

Study of Fetomaternal Outcome of Teenage Pregnancy

SANOBAR BALOCH¹, SUMAIYA FAROOQ², SHAZIA AWAN³

¹MBBS, DGO, MS, Assistant Professor in Obstetrics & Gynecology Indus Medical Collage, Tando Muhammad Khan

²MBBS, FCPS Assistant Professor in Obstetrics & Gynecology Indus Medical Collage, Tando Muhammad Khan

³DGO, MS Assistant Professor in Obstetrics & Gynecology Liaquat University of Medical and Health Sciences, Jamshoro

Correspondence to: Sanobar Baloch, Email: sanobar_dr@gmail.com, Cell: 03003019059

ABSTRACT

Background: Everywhere in the globe, the issue of teenage pregnancies is a major public health problem. Pregnant girls and their fetuses are at high risk for a range of health difficulties that are hard to overcome, including physical, social, and medical issues.

Aim: To find out how teenage pregnancy affects the fetomaternal outcome.

Methodology: Retrospective research was done at Indus Medical Collage, Tando Muhammad Khan for six months. A total of 260 pregnant teens were chosen for the study. Researchers looked at data on the prevalence, ages, parities, booking status, levels of education and socioeconomic position, as well as medical conditions, labour issues, delivery methods, and newborn outcomes.

Results: There were 260 pregnant adolescent girls in this group. As a result, 5.56 % of adolescent pregnancies occurred. 216 (83.46%) of the 260 adolescent pregnant women were 19 years old, while 43 (16.53 %) were 18 years old. 7 (2.69%) of women had a first-trimester abortion, 3 (1.15%) had a second-trimester abortion, and 2 had an ectopic pregnancy (0.76 %).

Teen pregnancy problems include preterm labor 52 (20%) and Cephalon Pelvic Disproportion 40 (15.38%) as well as fetal distress 31 (11.92%) and obstructed labor 9 (3.46 %). Neonatal complications in teenage pregnancy preterm babies 56(21.53 %), low birth weight babies <2.5kg 81 (31.15%), 72 (27.69 %) NICU admission, perinatal death 8 (3.07 %).

Conclusion: Due to the greater risk of complications during childbirth that is connected with pregnancies in adolescence, mothers and children in the United States may get additional attention from the nation's health care systems.

Keywords: Teenage pregnancy, Pregnancy-induced hypertension (PIH), stillbirth, preterm Labour, Low Birth Weight, pre-Eclampsia.

INTRODUCTION

Pregnancy among teenagers is a global health issue. According to the World Health Organization, a teen pregnancy occurs when a woman is 10 to 19 years old at the time of her delivery.¹ Approximately 40 million adolescents live in Pakistan, who represent 22.3% of the total population.³ Although the rate of girls aged <15 years getting married has declined, most teens marry before they turn 18 years old.⁴ Teenage pregnancy has decreased from 54.4% in 1990–1991 to 43.7% in 2017–2018, but the pooled rate is 42.5%.³

The mother's growth must be supported as well as the baby's if pregnancy occurs while she is still in her adolescent years. In the end, the outcomes were influenced by biological immaturity, unwanted pregnancies, insufficient prenatal care, poor nutrition for the mother, and psychological stress. Teenagers between the ages of 13 to 15 are more likely to suffer negative consequences than teenagers between the ages of 16 to 19.⁵ Anemia, pre-eclampsia, and eclampsia are just a few of the pregnancy-related disorders that can affect a young woman's health during pregnancy and childbirth, as well as damage to the reproductive system, premature labour, and low birth weight.^{6,7} Because of their poor sexual health, adolescents have difficulty obtaining contraceptive devices.

Guidelines issued by the World Health Organization in 2011 on reducing adolescent pregnancies, with six major goals:⁸

- 1 Reducing the number of people who marry before they reach the age of 18.
- 2 Preventing pregnancy before the age of 20 through raising awareness and providing support.
- 3 Conception is becoming more widely used.
- 4 Coerced sex among teens should be reduced.
- 5 Reducing teenage abortions that aren't safe.
- 6 Pregnancy, childbirth, and postpartum care are becoming more common among teenagers.

MATERIAL AND METHODS

The Department of Obstetrics and Gynecology at Indus Medical College Tando Muhammad Khan Sindh conducted this study between January 2021 and June 2021. Committee permission was obtained. In the study, pregnant women between the ages of 15 and 19 who were admitted to the hospital during the study

period were included, while those between the ages of 20 and over were excluded. The necessary information was gathered by taking a patient's medical history and following them from the time of their admission to the time of delivery. For statistical purposes, we turned to Microsoft Excel.

Blood grouping, blood random blood sugar, and urine routine tests were carried out as part of a regular blood and urine analysis. This included information on the obstetric code of the mother (whether she was a college student or not), her educational status, her antepartum, intrapartum, and postpartum issues, and the mode (natural or cesarean) and manner of delivery (natural or cesarean) of birth. Preterm births, low birth weights, stillbirths, and admissions to the neonatal intensive care unit (NICU) were all recorded as outcomes of the study. All pregnant adolescent ladies that come to Indus Medical College, aged 15 to 19 years old with Primi/multigravida were included. Pregnant teenagers' health outcomes were examined at Indus Medical College Hospital Tando Muhammad Khan, which was done in the department of Obstetrics and Gynecology for the six months between January 2021 and June 2021. Comparative cross-sectional research was used in this study. They were picked out of OPD in the OB/GYN department.

RESULTS

There were 260 pregnant adolescent girls in this group. As a result, 5.56 % of adolescent pregnancies occurred. 216 (83.46%) of the 260 adolescent pregnant women were 19 years old, while 43 (16.53 %) were 18 years old.

219 (84.23 %) of pregnant teenagers at IMH were first-time mothers, 35 (13.46 %) were second-time mothers, and 6 (2.3 percent) were third-time mothers, according to **Table 1**.

Table 1 shows the educational status of the current study and it indicated that 171 (65.76 %) had an elementary education and 89(34.23 %) had secondary education. None were studying at a college.

In this study out of 260 woman, the Antepartum complications in teenage pregnancy were observed in 230 (88.46%) woman. It is shown in **Table 1** that there were 122 (46.92 %) cases of pregnant teenagers with anemia, 60 (23.7 %) cases of gestational hypertension, and eclampsia in 12 (4.61%) cases, as well as abruption of the placenta in 3 (1.15 %) cases, and 11 cases of malpresentation in pregnant teenagers (4.23 %).

7 (2.69%) of women had a first-trimester abortion, 3 (1.15%) had a second-trimester abortion, and 2 had an ectopic pregnancy (0.76 %).

Teen pregnancy problems include preterm labor 52 (20%) and Cephalon Pelvic Disproportion 40 (15.38%) as well as fetal distress 31 (11.92%) and obstructed labor 9 (3.46 %) in **Table 1**.

Table 1 demonstrates the postpartum problems that occurred in teen pregnancies: Primary PPH 39 (15%), Puerperal sepsis 5 (1.92%), and Retained placenta 1 (0.38 %).

Out of 260 births, 183 (70.38 %) were vaginal deliveries, 70 (26.92%) were lower segment cesarean sections, 2 (0.76%) were assisted breech deliveries, and 4 were delivered using outlet forceps (1.53 %).

Table 1 shows the Neonatal complications in teenage pregnancy preterm babies 56(21.53 %), low birth weight babies<2.5kg 81 (31.15%), 72 (27.69 %) NICU admission, perinatal death 8 (3.07 %).

Table 1: Incidence of clinical parameters of teenage pregnant women (n = 260)

Gravida	No	Percentage
Primi	219	84.23%
Second gravida	35	13.46%
Third gravida	6	2.30%
Educational Status		
Primary education	171	65.76%
Secondary education	89	34.23%
Type of complications		
Anaemia	122	46.92%
Gestational hypertension	60	23.07%
Eclampsia	12	4.61%
Abruptio placenta	3	1.15%
Still birth	22	9.1 %
Malpresentation	11	4.23%
Type of complications		
Preterm labour	52	20%
CPD	40	15.38%
Fetal distress	31	11.92%
Obstructed labour	9	3.46%
Type of complications for teenage women		
PPH	39	15.0%
Puerperal sepsis	5	1.92%
Retained placenta	1	0.38%
Type of complications for neonates		
Preterm	56	21.53 %
Low birth weight	81	31.15%
IUGR	43	16.53 %
NICU admission	72	27.69 %
Perinatal death	8	3.07 %

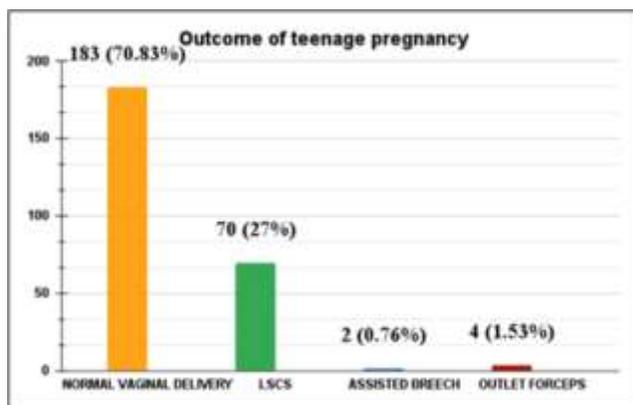


Figure 1: Outcome of teenage pregnancy

DISCUSSION

For the health care system and the social infrastructure, teenage pregnancies are a major problem. Our IMH had a teen pregnancy rate of 5.56 %, which was lower than the national average of 7.9

%. We were able to achieve this in our state because of the lowering trend of child marriage, the improvement of education and socioeconomic position, the enhancement of healthcare services, and the good antenatal care, institutional deliveries, and postnatal care. There were 211 (84%) primigravida at IMH, 34 (13.54%), 34 (13.54%) second gravida, and 6 (2.3%) third gravida. Prevalence was observed to be higher among first-time mothers.

Adolescent pregnancies and the rate of child marriage are both associated with lower educational attainment among women aged 15 to 19. In the current study, 65.8% of participants had completed elementary school, whereas 34.2% had completed secondary school. Literacy, particularly female literacy, was the most significant socio-demographic determinant. Kerala's low teen pregnancy rates demonstrate the importance of literacy in lessening the severity of these issues (0.3%). It has long been known that early marriage is related to low levels of education and early pregnancies in our society. Higher education is linked to a desire to pursue a career and a desire for financial independence because of one's increased awareness and wisdom. As a result, people marry and have children later in life. Preventing teenage pregnancies and supporting the education, health, and human rights of girls have far-reaching consequences. An advantage for their families is that educated young women are aware of their legal rights. In rural areas, the prevalence of child marriage was 14.1%, whereas, in urban areas, it was 6.9%, according to NFHS-4 data. Due to social pressure and a lack of awareness about sexual and reproductive health, the majority of child marriages result in adolescent pregnancies. Most married teenage girls have given birth to one kid, while 4.2% have had two or more.

There was a two-fold increase in anemia (47.1 %) among pregnant adolescents compared to adults in the current study, which may be attributable to poor dietary habits that are widespread among teenagers. Low birth weight and accompanying problems, such as postpartum hemorrhage and sepsis, can result from severe anemia. As a result, children have a greater risk of developing physical and cognitive disabilities, as well as a lower level of productivity in the workplace. 20% of all maternal deaths are caused by anemia. One of the most prevalent causes of anemia during pregnancy is iron deficiency anemia, which can be treated with a healthy diet and oral iron supplementation.⁹

Eclampsia (4.8%) and gestational hypertension (23.1%) occurred in the current study group. The risk of preeclampsia and PIH is particularly significant in teen pregnancies. Women who are pregnant for the first time are more likely to suffer from complications such as preeclampsia. It's important for pregnant teens to get regular prenatal visits to catch problems before they become more serious.¹⁰ The risk associated with childbirth can be minimized with proper prenatal, intrapartum, and postpartum as well as neonatal care. There were 22.3% of women in this study who gave birth prematurely, indicating a higher than average occurrence. Preterm birth is more common in teenage pregnancies, according to studies by Bhalerao A et al. and Chahande MS.^{11,12}

Normal vaginal delivery 183 (70.83%) and lower segment cesarean section 65 (27.1 %) were the most common methods of delivery for adolescents in this study. In the current study, the rates of cesarean deliveries are nearly identical across genders. AlRamahi et al. found a greater incidence of operative interventions and instrumental deliveries in pregnancies complicated by congenital heart disease (CPD).^{13,14} In contrast to Eure CR et al., who found lower rates of operative interventions, no similar increase in the use of LSCS or instrumental delivery was found in the current study.¹⁵ Adolescent pregnancies are more likely to result in low birth weight (31.5 %) and preterm babies (22.3 %) as well as neonatal problems.

Prianika M et al. have the same percentage of low birth weight babies in adolescent pregnancies as.^{16,17} Prianika M and colleagues. Low birth weight is a critical indicator of malnutrition and an important factor in child mortality. The current study found no evidence of maternal mortality.

CONCLUSION

Pregnancy outcomes and complications were examined in this study. As a result of this research, it was found that maternal difficulties such as preterm labour and hypertensive disorders of pregnancy were the most common; low birth weight and stillbirths were the most common fetal outcomes. Even in the 21st century, teen pregnancy is one of the most pressing public health issues we face. Modern medicine can without a doubt handle obstetrical issues, reducing the likelihood of a teen becoming pregnant. There should be more antenatal checkups for pregnant teenagers so that signs and symptoms of various difficulties of adolescent pregnancy can be detected as soon as possible. Pregnancy and labour complications necessitate the use of a variety of screening and diagnostic tests, as well as appropriate therapies. To avoid protracted labour, it is critical to monitor the progress of the labour. For preventing adolescent pregnancy, education of the female child can play a significant role in postponing marriage and hence childbirth, thus protecting the young lady. Using contraceptives among married teenagers must be encouraged, and their accessibility must be expanded. Access to contraceptives and abortion services are essential for avoiding and treating teen pregnancies, respectively. An enormous amount of danger can be reduced with teenage pregnancy with the help of excellent prenatal care, efficient neonatal facilities, and access to contraception and abortion. We can expect a worldwide decrease in teen pregnancy rates and difficulties in the years to come with the help of these initiatives.

REFERENCES

- Chen X-K, Wen SW, Fleming N, Demissie K, Rhoads GG, Walker M. Teenage pregnancy and adverse birth outcomes: a large population based retrospective cohort study. *Int J Epidemiol* [Internet]. 2007 Apr 1;36(2):368–73. Available from: <https://academic.oup.com/ije/article-lookup/doi/10.1093/ije/dyl284>
- Devi G, Poovathi M. Study of fetomaternal outcome of teenage pregnancy in a tertiary care hospital-MGMGH. *Int J Reprod Contraception, Obstet Gynecol*. 2019;8(1):303–8.
- Ali A, Khaliq A, Lokeesan L, Meherali S, Lassi ZS. Prevalence and predictors of teenage pregnancy in Pakistan: a trend analysis from Pakistan Demographic and Health Survey datasets from 1990 to 2018. *Int Health* [Internet]. 2022 Mar 2;14(2):176–82. Available from: <https://academic.oup.com/inthealth/article/14/2/176/6278487>
- Mubeen K, Baig M. Adolescent pregnancies: the case of Pakistan. *J Asian Midwives*. 2016;3(2):69–78.
- Mayor S. Pregnancy and childbirth are leading causes of death in teenage girls in developing countries. *BMJ* [Internet]. 2004 May 15;328(7449):1152. Available from: <https://www.bmj.com/lookup/doi/10.1136/bmj.328.7449.1152-a>
- Nagarashi RD, Durvasula LS. Fetal birth weight, a challenge to the mother and simplest marker for fetal maturity: a study in new rural hospital setup. *Int J Reprod Contraception, Obstet Gynecol* [Internet]. 2019 Oct 23;8(11):4291. Available from: <https://www.ijrcog.org/index.php/ijrcog/article/view/7255>
- Bott S, Jejeebhoy S, Shah I, Puri C. Towards adulthood: exploring the sexual and reproductive health of adolescents in South Asia. 2003;
- WHO. Preventing Early Pregnancy and Poor Reproductive Outcomes Among Adolescents in Developing Countries. 2011 [cited 2022 Apr 2]; Available from: http://whqlibdoc.who.int/publications/2011/9789241502214_eng.pdf
- Cunningham, F.G., Leveno, K.J., Bloom, S.L., Hauth, J.C., Rouse, D.J. and Spong, C.Y. (2010) Parturition. In Cunningham, F.G., Leveno, K.J., Bloom, S.L., Hauth, J.C., Rouse, D.J. and Spong, C.Y., Eds., *Williams Obstetrics*, 23rd Edition, McGraw-Hill, New York, 143. - References - Scientific Research Publishing [Internet]. [cited 2022 May 18]. Available from: [https://www.scirp.org/\(S\(351jmbntvnsjt1aadkposzje\)\)/reference/ReferencesPapers.aspx?ReferenceID=941317](https://www.scirp.org/(S(351jmbntvnsjt1aadkposzje))/reference/ReferencesPapers.aspx?ReferenceID=941317)
- Having a Healthy Pregnancy (for Teens) - Nemours KidsHealth [Internet]. 2022 [cited 2022 May 18]. Available from: <https://kidshealth.org/en/teens/pregnancy.html>
- Turner RJ, Grindstaff CF, Phillips N. Social support and outcome in teenage pregnancy. *J Health Soc Behav* [Internet]. 1990 Mar;31(1):43–57. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/2313076>
- SK CMJAW. Study of some epidemiological factors in teenage pregnancy -- hospital based case comparison study. TT - [Internet]. Vol. 27, *Indian Journal of Community Medicine*. 2002 [cited 2022 May 18]. p. [4] p. Available from: https://www.researchgate.net/publication/45261746_Study_of_Some_Epidemiological_Factors_in_Teenage_Pregnancy_-_Hospital_Based_Case_Comparison_Study
- Mukhopadhyay P, Chaudhuri RN, Paul B. Hospital-based perinatal outcomes and complications in teenage pregnancy in India. *J Heal Popul Nutr*. 2010;28(5):494–500.
- Al-Ramahi M, Saleh S. Outcome of adolescent pregnancy at a university hospital in Jordan. *Arch Gynecol Obstet* [Internet]. 2006 Jan 5;273(4):207–10. Available from: <http://link.springer.com/10.1007/s00404-005-0055-5>
- Eure CR, Lindsay MK, Graves WL. Risk of adverse pregnancy outcomes in young adolescent parturients in an inner-city hospital. *Am J Obstet Gynecol* [Internet]. 2002 May;186(5):918–20. Available from: <https://linkinghub.elsevier.com/retrieve/pii/S000293780229955X>
- Conde-Agudelo A, Belizán JM, Lammers C. Maternal-perinatal morbidity and mortality associated with adolescent pregnancy in Latin America: Cross-sectional study. *Am J Obstet Gynecol* [Internet]. 2005 Feb;192(2):342–9. Available from: <https://linkinghub.elsevier.com/retrieve/pii/S000293780401779X>
- OTTERBLADOLAUSON P, CNATTINGIUS S, GOLDENBERG R. Determinants of poor pregnancy outcomes among teenagers in Sweden. *Obstet Gynecol* [Internet]. 1997 Mar;89(3):451–7. Available from: <http://linkinghub.elsevier.com/retrieve/pii/S0029784497000094>