

## Feto-maternal Outcome in Teenage Pregnancy

Dr. Purvi M. Parikh<sup>1</sup>, Dr. Akshay C. Shah<sup>2</sup>, Dr. Rupa C. Vyas<sup>2</sup>, Dr. Tirtha N. shah<sup>3\*</sup>, Dr. Babulal S. Patel<sup>4</sup>, Dr. Nikhar M. Vaghela<sup>5</sup>

<sup>1</sup>Assistant Professor, <sup>2</sup>Associate Professor, <sup>3</sup>Second year resident, <sup>4</sup>Professor, <sup>5</sup>First year Resident, Dept. of Obstetrics and Gynecology, Smt. NHL Municipal Medical College, Ahmedabad

\*Corresponding Author: Dr. Tirtha N. shah

E-mail: [shah\\_tirtha\\_nimesh@gmail.com](mailto:shah_tirtha_nimesh@gmail.com)

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### ABSTRACT

**Background:** According to WHO any pregnancy in which a girl is between 10-19 years of age at the time of delivery is defined as teenage pregnancy<sup>1</sup>. Teenage pregnancy have been associated with adverse pregnancy outcome specially maternal anemia, hypertensive disorder, placental abnormalities, PPH, UTI, low birth weight, small for gestational age, pre maturity and a high neonatal and post neonatal mortality<sup>14,15</sup>. **Aims and Objectives:** To study the prevalence, socio-demographic factors associated with teenage pregnancies at our institute, and to study the incidence of antenatal, intrapartum, postpartum complications, perinatal morbidity and mortality of mother and fetus, among teenage patients at our institute. Also, to study the incidence of MTPs and awareness and prevalence of contraceptive practices among teenage pregnancies. **Material and Methods:** This was a retrospective analytical study and the study was carried out at the Department of Obstetrics and Gynaecology of our institute during the period - February 2021 to February 2023. **Result and Conclusion:** The study was conducted to evaluate maternal and fetal outcome associated with teenage pregnancy. Our present study suggested the common complications associated with teenage pregnancy are anemia, hypertensive disorders of pregnancy, higher incidence of operative delivery, lactation related issues, psycho-social issues because of age related immaturity and social taboo pre-term labour, low birth weight, still birth. There is substantial increased maternal and fetal morbidity and mortality associated with teenage pregnancy.

**Keywords:** Teenage pregnancy, adolescent mothers, adverse pregnancy outcome, anemia, CPD, contraceptive awareness

### INTRODUCTION

According to Oxford Dictionary the definition of “Teen” is, years of one’s age from 13-19 years, both inclusive. According to WHO any pregnancy in which a girl is between 10-19 years of age at the time of delivery is defined as teenage pregnancy<sup>1</sup>. The term teenager is used synonymously with adolescence. Prior to 1951, the mean age at marriage for girls in India was 13 years. The legal age of marriage was revised from 15 to 18 years for girls in 1978 by the Child Marriage Restraint Act. Data from National longitudinal study of youth (1994) indicate that one quarter of teenage mothers have a second child within 24 months of their first birth. In developing countries, teenage pregnancies are often associated with many social issues, including lower educational levels, higher rates of poverty, and other poorer life outcomes in children of teenage mothers. Outside of marriage teenage pregnancy carries a social stigma in many developing communities. 9 out of 10 births to girls aged 15-19 occur within marriage. Teenage pregnancy has been associated with adverse pregnancy outcome especially maternal anemia, hypertensive disorder, placental abnormalities, PPH, UTI, increased rate of caesarean section, lactation related issues, psycho-social issues because of age related immaturity and social taboo, low birth weight, small for gestational

age, pre maturity and a high neonatal and post neonatal mortality<sup>14,15</sup>. Due to this condition, UNFPA has established girls' rights and the prevention of adolescent pregnancy a major issue in its policy and programming efforts, making each girl to grow up being unaffected by gender inequality, discrimination, and free to choose the path to a healthy life<sup>16</sup>. By contrast, in developing countries teenage mothers are often married, are accepted by family as well as the society. However, this leads in early pregnancy to malnutrition and poor health care to cause medical problems. Indian Scenario: An estimated 11.8 million teenage pregnancies occurred in India in 2017. According to the National Family Health Survey 5, 6.8% of women were between 15- 19 years, and already mothers or pregnant at the time of the survey, the prevalence was higher in rural areas-9.2%, compared to urban areas- 5%<sup>2</sup>.

In India the since the introduction of MTP Act, in 1971, abortions have been legalized, to prevent unwanted pregnancies and morbidity and mortality associated with unsafe and illegal abortions. Though India is a developing country, through the introduction of MTP Act, many unwanted pregnancies are prevented from continuation, thus improving the overall health of women.

### AIMS AND OBJECTIVES

1. To study the prevalence, socio- demographic factors associated with teenage pregnancies at our institute.
2. To study the incidence of antenatal, intrapartum and postpartum complications among teenage patients at our institute.
3. To study the incidence of MTPs among teenage pregnant patients at our institute.
4. To study the perinatal morbidity and mortality of mothers and fetus in association with teenage pregnancy.
5. To study the prevalence of contraceptive practices among teenage patients.

### MATERIAL AND METHODS

This was a retrospective analytical study and the study was carried out at the Department of Obstetrics and Gynaecology of our institute during the period - February 2021 to February2023, during this period cases of teenage pregnancy were studied for maternal and fetal outcome.

Details included prevalence, socio-demographic data, antenatal care, baseline investigations, any antepartum, intra-partum or postpartum complications, outcome of pregnancy in terms of mode of delivery/abortion/MTP, perinatal outcome in terms of birth-weight, maturity, details of NICU admission and mortality. The data was then analysed.

**Inclusion Criteria:** All pregnant patients who were aged 19 completed years or less at the time of delivery or conception

**Exclusion Criteria:** Patients aged >19 years, who Left against medical advice, transferred to other hospital and who lost the follow-up.

### RESULTS

During the study period of February 2021 to February 2023, out of total 3,543 obstetric admissions, 212 were cases of teenage pregnancy. These cases were studied for their maternal and fetal outcome.

**Table 1: Age-distribution and Socio-demographic factors:**

Age	Number	Percentage
10-14 Years	2	0.95%
15-19 Years	210	99.05%
Total	212	100%
Class	Number	Percentage
Upper	30	14.1%
Middle	53	25.1%
Lower	129	60.8%
Total	212	100

**Table 2: Marital Status and Gravida Distribution:**

Married	Unmarried	Total
188(88.7%)	24(11.3%)	212(100%)
Gravidity	Number	Percentage
Primigravida	182	85.8%
Second And more	30	14.2%
Total	212	100%

**Table 3: Antenatal Complications Associated with Teenage Pregnancy and Outcome of Pregnancy:**

<b>Antenatal Complications:</b>	<b>Number</b>	<b>Percentage</b>
Anemia	108	50.9%
Hypertensive Disorders of Pregnancy	63	29.7%
Eclampsia	13	6.1%
Pre-Term Labour	56	26.4%
Spontaneous Abortion	13	6.1%
Others	28	13.2%
<b>Outcome Of Pregnancy:</b>	<b>Number</b>	<b>Percentage</b>
MTP (Medical/Surgical Method)	24	11.3%
Spontaneous Abortion	13	6.1%
Ectopic Pregnancy	3	1.4%
Preterm Vaginal Delivery	30	14.1%
Full Term Normal Delivery	78	36.6%
Lower Segment Caesarean Section	64	30.18%

**Table 4 Indication for Caesarean Section**

Indication	Number	Percentage
Cephalopelvic Disproportion	23	36
Fetal Distress	6	9
Induction Failure	13	20
Abnormal Presentation	6	9
Fetal Growth Restriction	8	14
Oligohydramnios	2	3
Premature Rupture Of Membranes	2	3
Previous Caesarean Section	1	1.5
Abnormal Doppler	2	3
Eclampsia	1	1.5
Total	64	100

**Table 5: Post-Partum Morbidity and Neo-Natal Morbidity**

<b>Post Partum Morbidity</b>	<b>Number</b>	<b>Percentage</b>
Postpartum Haemorrhage	10	4.7%
Wound Infection- Caesarean/ Episiotomy	10	4.7%
Lactation Failure	9	4.2%
Postpartum Sepsis	8	3.7%
Psychological Issues (PP Blues, PP Depression, PPPsychosis)	88	41.5%
Urinary Tract Infection	22	10.3%
<b>Neo-Natal Morbidity</b>	<b>Number</b>	<b>Percentage</b>
NICU Admission	44	20.7%
Respiratory Distress	12	5.6%
Birth Asphyxia	11	5.1%
Meconium Aspiration Syndrome	14	6.6%
Hyper-Bilirubinemia	11	5.1%
Prematurity	23	10.8%
Septicaemia	9	4.2%
Still Birth	5	2.3%

**Table 6 Contraceptive Awareness:**

Contraceptive Awareness:	Yes 130(61.3%)	No 82(37.7%)
Use Of Contraceptive:	Yes (55.38%)	No (44.61%)

## DISCUSSION

Teenage pregnancy is a problem with adverse obstetrical and Neonatal outcome being influenced by biological immaturity; unintended pregnancy inadequate perinatal care and poor maternal nutrition and stress. The prevalence of teenage pregnancy in the present study was 5.9%. Other studies shows similar prevalence Ashokkumar et al (2007)<sup>13</sup> -4.1%. Table 1 shows the socio-demographic factors associated with teenage pregnancy, majority 60.8% population was from lower socio-economic class, comparable to Dutta et al(2014)<sup>3</sup> which uses Modified BG Prasad classification, shows 6.25% very poor, 35% poor, lower middle 28.3%. Approximately 60% belong to lower socio-economic classes, Teenagers from the lower socio-economic class are more likely to get married at an earlier age, engage in sexual activity and get pregnant at an earlier age. 14% cases of teenage pregnancy were from higher socio-economic class- showing the impact of social customs other than socio-economic status on early marriage and child bearing. Table 1 also shows age distribution, in our study 99% belong to age group of 15-19 years, comparable to study by Shruti et al (2008)<sup>4</sup>, 25.34% patients were in the 15–17-year age group, whereas 74.66% patients were of 18-19 years age.

Table 2 shows marital status of pregnant women, our study shows 88% were married. Other similar study conducted, Dutta et al(2014)<sup>3</sup> showed 100% of women married, Kavita Singh et al(2001)<sup>5</sup> showed 88% women were married. In developing countries like India, females are married at an earlier age, leading to pregnancy in teenage years. As per NFHS-4, the median age at first birth was 21 years and 9.3 per cent of women aged 20-24 gave birth before the age of 18, and 27 per cent of additional births had a birth interval shorter than 24 months.<sup>17</sup> Table 2 also shows gravida distribution, in our study 86% were primigravida, whereas 14% were second gravida or more. Table 3 shows Ante-natal complication associated with teenage pregnancy, present study showed most common complication is anemia which was observed in almost 51% women. Other similar studies showed comparable results, Chhabra et al<sup>6</sup> 70%, Shrivastava et al<sup>7</sup>-85%. India had the highest prevalence of anaemia in pregnancy and is the home of largest number of anaemic pregnant women in the world<sup>18</sup>. According to NFHS-5 the prevalence of anemia in pregnancy in India is-52.2%.<sup>2</sup> A RCT conducted by Jeffery et al(2022)<sup>19</sup> – shows as high as 88.5% of pregnant women suffered from anemia in India. The next most common complication is Hypertensive disorder of pregnancy-29.7%, Shrivastava et al<sup>7</sup>- 37%, Shruti et al<sup>4</sup>-11%, Palamitha et al<sup>8</sup>- 18%. Pre-term labour was also observed in 26.4% in present study, other similar studies Bhaduria et al<sup>9</sup>-30%. In India, the prevalence of HDP was 7.8%<sup>20</sup>.

Table 3 also shows outcome of pregnancy, mode of delivery was mostly Vaginal delivery (PTVD-14.1% and FTND-36.6%), comparable to other studies, Unuzov et al<sup>10</sup>-67%, the rate of LSCS was 30.18% in present study. Some studies shows higher incidence of LSCS<sup>13</sup>, whereas other studies shows lower incidence compared to adults mainly because of small babies<sup>12</sup>. Table 4 lists the indication of LSCS, most common indication observed is Cephalo-pelvic disproportion -36%, followed failure of induction-20%. Cephalo-pelvic disproportion is observed mainly because of bony immaturity. Table 5 shows post-partum morbidity, psychological problems were the most common, which include Post-partum blues, Post-partum depression and Post-partum psychosis which were observed in around 40% of the women, UTI was observed in 11% in present study. Table 5 also shows neo-natal morbidity associated with teenage pregnancy, NICU admission rate was 21%, higher incidence of septicaemia, birth asphyxia, and respiratory distress was observed in teenage compared to adults Kumar et al(2007)<sup>13</sup>. Table 6 shows contraceptive awareness among teenage pregnant females, almost 40% of the women were not aware about contraceptives, and among the patient who were aware almost 45% of them did not use contraceptives. These shows there is need to improve sex education and contraceptive awareness among teenage population.

## CONCLUSION

The study was conducted to evaluate maternal and fetal outcome associated with teenage pregnancy. Our present study suggested the common complications associated with teenage pregnancy are anemia, hypertensive disorders of pregnancy, higher incidence of operative delivery, pre-term labour, low birth weight, still birth. There is substantial increased maternal and fetal morbidity and mortality associated with teenage pregnancy. The health care provider, must consider teenage pregnancy as high-risk pregnancy and should be vigorously monitored. As, there is increased fetal and neo-natal morbidity and mortality in babies born to teenage mothers, all teenage ante-natal women should be educated regarding nutrition and ante-natal care, the quality of ante-natal care should be increased. The compliance of

pregnant teenage women should be improved with adequate counselling and education. Early screening and treatment of pregnant women with those identified pregnancies related problems, during antenatal care, labor and childbirth are strongly recommended. Education of female child and their families on the importance of education and delaying the age of marriage, hence delaying the age of child-bearing is necessary to eliminate the problem. The awareness regarding contraceptives among teenagers and married teenage women is necessary to prevent teenage pregnancy, hence preventing the maternal and fetal complications.

#### REFERENCES:

1. S Paranjothy, H Broughton, R Adappa, D Fone Archives of disease in childhood – 2009 [adc.bmj.com](http://adc.bmj.com)
2. International Institute for Population Sciences (IIPS) and ICF. 2021. National Family Health Survey (NFHS-5), India, 2019-21: Mizoram. Mumbai: IIPS.
3. Dutta I, Jha N, Dutta DK. Socio-demographic factors of teenage pregnancy. *Asian Journal of Medical Sciences*, 2014;5(4):29-33
4. Shruti D, Reena W, Teenage Pregnancy, *Bombay Hospital Journal*, 2008;50(2):236-9
5. Kavitha N Singh, Outcome of Adolescent pregnancy. *Journal of Obstetrics and Gynecology of India*.2001;358:1843-50
6. Chhabra S. Perinatal outcome in teenage mothers. *J ObstetGynec India*.1991;41:30-32
7. JC. Maternal & Perinatal Outcome in teenage pregnancy as compared to primigravida aged 20-29 years; A cross-sectional study. *J Obstetrics and Gynec*. 2000;7:32-43
8. Pal A, Gupta KB, Randhawa I. Adolescent pregnancy: A high risk group. *J Indian Med Assoc*, 1997;95:127-8
9. Bhadauria S, Singh S, Sankar B. Teenage pregnancy: A retrospective study. *J Obs and Gynae India*. 1991;41:454-456
10. Uzunov AV, Cirstoiu MM, Secară DC, Crîngu-Ionescu A, Matei A, Mehedințu C, Varlas VN. Mode of Delivery and Neonatal Outcome in Adolescent Pregnancy (13-16 Years Old) Associated with Anemia. *Medicina (Kaunas)*. 2022 Dec 6;58(12):1796. doi: 10.3390/medicina58121796. PMID: 36556997; PMCID: PMC9780887.
11. Talwar S Venkatesh G. Outcome of teenage pregnancy. *OSR-JDMS*. 2013;6 (6) : 81-3.
12. Prianka Mukhopadhyay, R.N. Chaudhuri, Bhaskar Paul. Hospital-based Perinatal Outcomes and Complications in Teenage Pregnancy in India. *J Health Popul Nutr* 2010 Oct; 28(5):494-500.
13. Ashok Kumar, Tej Singh, Sriparna Basu, Sulekha Pandey, V. Bhargava. Outcome of Teenage Pregnancy. *Indian J Pediatrics* 2007; 74(10): 927-931.
14. Abu-Heija A, Ali AM, Al-Dakheil S. Obstetrics and prenatal outcome of adolescent nulliparous pregnant women. *Gynecol Obstet Invest*. 2002; 53:90-2.
15. vanderklis KA, Westenberg L, Chan A, Dekker G, Keane RJ. Teen age pregnancy trends, characteristics and outcome in south Australia and Australia. *Aust NZJ Public Health*. 2002; 26:125-31.
16. [google scholar/www.unfpa.org](http://google scholar/www.unfpa.org)
17. International Institute for Population Sciences (IIPS) and Macro International. National Family Health Survey 4, 2015-16: India Fact sheet. Mumbai; 2017
18. World Health Organization. Geneva: WHO; 2015. [Accessed on October 20, 2016]. The global prevalence of anaemia in 2011
19. Bone, J.N., Bellad, M., Goudar, S. et al. Anemia and adverse outcomes in pregnancy: subgroup analysis of the CLIP cluster-randomized trial in India. *BMC Pregnancy Childbirth* 22, 407 (2022). <https://doi.org/10.1186/s12884-022-04714-y>
20. Rachel Mathew, Benita P. Devanesan, Srijana, N.S. Sreedevi, Prevalence of hypertensive disorders of pregnancy, associated factors and pregnancy complications in a primigravida population, *Gynecology and Obstetrics Clinical Medicine*, 2023.