

ASSESSMENT OF FETOMATERNAL OUTCOME IN TEENAGE PREGNANCY

Neelam Sharma¹, Chander Sheikher², Amatul⁴

Received : 05/03/2023
Received in revised form : 31/03/2023
Accepted : 13/04/2023

Keywords:
NICU, pre-eclampsia, teenage.

Corresponding Author:
Dr. Neelam Sharma
Email: neelamyogesh19211@gmail.com

DOI: 10.47009/jamp.2023.5.3.23

Source of Support: Nil.
Conflict of Interest: None declared

Int J Acad Med Pharm
2023; 5 (3); 104-107



¹Antenatal Medical Officer Cum Lecturer/Assistant Professor Department of Obstetrics and Gynaecology GMC and AH Rajouri, Jammu & Kashmir, India.

²Associate Professor, Department of Obstetrics and Gynaecology GMC and AH Rajouri, Jammu & Kashmir, India.

³Post Graduates, Department of Obstetrics and Gynaecology GMC and AH Rajouri, Jammu & Kashmir, India.

Abstract

Background: To assess fetomaternal outcome in teenage pregnancy. **Material & Methods:** One hundred thirty pregnant women with gestational age more than 28 weeks were included. Per vaginal examination was carried out. Assessment of hemoglobin, blood group, serology, urine routine, RBS, mode of delivery, indication for LSCS, fetal outcome, NICU admission etc. was performed. **Results:** Teenage pregnancy was seen in 15 and age >20 years in 115. Teenage deliveries was vaginal in 7 and LSCS in 8. Deliveries with age >20 years was vaginal in 65 and LSCS in 50 cases. Indication for LSCS was pre-eclampsia and eclampsia was 2, fetal distress in 2, cephalo pelvic disproportion in 3 and malpresentations and placental causes in 1 case. Neonatal outcome was low birth weight in 9, NICU admission in 5 and perinatal deaths in 1 case. Complications was anaemia in 2, pre-eclampsia in 2 and eclampsia in 1 case. The difference was significant (P< 0.05). **Conclusion:** Teenage pregnancy is associated with high risk of anaemia, pre-eclampsia, eclampsia, PTV, instrumental delivery, high rate of LSCS, prematurity, low birth weight, perinatal death.

INTRODUCTION

Teenage pregnancy is coming up as one of the most important social and public health problems all over the world with a varying prevalence rate.^[1] In recent years the incidence is increasing due to early onset of puberty, early sexual activity in girls and relative lack of education on contraceptive methods. Although adolescent marriage is a cognizable offence in India, it is still a common practice in many parts of the country.^[2] A high fertility rate, social customs, poverty and ignorance make early marriage a common feature in this part of the world. The teenage period itself constitutes a high-risk group requiring high priority services.^[3] Incidence of teenage pregnancy in India is 2 women out of every 1000 pregnancies. Teenage pregnancy is associated with series of maternal and fetal complications.^[4] Anaemia, pre-eclampsia, eclampsia, preterm delivery, instrumental delivery, increased LSCS rate due to cephalopelvic disproportion and fetal distress are strongly associated maternal complications in teenage pregnancy.^[5] Fetal complications being prematurity, low birth weight, still birth, asphyxia, respiratory distress, birth trauma. Underdeveloped pelvis in adolescents makes them prone to have CPD and end

up in caesarean delivery. As girls are still in growing period, pregnancy induces malnutrition leading to inadequate weight gain and low birth in neonates.^[6] We performed this study to assess fetomaternal outcome in teenage pregnancy.

MATERIALS AND METHODS

After considering the utility of the study and obtaining approval from ethical review committee, we selected one hundred thirty pregnant women with gestational age more than 28 weeks. Patients' consent was obtained before starting the study. Data such as name, age etc. was recorded. Per vaginal examination was carried out. Assessment of hemoglobin, blood group, serology, urine routine, RBS, mode of delivery, indication for LSCS, fetal outcome, NICU admission etc. was performed. The results were compiled and subjected for statistical analysis using Mann Whitney U test. P value less than 0.05 was set significant. Clinical history includes fever, abdomen pain, nausea, vomiting, bleeding manifestation, urine discoloration, dark urine, abdomen distension, altered mental status, Clinical signs like hepatomegaly, splenomegaly, hepatic and extrahepatic manifestations were studied. A liver

function test was done among all the children, and the diagnosis was confirmed by specific Viral serology (Ig/m anti-HAV positive, Method-Enzyme-Linked Immunosorbent Assay). Liver function test, Prothrombin time, activated partial thromboplastin time, blood sugar, blood urea, creatinine, and other viral hepatitis markers were done. Routine investigations such as CBC with Hb%, TC, DC and platelet count were also done. Ultrasound abdomen was advised, with particular emphasis on the hepatobiliary system. All the children were monitored for complications during the hospital stay. They were discharged when

clinically stable and afebrile for >24 hours with a modest increase in appetite & general well-being. Follow-up was done at 2 and 4 weeks of discharge. All complications during this follow-up were recorded.

The collected data were checked for completeness before entering the Microsoft Excel spreadsheet. The validation of the data was checked at regular intervals. Data analysis was performed to treat the approach using Statistical Package for Social Sciences (SPSS IBM) 21. The quantitative data were expressed in frequency and percentage.

RESULTS

Table 1: Patients distribution based on age

Delivery	Teenage pregnancy (15)	Age >20 years (115)
Vaginal	7	65
LSCS	8	50

Teenage pregnancy was seen in 15 and age >20 years in 115. Teenage deliveries was vaginal in 7 and LSCS in 8. Deliveries with age >20 years was vaginal in 65 and LSCS in 50 cases [Table 1].

Table 2: Assessment of parameters

Parameters	Variables	Number	P value
Indication for LSCS	Pre-eclampsia and eclampsia	2	0.95
	Fetal distress	2	
	Cephalo pelvic disproportion	3	
	Malpresentations and placental causes	1	
Neonatal outcome	Low birth weight	9	0.01
	NICU admission	5	
	Perinatal deaths	1	
Complications	Anaemia	2	0.86
	Pre-eclampsia	2	
	Eclampsia	1	

Indication for LSCS was pre-eclampsia and eclampsia was 2, fetal distress in 2, cephalo pelvic disproportion in 3 and malpresentations and placental causes in 1 case. Neonatal outcome was low birth weight in 9, NICU admission in 5 and perinatal deaths in 1 case. Complications was anaemia in 2, pre-eclampsia in 2 and eclampsia in 1 case. The difference was significant ($P < 0.05$) [Table 2, Figure 1].

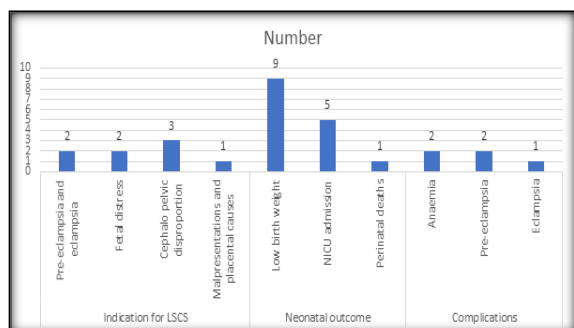


Figure 1: Assessment of parameters

DISCUSSION

It is well known that teenagers face greater risks of pregnancy than the women in their adulthood.^[7] Low birth weight and prematurity predisposes children to several infant and childhood disorders and increased risk of mortality and morbidity.^[8,9] Good antenatal care by medical professional makes a big difference in outcome of teenage pregnancy, care provider should stress upon good nutrition, and anticipate the risks of medical disorders associated with it and intervene at the earliest.^[10] Teenage pregnancies represent a high-risk group in reproductive terms because of the double burden of reproduction and growth.^[11] Complications of pregnancy and childbirth are the leading cause of mortality among girls aged 15-19 years in developing countries. The combination of poor nutrition and early child bearing expose young women to serious health-risks during pregnancy and childbirth.^[12]

Adverse outcomes of teenage pregnancy arise not only from physical and medical causes but are also associated with individual, familial and sociocultural factors besides lack of access to healthcare, contraception, and other resources which

is the prevailing situation in most developing countries.^[13,14] We performed this study to assess fetomaternal outcome in teenage pregnancy.

Our results showed that teenage pregnancy was seen in 15 and age >20 years in 115. Teenage deliveries was vaginal in 7 and LSCS in 8. Deliveries with age >20 years was vaginal in 65 and LSCS in 50 cases. Kumar et al.^[15] evaluated the obstetric, fetal and neonatal outcomes of teenage. Cases were further subdivided into 2 groups, ≤17 years (Group A) and 18 -19 years (Group B). Groups were compared for obstetric complications and neonatal outcome. The incidence of teenage deliveries in hospital over last 5 years was 4.1%. Majority of the teenagers were primigravida (83.2% vs. 41.4%, p<0.05). Complications like pregnancy induced hypertension (PIH) (11.4% vs 2.2%, p<0.01), pre-eclamptic toxemia (PET) (4.3% vs 0.6%, p<0.01) eclampsia (4.9% vs 0.6%, p<0.01) and premature onset of labor (26.1% vs 14.6%, p<0.01) occurred more commonly in teenagers compared to controls. Teenage mothers also had increased incidence of low birth weight (LBW) (50.4% vs 32.3%, p<0.01), premature delivery (51.8% vs 17.5%, p<0.01) and neonatal morbidities like perinatal asphyxia (11.7% vs 1.9%, p<0.01), jaundice (5.7% vs 1.2%, p<0.01) and respiratory distress syndrome (1.9% vs 0.3%, p<0.05). Teenage pregnancy was also associated with higher fetal (1.9% vs 0.3%, p<0.05) and neonatal mortality (3.8% vs 0.5%, p<0.05).

Our results showed that indication for LSCS was pre-eclampsia and eclampsia was 2, fetal distress in 2, cephalo pelvic disproportion in 3 and malpresentations and placental causes in 1 case. Neonatal outcome was low birth weight in 9, NICU admission in 5 and perinatal deaths in 1 case. Complications was anaemia in 2, pre-eclampsia in 2 and eclampsia in 1 case. Mukhopadhyay et al.^[16] included 350 cases and comparison group. Results revealed that the teenage mothers had a higher proportion (27.7%) of preterm deliveries compared to 13.1% in the adult mothers and had low-birth-weight babies (38.9% vs 30.4% respectively). Stillbirth rate was also significantly higher in teenage deliveries (5.1% vs 0.9% respectively). The teenage mothers developed more adverse perinatal complications, such as preterm births, stillbirths, neonatal deaths, and delivered low-birthweight babies, when compared with those of the adult primigravida mothers.

Kumbi et al.^[17] investigated and compared the difference in pregnancy outcome in teenage pregnancies and pregnancy in an older age group. All teenage pregnant women and older pregnant women who delivered in the hospital over one year period were evaluated. Mean age of teenagers and older age group was 17.6 +/- 1 and 28.6 +/- 5.7 years, respectively. Statistically significant difference (p < 0.05) was observed in the following variables when teenagers were compared to the older age group: ANC attendance 60.9% versus 74.8%; weight less than 50 kg. 40% versus 18.9%;

height less than 150 cms 21.2% versus 7.3%; CPD 11.8% versus 2.1%; prolonged labour 9.2% versus 5.6%; delayed second stage 18.3% versus 4.4%; preterm delivery 21.8% versus 11.3%; assisted delivery 21.8% versus 9.3% and LBW 27% versus 10%. No significant difference was observed in the mean Apgar score and stillbirth rate in the two groups.

Raatikainen et al.^[18] assessed the relationship between young age of the mother and pregnancy risk factors. Teenage mothers smoked, were unemployed and had anaemia or chorioamnionitis more often than older mothers. On the other hand, they were overweight and had maternal diabetes less often than adults. Teenage mothers had as many instrumented deliveries (OR 0.70; 95% confidence interval 0.39-1.27) but fewer caesarean sections (0.62; 0.39-0.97) than adults. We found no evidence for increased risk of preterm delivery, fetal growth restriction, low birth weight, or fetal or perinatal death in teenage mothers.

CONCLUSION

Teenage pregnancy is associated with high risk of anaemia, pre-eclampsia, eclampsia, PTV, instrumental delivery, high rate of LSCS, prematurity, low birth weight, perinatal death.

REFERENCES

1. Berenson AB, Wiemann CM, McCombs SL. Adverse perinatal outcomes in young adolescents. *J Reprod Med* 1997; 42: 559- 564.
2. Scholl TO, Hediger ML, Belsky DH. Prenatal care and maternal health during adolescent pregnancy: a review and meta-analysis. *J Adolesc Health* 1994; 15: 444-456.
3. Konje JC, Palmer A, Watson A, Hay DM, Imrie A, Ewings P. Early teenage pregnancies in Hull. *Br J Obstet Gynaecol* 1992; 99: 969-973.
4. Lao TT, Ho LF. The obstetric implications of teenage pregnancy. *Hum Reprod* 1997; 12: 2303-2305.
5. Buitendijk SE, van Enk A, Oosterhout R, Ris M. Obstetrical outcome in teenage pregnancies in The Netherlands. *Ned Tijdschr Geneesk* 1993; 137: 2536-2540.
6. Donoso Sina E, Becker Valdivieso J, Villarroel del Pino L. Birth rates and reproductive risk in adolescents in Chile, 1990-1999. *Rev Panam Salud Publica* 2003; 14: 3-8.
7. Gale R, Seidman DS, Dollberg S, Armon Y, Stevenson DK. Is teenage pregnancy a neonatal risk factor? *J Adolesc Health Care* 1989; 10: 404-408.
8. Scholl TO, Hediger ML, Salmon RN, Belsky DH, Ances IG. Association between low gynaecological age and preterm birth. *Paediatr Perinat Epidemiol* 1989; 3: 357-366.
9. Scholl TO, Hediger ML, Ances IG, Cronk CE. Growth during early teenage pregnancies. *Lancet* 1988; 1: 701-702.
10. Haiek L, Lederman SA. The relationship between maternal weight for height and term birth weight in teens and adult women. *J Adolesc Health Care* 1989; 10: 16-22.
11. Hediger ML, Scholl TO, Belsky DH, Ances IG, Salmon RW. Patterns of weight gain in adolescent pregnancy: effects on birth weight and preterm delivery. *Obstet Gynecol* 1989; 74: 6- 12.
12. Chang SC, O'Brien KO, Nathanson MS, Mancini J, Witter FR. Characteristics and risk factors for adverse birth outcomes in pregnant black adolescents. *J Pediatr* 2003; 143: 250-257.

13. Cooper LG, Leland NL, Alexander G. Effect of maternal age on birth outcomes among young adolescents. *Soc Biol* 1995 Spring-Summer; 42: 22-35.
14. Sharma AK, Verma K, Khatri S, Kannan AT. Pregnancy in adolescents: study of risks and outcome in eastern Nepal. *Indian Pediatr*. 2001;38:1405-9.
15. Kumar A, Singh T, Basu S, Pandey S, Bhargava V. Outcome of teenage pregnancy. *Indian J Pediatr*. 2007;74(10):927-31.
16. Mukhopadhyay P, Chaudhuri RN, Paul B. Hospital based perinatal outcomes and complications in teenage pregnancy in India. *J Health, Population Nutrition*. 2010;28(5):494-500.
17. Kumbi S, Isehak A. Obstetric outcome of teenage pregnancy in northwestern Ethiopia. *East Afr Med J* 1999; 76: 138-140.
18. Raatikainen K, Heiskanen N, Verkasalo PK, Heinonen S. Good outcome of teenage pregnancies in high-quality maternity care. *Eur J Public Health*. 2006;16:157-61.