

## A Retrospective Study on Maternal and Neonatal Outcomes in Teenage Pregnancy in a Tertiary Care Hospital in Karwar

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Received: 10-10-2023 / Revised: 18-10-2023 / Accepted: 10-11-2023

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Conflict of interest: Nil

### Abstract:

**Introduction:** WHO defines the period between 10-19 years of age as the adolescent period also called as teenage. It is a serious health problem, more so in developing countries like India.

Pregnancy in this transitional stage puts them in a stressful condition. Teenage pregnancy is a common public health and social problem with adverse medical consequences worldwide.

### Aims and Objectives:

1. To study the period prevalence of teenage pregnancy in our hospital.
2. To study maternal and neonatal outcomes in teenage pregnancy.

**Material and Methods:** This retrospective observational study was conducted in the Department of Obstetrics and Gynaecology in a tertiary care hospital in Karwar. Data was retrieved from hospital records for a period of one year.

**Results:** During the study period of 1 year, there were total 899 deliveries in our hospital. Out of which the number of teenage pregnant women who delivered were 41. Thus, giving the incidence of teenage pregnancy as 5% among the total teen mothers, 63% delivered vaginally and 35% underwent LSCS. Incidence of hypertensive disorders of pregnancy in teenage mothers are usually high compared to adult mothers but in our study there were no cases of hypertensive disorders of pregnancy in teenage mothers. Preterm delivery constitutes 17% of total teenage deliveries. In the present study 14% were Low Birth Weight Babies, and 17% had NICU admissions. This shows that neonatal outcome is poor in teenage mothers as compared to adult mothers.

**Conclusion:** Teenage pregnancy is associated with a significantly higher risk of preterm labor and neonatal morbidities. Our strategy to tackle the problems of adolescents should be directed to reach out to this vulnerable group with our health care system.

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### Introduction

WHO defines the period between 10-19 years of age as the adolescent period also called as teenage [1]. Any girl who is in this range at the time of delivery is termed as teenage pregnancy. Adolescence means a transitional stage of physical, psychological and physiological development, involving biological, social and mental changes.

Pregnancy in this transitional stage puts them in a stressful condition. Teenage pregnancy is a common public health and social problem with adverse medical consequences worldwide. Early marriages are a long established custom in India resulting in the high incidence of teenage pregnancy. Early pregnancy combined with

malnutrition, illiteracy and poor health care that cause serious socio-medical problems.

The social handicaps to the mother, loss of educational opportunity jeopardise their income-earning potential [2]. As of 2019, adolescents aged 15–19 years in low- and middle-income countries (LMICs) had an estimated 21 million pregnancies each year, of which approximately 50% were unintended and which resulted in an estimated 12 million births [3,4]. One in four Indian women (26.8%) is married before 18, and 7.8% of women aged 15-19 years are pregnant or mothers according to latest available 2015-2016 National Family Health Survey (NFHS)-4[5]. Teenage pregnancy is an important public health problem in

both developed and developing country, as it is a 'high risk' or 'at-risk' pregnancy. It is because it is associated with various adverse maternal and fetal outcomes which results in increased mortality and morbidity of the mother and the child.

Adverse Maternal outcomes include Preterm labour, anaemia, Hypertensive Disorders of Pregnancy, high rate of Caesarean Sections for cephalopelvic disproportion and fetal distress. Adverse fetal outcomes include preterm births, Low Birth Weight infants, Still Births, birth asphyxia, Respiratory Distress Syndrome and birth trauma or injury.

Hence, the present study aims to find out the incidence and to evaluate the maternal and fetal outcome associated with teenage pregnancy.

**Material and methods**

This retrospective observational study was conducted in the Department of Obstetrics and Gynaecology, in a tertiary care hospital in Karwar. Data was retrieved from hospital record for a period of 1 year.

Pregnancy occurring, till 19th completed years of age at the time of delivery will be taken as teenage

pregnancy. The Birth Registries and patient information system was used to collect all relevant information with regard to teenage mothers' details and delivery records. Various aspects of pregnancy outcome has been recorded and analysed.

**Inclusion criteria:** Age <20 years Primigravida/Multigravida Gestational age more than 28 weeks.

**Exclusion criteria:** Age more than 20 years

**Source of data:** Medical records department, Karwar institute of medical sciences

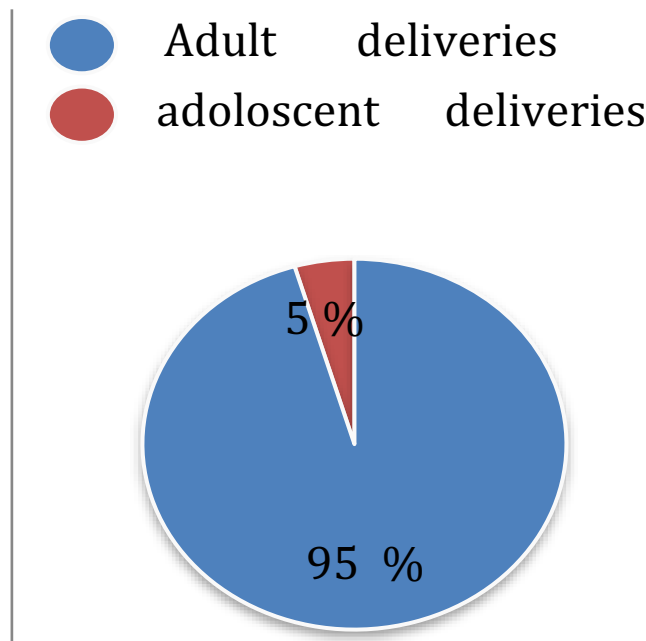
**Study period:** July 2022 to June 2023- 12 months

**Study design:** Retrospective Study

**Results**

During the study period of ONE year, there were total 899 deliveries in the hospital. Out of which the number of teenage pregnant women who delivered were 41.

Thus, giving the incidence of teenage pregnancy as 5%. Among them 78% were primigravida and 22% were multigravida.



**Figure 1: Incidence of teenage pregnancy in Karwar institute of medical sciences in one year**

**Mode of delivery:** Among the teenage deliveries, 63% had vaginal deliveries, 35% had caesarean section and 2% had assisted vaginal delivery. Rate of caesarean section was lower compared to the Adult group which was 50 %.

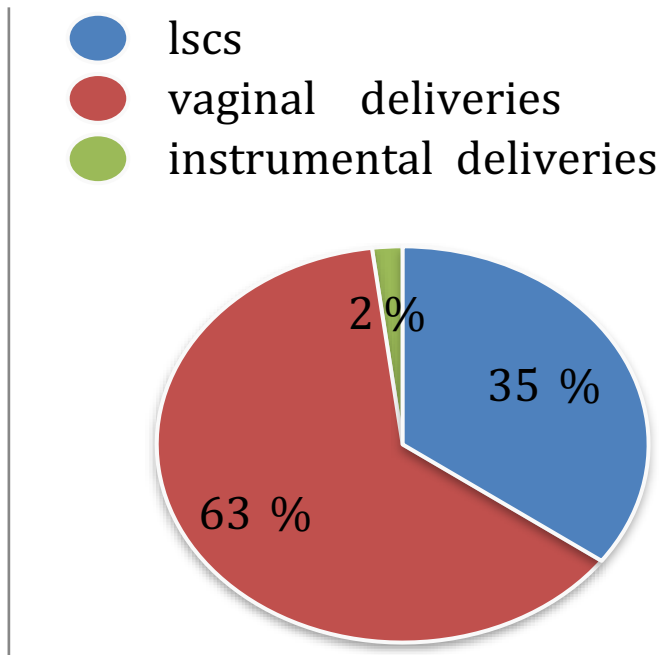


Figure 2: Mode of delivery in teenage pregnancy

**Antenatal complications**

Incidence of hypertensive disorders of pregnancy in teenage mothers is usually high compared to adult mothers but in our study surprisingly there were no cases of hypertensive disorders of pregnancy.

Similarly incidence of anaemia was usually seen to be higher in teenage mothers but however in our study this was not the case and there were no incidence of anaemia in our population of

adolescent mothers. Incidence of preterm delivery constitutes 17% of total teenage deliveries which was seen to be higher compared to the adult population of 5.5%.

**Neonatal complications**

In the present study adolescent mothers had 14 % of Low Birth Weight Babies and 17% had NICU admissions. This shows that neonatal outcome is poor in teenage mothers as compared to adult mothers.

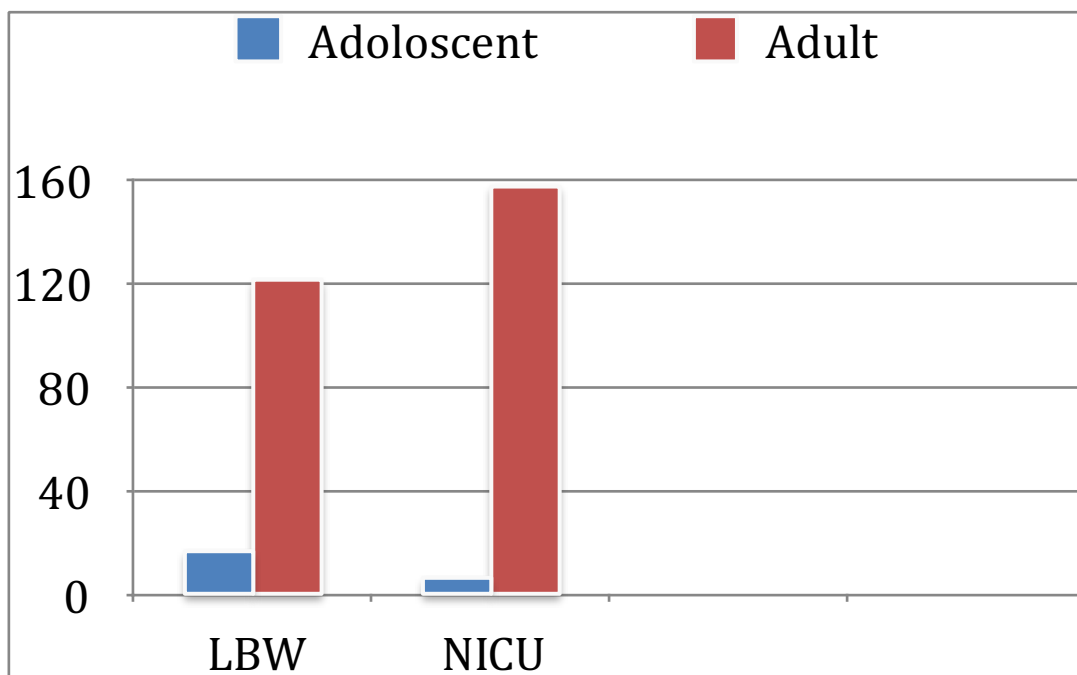


Figure 3: Neonatal complications in adolescent vs adult pregnancy

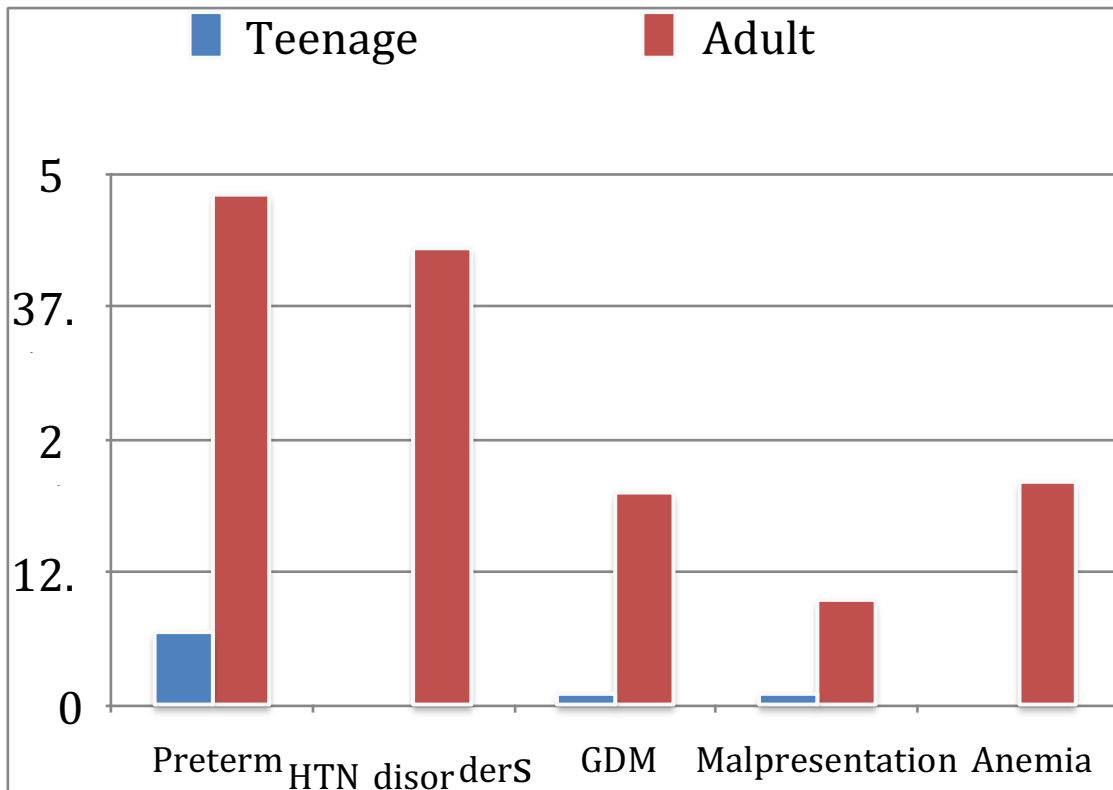


Figure 4: maternal complications in adolescent vs adult pregnancy

The highest NICU admissions were in view of respiratory distress syndrome with a total of 50% , followed by 20% admissions in view of early onset sepsis and 20% , in view of neonatal jaundice and low birth weight 10%

Table 1:

Neonatal complications	Number	percentage
Respiratory distress syndrome	5	50%
Early onset sepsis	2	20%
Neonatal jaundice	1	10%
Low birth weight	1	10%

**Discussion**

India has the largest adolescent population in the world with 253 million adolescents aged 10–19 years. Estimates from the 4th National Family Health Survey indicate that 11.8 million teenage pregnancies occurred in India [6]. Our study was undertaken to find the period prevalence, maternal complications and to study the neonatal outcomes of the teenage pregnancy seen in our region. The incidence of teenage pregnancy was found to be 5% which is lower than the national statistics of 7.9% during NFHS 4 in 2015-16[7]. However we have not delved into the specific cause for this pregnancy in this study but most common reasons include lack of sex education in adolescence, early marriages and poor socioeconomic status.

Among adolescence girls, anaemia was found to be a severe public health problem (prevalence ≥40%) in 13 states. [8] This is concerning as if these anaemic adolescents get pregnant it increases antenatal complications and

cost of health care. However in our study it’s seen that there was no incidence of anemia in these pregnant women, mostly owing to good nutritional habits and effective health care initiatives by the government.

Similarly there were no cases of hypertensive disorders of pregnancy in these teenage mothers, thereby reducing the antenatal and neonatal complications as compared to adult mothers. This finding is however very significant since usually teenage pregnancies are associated with higher incidence of hypertension and its complications. However further studies are needed to substantiate this finding.

Parameters like preterm birth, LBW are significant in number in this study. Poor nutrition, anaemia, PIH, lack of antenatal care usually leads to increase incidence of preterm labor in these teenage mothers. Our observations are supported by a multi-country study by WHO where they found out mothers aged 10-19 years

had higher risk of preterm deliveries compared to mothers aged 20-24 years.

Incidence of low birth weight babies was 14 % in our study and the same is supported by Mukhopadhyay et al in their study [9], which revealed that teenage mothers had a higher proportion of preterm deliveries with significant low birth weight babies when compared to adult mothers.

Higher incidence of NICU admissions are seen in teenage mothers as compared to adult mothers due to higher rates of prematurity, low birth weight, poor feeding practices. Neonatal complications most commonly seen in our study group was respiratory distress syndrome. Other complications leading to NICU admissions included early onset sepsis, neonatal jaundice and low birth weight.

### Conclusion

Complication rates for pregnancies in young women are much higher. This might hinder their growth and development, rob them of their childhood and education, and worsen the nation's general health in the process.

This is the right time to concentrate on this issue. Transforming today's teenage girls into healthy, responsible adults who will produce a healthy new generation will undoubtedly be aided by education, dietary guidance, and family planning, as well as increasing community awareness and explaining to schoolgirls the significance of postponing marriage, family life, reproductive health, and population education [10]

Pregnant teenagers are less likely to obtain prenatal care because they may not be aware of their pregnancy or may not know enough about it to seek it out before the third trimester. For a young mother and her child, life may be challenging.

Teenage moms are more likely to leave school for childcare compared to other females. Due to her little schooling, a teen mother may lack the skills necessary for work, making it challenging for her to find and maintain a career and establish her source of income [11]

Young mothers who have children may become financially dependent on their families or government support. The aforementioned factors make teen mothers more likely to be poor. Whatever the circumstances, becoming pregnant is a challenge for every woman. The crisis, however, is far more intense for the teenager since it adds yet another degree of complexity to a physically and emotionally stressful time. Health services should be redefined according to characteristic needs of these young women. Economic, social development and progress of

any country depend on the healthy adolescent size. So, healthier is the adolescent, healthier will be the future generation and nation. Hence, adolescents require our special attention. Our strategy to tackle the problems of adolescents should be directed to reach out to this vulnerable group with our health care system.

### Ethical clearance

Obtained from the institution ethical committee on September 2023

### References

1. WHO, United Nations population fund: Married adolescents: no place of safety, Geneva: WHO, UNFPA; 2006
2. Adolescent pregnancy- Issue in adolescent health and development; WHO discussion paper on adolescents, WHO; 2004:86. Available at [http:// apps. who. int/ iris/bitstream/10665/42903/1/9241591455\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/42903/1/9241591455_eng.pdf).
3. Sully EA, Biddlecom A, Daroch J, Riley T, Ashford L, Lince-Deroche N et al., Adding It Up: Investing in Sexual and Reproductive Health 2019. New York: Guttmacher Institute; 2020.
4. Deroche N et al., Adding It Up: Investing in Sexual and Reproductive Health 2019. New York: Guttmacher Institute; 2020. Daroch J, Woog V, Bankole A, Ashford LS. Adding it up: Costs and benefits of meeting the contraceptive needs of adolescents. New York: Guttmacher Institute; 2016
5. Adolescent pregnancy- Issue in adolescent health and development; WHO discussion paper on adolescents, WHO; 2004:86. Available at [http:// apps. who. int/ iris/bitstream/10665/42903/1/9241591455\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/42903/1/9241591455_eng.pdf).
6. International Institute of population sciences (IIPS) and macro international. National Family health survey 4 (NFHS-4) 2015-16: India Fact sheet.
7. Fulpagare PH, Saraswat A, Dinachandra K, Surani N, Parhi RN, Bhattacharjee S, S S, Purty A, Mohapatra B, Kejrewal N, Agrawal N, Bhatia V, Ruikar M, Gope RK, Murira Z, De Wagt A, Sethi V. Antenatal Care Service Utilization Among Adolescent Pregnant Women-Evidence From Swabhimaan Programme in India. *Front Public Health*. 2019 Dec 12; 7:369.
8. Scott S, Lahiri A, Sethi V, de Wagt A, Menon P, Yadav K, Varghese M, Joe W, Vir SC, Nguyen PH. Anaemia in Indians aged 10-19 years: Prevalence, burden and associated factors at national and regional levels. *Matern Child Nutr*. 2022 Oct; 18(4): e13391.
9. Mukhopadhyay P, RN Chaudhuri, Bhaskar P. Hospital based perinatal outcomes and

- complications in teenage pregnancy in India. J Health popul nutr. 2010 October; 28(5): 494-500.
10. Chakole S, Akre S, Sharma K, et al. Unwanted Teenage Pregnancy and Its Complications: A Narrative Review. Cureus. December 18, 2022; 14(12): e32662.
11. Patra S: Motherhood in childhood: addressing reproductive health hazards among adolescent married women in India. Reprod Health.