical examination, per-abdominal examination and per-vaginal examination who required. Complications during pregnancy and labour, postpartum complications and perinatal outcome were noted. Data were analyzed by SPSS-18.*

Results: *During this study period, 60% mothers were in age group of 17-18 years. Most of the patients were primigravida (72%). Majority (56%) of patients were in no antenatal cheek up. Most of patients (75%) admitted at her gestational age (37 – 42 wk). Among them, maximum patients (44%) were delivered by caesarean section. Most of teenage mothers (64%) were suffered from various complications during pregnancy and labour like preterm labour (21.87%), prolonged labour (17.18%), anaemia (14.06%), obstructed labour (12.50%), gestational hypertension (7.81%), Urinary tract infection (7.81%), pre-eclampsia (4.68%) eclampsia (3.13%). 57%of teenage mothers suffered from postpartum complications including post-partum hemorrhage (21.05%), anaemia (17.54%), inadequate lactation (14.03%), postpartum eclampsia (10.53%), wound infection (10.53%), puerperal sepsis (5.26%), urinary tract infection (3.51%) and puerperal psychosis (3.51%). About 15% mothers delivered low birth weight babies, 93% of those were premature. 48% of babies were suffered from various complications. Among them, prematurity (29.17%), birth asphyxia (25%), neonatal jaundice (25%), sepsis (12.50%), congenital heart disease (4.17%), congenital anomalies (2.08%) and intra-uterine growth restriction (2.08% were common.43% babies needed hospital admission due to causes of birth asphyxia (27.90%), prematurity (25.58%), neonatal jaundice (23.25%), sepsis (13.95%), congenital heart disease (4.65%).Perinatal outcomes of teenage pregnancy was alive with resuscitation 38%, alive without resuscitation 54%, intra-uterine death 1%, stillbirth 2% and neonatal death 5%.*

Conclusion: *Teenage means the youth of the population who are the future of the nation. So, more emphasis should be given on further reduction of teenage pregnancy.*

Key words: Fetal outcomes; Maternal outcomes; Teenage pregnancy.

INTRODUCTION

Teenage pregnancy is a pregnancy that occurs in an adolescent. An adolescent is a female who has reached puberty and is 19 years old or younger. WHO defines adolescence as the period between 10-19 years of age which broadly corresponds to the onset of puberty and the legal age of adulthood.[1] An estimated 70,000 adolescent mothers die each year in the developing countries because they have children before they are physically ready for parenthood.[2] It is well known that pregnancy in adolescent has an increased risk of adverse reproductive outcome. Adolescent aged 15 years or younger had higher risk of maternal death, early neonatal death and anaemia compared with women aged 20 to24 years.[3] Teenage pregnancy is a worldwide social problem.

Teenage mothers are associated with high rate of maternal and fetal complications particularly in developing countries with limited obstetric facilities.[4] These mothers are at increased risk of premature birth, low birth weight babies, prenatal and infant mortality rate. They also has increased risk of maternal anemia, urinary tract infection, gestational hypertension, pre-eclampsia, eclampsia and premature onset of labour.[5] The prenatal care should provide education and support for young women.[6] This study was conducted to determine the fetal outcomes and maternal outcomes of teenage mothers in Chittagong Medical College Hospital, Chattogram.

MATERIALS AND METHODS

It was a cross-sectional observational study conducted at the Obstetrics and Gynaecology Department of Chittagong Medical College Hospital, Chattogram for a period of six months from 10th October 2013 to 9th April 2014. One hundred teenage mothers (Aged 15 -19 completed years at delivery) who got herself admitted to the Department of Obstetrics & Gynaecology were included in this study. Teenage Pregnancy with previous scar in uterus and mother with major illness existing from pre-pregnant state like heart or kidney disease, bronchial asthma, diabetes, hypertension, thyroid disorder, connective tissue disorder were excluded. Diagnosis was established by history, presenting complaints, physical examinations, per-abdominal examinations and per-vaginal examinations who required. Complications during pregnancy and labour, postpartum complications and perinatal outcomes were noted. Data were analyzed by SPSS-18.

RESULTS

Among 100 patients, 60 mothers were in age group of 17-18 years. Most of the patients were primigravida (72%). Majority (56%) of patients were in no antenatal cheek up. Most of patients (75%) admitted at her gestational age (37-42 wk). Among them, maximum patients (44%) were delivered by caesarean section. (Table I) About 64% teenage mothers had complications during pregnancy. Among them, Preterm labour was the highest proportion (21.87%) followed by prolonged labour (17.18%) and anaemia (14.06%) (Table II)]. About 57% of teenage mothers suffered were from post partum complications. post partum hamorrhage and anaemia were the first (21.05%) and the second (17.54%) most common post partum complications (Table III).

Table I Distribution of patients according to maternal clinical variables (n = 100)

Variables	Frequency	Percentage (%)
Parity		
Primigravida	72	72
Multigravida	28	28
Antenatal cheek up		
None	56	56
Regular	28	28
Irregular	16	16
Gestational age		
<28 wk	3	3
28 – 37 wk	18	18
37 – 42 wk	75	75
>42 wk	4	4
Mode of delivery		
Spontaneous vaginal delivery	26	26
Induced vaginal delivery	24	24
Operated vaginal delivery	6	6
Caesarean delivery	44	44
Total	100	100

Table II Distribution of patients according to complications during pregnancy and labour (n=64)

Variables	Number of patients	Percentage (%)
Preterm labour	14	21.87
Prolonged labour	11	17.18
Anemia	9	14.06
Obstructed labour	8	12.50
Gestational hypertension	5	7.81
Urinary tract infection	5	7.81
Premature rupture of membrane	3	4.68
Pre-eclampsia	3	4.68
Eclampsia	2	3.13
Malpresentation	1	1.56
Gestational Diabetes	1	1.56
Intra-uterine growth restriction	1	1.56
Intra-uterine death	1	1.56
Total	64	100

Table III Distribution of patients according to postpartum complications (n=57)

Postpartum complications	No. of patients	Percentage (%)
Post partum hemorrhage	12	21.05
Anemia	10	17.54
Inadequate lactation	8	14.03
Postpartum eclampsia	6	10.53
Wound infection	6	10.53
Spinal headache	4	7.02
Puerperal blues	4	7.02
Puerperal sepsis	3	5.26
Urinary tract infection	2	3.51
Post partum psychosis	2	3.51
Total	57	100

Among 100 babies, 92% babies were alive. About 38% babies were alive with resuscitation, 1% were intra-uterine death, 2% were still birth, another 5% died in neonatal period and 54% didn't require any resuscitation. About 48% had neonatal problem. The highest proportion of neonatal disease contributed by prematurity (29.17%) followed by birth asphyxia and neonatal jaundice (25%) (Table IV) Of them, 14% babies didn't need any treatment as those were neonatal jaundice (16% of total neonatal jaundice) and low birth weight babies (21% of total low birth weight babies) that didn't meet admission criteria. Total 15% babies were low birth weight (<2.5 kg birth weight). Of them, 93% were premature, rest were intra-uterine growth restriction babies.

Table IV Distribution of babies according to perinatal morbidity (n=48)

Variables	No.	Percentage
Prematurity	14	29.17
Birth asphyxia	12	25
Neonatal jaundice	12	25
Neonatal sepsis	6	12.50
Congenital heart disease	2	4.17
Congenital anomalies	1	2.08
Intra-uterine growth restriction	1	2,08
Total	48	100

About 43% babies need hospital admission for resuscitation and treatment. Most common causes of admission were birth asphyxia (27.90%), prematurity (25.58%), neonatal jaundice (23.25%) and sepsis (13.95%) (Table V)

Table V Distribution of causes of neonatal admission (n=43)

Causes	Number	Percentage (%)
Birth asphyxia	12	27.90
Prematurity	11	25.58
Neonatal jaundice	10	23.25
Neonatal sepsis	6	13.95
Congenital heart disease	2	4.65
Congenital anomalies	1	2.32
Intra-uterine growth restriction	1	2.32
Total	43	100

Table VI Distribution of babies according to perinatal mortality (n=8)

Variables	No.	Percentage
Birth asphyxia	1	12.5
Prematurity	2	25
Sepsis	2	25
Intra-uterine death	1	12.5
Stillbirth	2	25
Total	8	100

Total 8% babies were not alive. Among admitted babies, 11% babies died that were 5% of total death as mentioned earlier. Common causes of perinatal mortality were prematurity (25%), neonatal sepsis (25%) and birth asphyxia (12.50%) (Table VI)

DISCUSSION

Majority (56%) of these teenage mothers did not seek any antenatal care. So, there were more complications occur during pregnancy. Only 28% sought regular antenatal care, compared to other study by Rani et al. only 20% sought antenatal checkup.[7] The reason appears to be an inadequate knowledge of about pregnancy and labour complications and antenatal care.

The rate of caesarean section is high among teenage pregnancies. Frequency of operated vaginal delivery and induced vaginal delivery are also high. In this study, 44% teenage mothers had caesarean delivery, 26% had spontaneous vaginal delivery, 24% had induced vaginal delivery and 6% had operated vaginal delivery. This results coincided with the study result of Bacci et al.[8] In Morteza's study showed that the rate of caesarean delivery was 30.9% among teenage group.[9] The difference is due to malnutrition, incomplete physical development, local obstetrical practices and choices.

Only 32.43% patients were admitted as pregnancy with no complications, the rest were admitted for pregnancy related complications. Among them, preterm labour 21.87%, prolonged labour 17.18%, anaemia 14.06%, obstructed labour 12.50%, gestational hypertension 7.81%, urinary tract infection 7.81%, pre-eclampsia 4.68%eclampsia 3.13%, preterm labour 4.50% were common. Ashok Kumar et al. also showed that teenage pregnancy had more risk of pre-eclampsia 4.3%, eclampsia 4.9%, preterm labour 26.1%.[10] Incidences of pregnancy induced hypertension, pre-eclampsia, eclampsia and preterm labour in teenage mothers were found to be significantly higher. This is in accordance with earlier studies.[11,12]

In this study, incidence of anaemia (14.06%) and urinary tract infection (7.81%) were common among teenage mothers which is similar to the study done by Paul et al. Jolly et al. and Gupta N et al.[13-15] Poor nutritional status and immaturity of immune system have been suggested a probable cause.

In this study, postpartum complications following delivery were common in teenage group. Post partum hemorrhage, post-partum eclampsia, inadequate lactation, wound infections were common in teenage mothers that were supported by Nigar Sultana et al.[16] Regarding the perinatal outcome, 92% babies were alive. 38% required resuscitation, 1% was intra-uterine death, 2% were stillbirth and 5% died in neonatal period. These findings were consistent with the results of Ashok Kumar, Sriporna Basu who showed that teenage pregnancy was associated with higher fetal (1.9%) and neonatal mortality (3.8%).[10] Regarding morbidity of babies, 29.17% of diseased babies were preterm low birth weight, 25% were birth asphyxiated, another 25% babies developed jaundice, 12.50% developed neonatal sepsis, 4.17% had congenital heart disease, 2.08% were intra-uterine growth restriction, another 2.08% had congenital anomalies that coincide with the study of Nigar Sultana.[16] In that study, 48% babies were low birth weight,

18% of the babies were birth asphyxiated, 24% developed jaundice, 8% had intra-uterine growth restriction, 6% had prematurity, 3% had congenital anomalies. perinatal mortality rate was 14%. The causes of neonatal admission in this study were birth asphyxia (27.90%), prematurity (25.58%), jaundice (23.25%), sepsis (13.95%) and congenital anomalies (2.32%). Similarly, in Nigar Sultana's study, the causes of hospital admission were found due to birth asphyxia 29% followed by prematurity 22%, intra-uterine growth restriction 14%, premature rupture of membrane 7% other 14%.[16] In our study, neonatal death was mainly due to prematurity (25%), neonatal sepsis (25%), birth asphyxia (12.5%). These also supported by Nigar Sultana et al.[18]

LIMITATIONS

- Most of the people are not aware of available health facilities. They only attend the hospital when complications arise. Great majority of birth take place at home with the help of traditional birth attendants or family members and there is no civil registration in our community level. So, from this small percentage of population who attended the hospital, exact situation of teenage pregnancy of our country could not be ascertained.
- Hospital stay is only for a short period due to various reasons including shortage of beds. So, the entire maternal, perinatal and postnatal complications could not be estimated.
- Some of the patients were in the hospital for the first time and without any antenatal checkup. In such cases no investigation was available.

CONCLUSION

Teenage means the youth of the population who are the future of the nation. Early marriage and early childbirth has more detrimental effect on the health of girls. 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.

RECOMMENDATIONS

- Building awareness about the consequences of teenage pregnancies among people is very important.
- In case when there is a pregnancy occur during teenage, there should take special care and regular antenatal checkup should ensure so that the major complications can be adequately deal with.

DISCLOSURE

All the authors declared no competing interest.

REFERENCES

1. UNESCO PROAP Bankok-Thailand. Teenage Reproductive and Sexual Health. Section 1: Demographic profile of Teenage. 1998;99:4.
2. Mayor S. Pregnancy and Childbirth Are Leading Cause of Death in Teenage Girls in Developing Countries. BMJ. 2004;328:1152-1153.
3. Conde-Agudelo A, Belizan JM, Lammers C. Maternal - Perinatal Morbidity and Mortality Associated with Adolescent Pregnancy in Latin America. American J Obstet Gynecol. 2005;192(2):342-349.
4. Moini A, Riazi K, Mehrparvar A. H. Pregnancy and Labour Complication in Teenagers in Tehran. Inter J Obstet Gynaecol. 2002;78:245-247.
5. Yadav S, Choudhary D, K C Narayan, Mandal R K, Sharma A, Chauhan S et al. Adverse Reproductive Outcomes Associated with Teenage Pregnancy. MJM 2008;11(2):141-144.
6. Grady M A, Bloom K C. Pregnancy Outcomes of Adolescents Enrolled in A Centering Pregnancy Program. J Midwifery Womens Health. 2004;49(5):412-420.
7. Rani PR, Rani U, Reghaban SS, Rajaram P. Adolescent Pregnancy. J Obstet Gynaecol India.1992;42:764-767.
8. Bacci A, Manhica GM, Machungo F, Bugalho A, Uttini MC. Outcome of Teenage Pregnancy in Maputo. Int J Obstet Gynaeco. 1998;40:19-23.
9. Morteza G, Naiyereh N. Maternal and Neonatal Complications in Mothers Aged under 18 Years. Patient Preference and Adherence.2010;4:219-222
10. Kumar A., Singh T, Basu S, Pandey S, Bhargava V. Outcome of Teenage Pregnancy. Indian J Paediatr. 2007;74(10):927-931.
11. Kumbi S, Isehak A. Obstetric Outcome of Teenage Pregnancy in North-Western Ethiopia. East Africa Medical J. 1999;76:138-140.
12. Leppert PC, Namerow PB, Barker D. Pregnancy Outcomes Among Adolescent and Older Women Receiving Comprehensive Prenatal Care. J Adolesc Health care. 1986;7:112-117.
13. Pal A, Gupta KB, Randhawa I. Adolescent Pregnancy: A High Risk Group. J Indian Med Assoc. 1997;95(5):127-128.
14. Jolly MC, Sebire N, Harris J, Robinson S, Regan l. Obstetric Risk of Pregnancy in Women Less Than 18 Years Old. Obstet Gynaecol. 2000;96(6):962-966.
15. Gupta N, Kiran U, Bhal K. Teenage Pregnancies: Obstetric Characteristics and Outcome. Euro J Obstet Gynaecol Rep bool. 2008;137:165-171.
16. Nigar Sultana, Saleha Begum Chowdhury, Tabassum Parvin, Sayed Rezaul Haque, Sirajuddin Ahmed. Teenage Pregnancy and its outcome in Bangladesh: Has the situation improved? Annual scientific conference- 16 – 17 March, 2007.