Original Article

Maternal and Perinatal Outcome of Teenage Pregnancy in Rural India- An Observational Comparative Study

Sima Biswas[1], Subrata Samanta[1], Shelley Seth[2], Picklu Chowdhury[3]

[1]Assistant professor, Department of Obstetrics and Gynecology, Rampurhat Government Medical College, West Bengal, India. [2]Associate Professor, Department of Obstetrics and Gynecology, Rampurhat Government Medical College, West Bengal, India. [3]Professor & HOD, Department of Obstetrics and Gynecology, Rampurhat Government Medical College, West Bengal, India.

Abstract

Background: The objective is to compare the socio-demographic characteristics, obstetrical and perinatal outcomes of teenage mothers (13-19 years) with adult primigravida mothers aged 20-25 years. Evaluation of the impact of teenage pregnancy on maternal and perinatal outcomes. **Material and Methods:** This prospective study was performed in the Department of Gynecology and Obstetrics, Rampurhat Government Medical College, from December 2024 to May 2025. All primigravida aged 13 to 19 years, who completed 28 weeks of gestation with an uncomplicated singleton pregnancy, booked, unbooked, and were delivered in our institution, were included in the study group. For each teenage case, the next consecutive singleton delivery at the age group 20 to 24 years was selected for comparison. Written informed consent was obtained from all study participants. Data was collected through interviews of the mother or her closest kin (if the patient's condition was not suitable for speech). A structured and pretested proforma was used for this purpose. Data were verified, and missing information was obtained from antenatal records. Demographic data, pregnancy complications like severe anaemia, pre-eclampsia, eclampsia, gestational age at delivery, mode of delivery, and postpartum complications were compared. Among fetal complications, low birth weight, preterm birth, Apgar score at 1 and 5 minutes, neonatal intensive care unit admission, stillbirth, and early neonatal death were recorded and compared. Data were compiled and analyzed using Microsoft Excel and the latest version of SPSS. For comparison, the Chi-square test and the unpaired t-test were used. **Results:** Three hundred eighty-four mothers of each group were studied; a total of 8916 deliveries were done during our study period. The incidence of teenage pregnancy was 4.3%. The maximum number (39.32%) of teenage pregnancies was found at the age of 18 years, followed by 32.82% at 19 years, and 11.47% at 17 years. The lowest age group with pregnancy was 13 years, with 2.08%, and 14 years with 2.60%. The mean age for a teenage pregnancy was 16.83. Among the adult group, the highest pregnancy rate (32.55%) was in the 22-year age group, followed by 23 years (26.04%) and 24 years (22.91%). Pregnancy rates for mothers aged 20 and 21 were 9.37% and 9.11% respectively. The mean age for the adult group was 22.08. The illiteracy rate was higher in the teenage group compared to the adolescent group- 175(45.57%) versus 106(27.60%) for the teenage versus the adult group. Different levels of education for the teenage versus adult group were: primary level 62.5% versus 31.25%, Secondary level 30.72% versus 42.96%, higher secondary level 5.98% versus 27.60%, and this p-value is less than 0.00001, highly significant. 68.75% versus 66.40% in the teenage and adolescent groups, respectively, were from lower socioeconomic backgrounds. Important causes were lack of knowledge about contraception (69.79% versus 39.84%) in the teenage versus adolescent group. P-value 0.00001, statistically significant. Ever use of contraception was 4.94% versus 24.47% for the adolescent group versus the adult group; the p-value was significant and 0.00001. Family pressure was not statistically significant; it was 20.83% in the teenage group and 18.23% in the adult group. 45.57% versus 58.85% had regular antenatal check-up, p value 0.0002. Complete immunization by tetanus toxoid was 64.06% versus 75.52%, p value 0.0005. More than 100 IFAs were taken, 40.10% versus 52.60%, p value 0.0005. Regarding maternal outcomes, Anemia on admission was 37.78% in the teenage group versus 25.52% in the adolescent group (P value 0.0002; statistically significant). Pregnancy-induced hypertension was 14.06% versus 3.90%, Preeclamptic toxemia (5.46% versus 2.60%), P value 0.043718, statistically significant. Eclampsia: 4.68% versus 2.08% in the teenage versus adolescent group; P value 0.046, statistically significant. Intrauterine growth retardation 10.68% versus 5.20% P value 0.005, statistically significant. Premature onset of labor 30.20% versus 15.62%). P-value < 0.00001 is statistically significant. Regarding mode of delivery (68.75 % versus 66.14%) vaginally, 31.25% versus 33.85% by caesarean section. P-value is nonsignificant. Regarding fetal outcome - Premature delivery 58.85% versus 18.75%, P value < 0.00001, highly significant. Low birth weight 48.96% versus 30.72%, P value < 0.00001, statistically highly significant. Prenatal asphyxia 10.93% versus 7.55%, P value < 0.1053. Neonatal intensive care unit admission: 13.28% versus 5.9%; 1.5% versus 0.78% were about stillbirth. p value 0.502; nonsignificant. The rate of neonatal death was 3.12% versus 1.30% in the teenage and adolescent group in our study, p-value 0.860, also nonsignificant. **Conclusion:** Incidence of teenage pregnancy was higher in rural India despite various government programme and legislations. Maternal & perinatal outcome is poorest for teenage pregnancy comparing to adult pregnancy. Improvement of socioeconomic condition, educational level of girls & proper knowledge regarding family planning is required as preventive measure.

Keywords: Teenage pregnancy, Anemia, Low birth weight, Prenatal asphyxia.

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Introduction

Pregnancy in a woman aged between 13 and 19 years has been defined as a teenage pregnancy. It has serious implications for maternal and child health in both developed and developing countries. In developing countries, annually, around 21 million girls aged 15-19 years become pregnant, and approximately 12 million of them give birth to babies.

Maternal and neonatal mortality are important indicators of reproductive health, showing the status of the health care delivery system of a country. Due to the relationship between these indicators and adolescent pregnancy rate among 13-19 years considered as an important health care indicator of the country. Despite the declaration of the legal marriage age for girls being 18 years as per the national policy of India, teenage pregnancy is still an important public health problem in India.[1-3]

According to the World Bank's data, the adolescent fertility rate in India in 2023 was 14.06/ 1000 women aged 15-19 years. A specific figure for 2025 is not available yet. In 2023, globally, the adolescent birth rate was 41.3 births per 1000 women aged 15–19 years, a decrease from 64.5/1000 women in 2000. The rate of change varies across regions of the world, with slower declines in Latin America and the Caribbean and Sub-Saharan Africa. In contrast, the sharpest declines are in Southern Asia. Adolescent birth rates vary across regions of the world. In 2023, it was 97.9 in Sub-Saharan Africa, 51.4 in Latin America and the Caribbean. In the African region, it was 97, and in the European region, 13.1 per 1000 women.[4,5]

Pregnancy-related complications such as pregnancy-induced hypertension, preterm labour, anaemia, cephalopelvic disproportion, low birth weight, perinatal and neonatal mortality are due to poor nutrition along with early age of pregnancy.[6,7]

The incidence of teenage pregnancy varies in developed and developing countries. In developed regions, adolescent mothers may be unmarried, and it may not be a social issue. Still, in developing countries like ours, these pregnancies mostly occur after marriage, and the family and their society mostly welcome these pregnancies. In these developing countries, teenage pregnancy may be combined with malnutrition and poor health care, which is responsible for poor pregnancy outcomes.

Pregnancy during adolescence is considered a social issue, associated with medical, emotional, and social outcomes for the mother, child, and family.[8] There are biological, psychological, socio-demographic, and behavioral factors influencing pregnancy outcome in the teenage group.[9,10] Among different factors responsible for adolescent pregnancy, some important factors are early marriage in some traditional rural communities, low level of sexual education and lack of knowledge of contraception, low educational level, poor economic condition, gender-based violence, substance use, and stigmatization by the communities.[11] Poor prenatal health behaviors and poorer health status are more likely associated with adolescent mothers compared to adult pregnant mothers.[12] This group of women is also associated with low school achievement, increased health care costs, living in poverty, and poor pregnancy outcomes10. Since there is biological immaturity in teenage pregnancy, they have been considered at higher risk than pregnancy in the adult group.[13]

Complications from pregnancy and childbirth are an important cause of death among women aged 15-19 years in developing countries.[14,15] Stillbirth and newborn death are 50% higher among infants born to adolescent mothers compared to the infants born to mothers aged 20-29 years old. Baby of Adolescent mothers also have low birth weight, which has a long-term impact on these babies' health and development.[16]

Materials and Methods

This prospective comparative observational study was conducted in the Department of Obstetrics and Gynaecology at Rampurhat Government Medical College, West Bengal, India, from December 2024 to May 2025. This study was conducted in accordance with the principles outlined in the Declaration of Helsinki and adhered to Good Clinical Practice (GCP) guidelines. Institutional Review Board (IRB) approval was obtained before study initiation. All participants provided written informed consent before undergoing any study-related procedures.

All primigravida of 13 to 19 years of age, who complete 28 weeks of gestation with an uncomplicated singleton pregnancy booked or un-booked and delivered in our institution were included in the study group. Primigravida of the age group 20 to 24 years old with an uncomplicated singleton pregnancy who attended the antenatal ward and delivered at the same time as the case group, were the control group. For each case, the next consecutive singleton deliveries of age group 20 to 24 years were selected for comparison. Age of the case and control was confirmed from government-issued documents, such as Aadhaar card/ Birth Certificate/ Madhyamik admit card. Exclusion group includes primigravida with < 28 weeks of pregnancy, multiple pregnancy, primigravida with age above 24 years, primigravida with known medical disorder like diabetes mellitus, thyroid disorder, hypertension, acute or chronic renal diseases, cardiac disease, etc., and multigravida women.

All women from the above-mentioned case and control populations who were admitted to the antenatal ward in labour and delivered at Rampurhat Government Medical College during the study period were included in our sample. Written informed consent was obtained from all study participants. Data was Collected through interviews of the mother or her closest kin (if the patient's condition was not suitable for speech). A

Address for correspondence: Dr. Sima Biswas,
Assistant professor, Department of Obstetrics and Gynecology, Rampurhat Government Medical College, West Bengal, India.
E-mail: drsimabiswas78@gmail.com

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structured and pretested proforma was used for this purpose. Data were verified, and missing information was obtained from antenatal records. Demographic data, pregnancy complications like severe anaemia, pre-eclampsia, eclampsia, gestational age at delivery, mode of delivery, and postpartum complications were compared. Among fetal complications, low birth weight, preterm birth, Apgar score at 1 and 5 minutes, neonatal intensive care unit admission, stillbirth, and early neonatal death were recorded and compared.

The numerical values for the two groups were plotted in a Microsoft Excel sheet. Continuous data was expressed as a percentage, and categorical data was expressed as a mean. Microsoft Excel and IBM SPSS Statistics (version 30.0.0) were used for statistical analysis. A p-value < 0.05 was accepted as significant. Student's t-test and chi-square test were used for statistical analysis.

Results

In our study, a total of 384 teenage mothers comprised the study population, and a consecutive 384 mothers comprised the control group. The adolescent group was aged 13 to 19 years. The adult group was aged 20 -24 years. There were a total of 8916 deliveries during our study period. So, the incidence of teenage pregnancy was 4.3%.

The maximum number (39.32%) of teenage pregnancies was found at the age of 18 years, followed by 32.82% at 19 years, and 11.47% at 17 years. The lowest age group with pregnancy was 13 years, with 2.08%, and 14 years with 2.60%. The mean age for a teenage pregnancy was 16.83. For the adult group, the mean age was 22.08, the maximum number (32.55%) of pregnancies was at 22 years of age, followed by 23 years (26.04%), 24 years (22.91%), and 9.11% at 21 years of age. The mean age for the adult group was 22.08.

In our study, no significant difference in socio-economic status was found between the teenage and adult groups. In both groups, most of the mothers were from the low-income class, with 68.75% and 66.40% in the teenage and adult groups, respectively.

Regarding educational qualification [Table 1], illiterate mother was found more in the teenage group compared to the adolescent group- 175(45.57%) versus 106(27.60%). Among literate mothers, the highest level of education was primary, 62.5% versus 31.25% in the teenage and adult groups, p value 0.458, nonsignificant. Up to the Secondary level, 30.72% versus 42.96% for the teenage versus the adult group. At the higher secondary level, 5.98% in the adolescent group and 27.60% in the adult group; p-value < 0.00001, highly significant.

Among different causes of teenage pregnancy, lack of awareness of contraception was 69.79% in the adolescent group compared to 39.84% in the adult group. P-value is 0.00001, statistically significant. Ever use of contraception was 4.94% versus 24.47% for the teenage group versus the adult group; the p-value was substantial and 0.00001. Family pressure was not statistically significant; it was 20.83% versus 18.23% in teenage and adult group respectively.

In our study, regular antenatal check-ups were found in 45.57% of the teenage group and 58.85% of the adult group; the p-value (0.0002) was significant. The complete dose of tetanus toxoid was 64.06% and 75.52% in the teenage and adult groups, respectively, with a significant p-value (0.0005). 40.10% of adolescent mothers and 52.60% of adult mothers took more than 100 Iron-folic acid tablets during the antenatal period; the p-value was 0.0005, which was significant.

Table 1: showing educational level, main underlying causes and antenatal care

Parameter	Teenage group	Adult group	P value
Education level			
Primary level	62.5%	31.25%	0.458
Secondary level	30.72%	42.96%	0.361
Higher secondary level	5.98%	27.60%	0.00001
Main underlying causes			
Lack of contraceptive awareness	69.79%	39.84%	0.00001
Ever use of contraception	4.94%	24.4%	0.00001
Family pressure	20.83%	18.23%	0.3627
Antenatal care			
Regular antenatal check up	45.5%	58.5%	0.0002
2 doses TT	64.06%	75.52%	0.0005
Total IFA tablet intake	40.10%	52.60%	0.0005

Table 2: Maternal outcomes.

Parameter	Teenage group	Adult group	P value
Anaemia on admission	145(37.76%)	98(25.52%)	0.0002
P.I.H	54(14.06)	15(3.90%)	0.00001
PET	21(5.46%)	10(2.60%)	0.043718
Eclampsia	18(4.68%)	8(2.08%)	0.046
IUGR	41(10.68%)	20(5.20%)	0.005
Premature onset of labour	116(30.20%)	60(15.62%)	< 0.00001

In [Table 2], maternal outcomes were compared between the two groups. Anaemia was 37.76% versus 25.52% for the teenage and adult group, p value 0.0002, which was significant. Pregnancy-induced hypertension was found in14.06% in teenage group and 3.90% of the adult group, p value 0.00001. Pre-eclamptic toxaemia was observed in

5.46% versus 2.60% in the teenage and adult groups, respectively. The p-value is significant and 0.043718. Eclampsia was seen in 4.68% teenage mothers and 2.08% of adult mothers, with a P value of 0.046. IUGR was 10.68% in the adolescent group and 5.20% in the adult group, with a significant p-value of 0.005. Premature onset of labour was 30.20% teenage mothers and 15 62% adult group mothers, with a p-value < 0.00001.

Our study showed that most of the mothers of the two groups delivered vaginally without a significant p-value. Vaginal delivery was seen in 68.75% of teenage pregnancies and 66.14% of the adult group. Caesarean section was needed for 31.25% and 33.85% in the teenage and adult groups, respectively. Indications for caesarean section were mainly eclampsia and foetal distress in both groups.

[Table 3] shows various foetal outcomes. Premature delivery seen for 58.85% of teenage group and 18.75% in adult group with highly significant p value <0.00001. Low birth weight baby delivered 48.96% in teenage group and 30.72% in adult group with highly substantial p value < 0.00001. Prenatal asphyxia 10.93% and 7.55% for the teenage and adult group respectively, p value 0.1053 was significant.

Table 3: Foetal outcomes:

Parameter	Teenage group (13-19 yrs.)	Adult group (20-24 yrs.)	P value
Premature onset of labour	226(58.85%)	72(18.75%)	<0.00001
LOW birth weight baby	188(48.96%)	118(30.72%)	<0.00001
Perinatal asphyxia	42(10.93%)	29(7.55%)	<0.1053
NICU admission	51(13.28%)	23(5.9%)	0.0006
Still birth	6(1.5%)	3(0.78%)	0.502
Neonatal death	12(3.12%)	5(1.30%)	0.0860

Neonatal intensive care unit admission was observed in 13.28% of the teenage group and 5.9% of the adult group, p-value 0.0006. 1.5% and 0.78% stillbirths were found in the teenage and adult groups, respectively. Neonatal death was 3.12% for the adolescent group and 1.30% in the adult group. P value for both stillbirth and neonatal death was nonsignificant.

Discussion

Though there is a legal age for marriage, there are so many marriages in the teenage group in developing countries. During our study period total delivery was 8916 in our institute, among these 384 teenage pregnancies was seen, giving incidence of 4.3% which was similar to 4.1% in study of Kumar A, Singh T et al,[17] 4% in the study of Sagili, H., Pramya, N., Prabhu et al,[18] 5.10% in study of Yasmin G, Kumar A, Parihar.[19] Incidence of teenage pregnancy in our study was much higher compared to that of 1.67% in the study of Egbe, Omeichu, Halle-Ekane et al.[20]

In our study, the case and control groups each consist of 384 pregnant mothers. Among teenage mothers, 72.14% cases occurred in the age group 18-19 years. This result is identical to the study's finding by Mukhopadhyay P, Chaudhuri RN et al,[21] in which 89% of teenage mothers were in the age group 18 to 19 years. Also similar to the study by Nepak, Arabinda, et al,[22] in which 76% of adolescent mothers were 19 years old. In our study, 2.08% of participants became pregnant at age 13. Mean age of the teenage & adult group was 16.83 years & 22.08 years, respectively, in our study, which is identical to the study of Rexhepi, Besimi, Rufati, et al,[23] showing 18.02 & 22.42 years for the teenage & adult group, respectively & Duran, Pek24 17.28 vs 23.16 years for the teenage & adult group. The maximum number, 58.59% of the adult group, was in the 22-23-year age group. Only 9.11% of pregnant mothers were 21 years old.

Regarding educational qualification, illiterate mother was found more in the teenage group compared to the adolescent group-175(45.57%) versus 106(27.60%), like the study of Seneesh KV, Shah M (25) - 54.3% versus 12.9%.

Among literate mothers, the highest level of education was primary, with 62.5% versus 35.15% in the teenage and adult groups, respectively. Up to the Secondary level, 30.72% versus 42.96% for the teenage versus the adult group. For the higher secondary level, 5.98% in the adolescent group and 27.60% in the adult group.

Our study results regarding educational level are similar to those of Rexhepi M, Besimi F et al,[23] which showed primary level 63.5% versus 31.95%, secondary school level 36.5% versus 46.15%, and high school level 0% versus 21.90%. Our study is also comparable with the study of Egbe, Omeichu, Halle-Ekane et al,[20] which resulted in the education level of the teenage group versus adult group being primary level 10.8% versus 5.6%, secondary level 87.2% versus 68.1%, and tertiary level 2% versus 26.4%.

Our study population and the control group were both from lower socioeconomic classes, with no significant difference (68.75% versus 61.19%) because the study was conducted in a rural area & most patients in the hospital came from low socioeconomic classes.

In our study percentage of regular antenatal follow up, complete dose of tetanus toxoid and consumption of more than 100 iron-folic acid tablet are more in control group compare to study group & probably the lake of knowledge about the effect of iron -folic acid on pregnancy as well as a misconception that more intake of iron folic acid causes big baby which is responsible for operative delivery were two main cause. Regular antenatal follow-up was observed in 58.85% of the control group and 45.57% of the study group. This finding is similar to the study by Seneesh KV, Shah M, et al., which showed 35.7% versus 62.9% for antenatal checkups in teenage versus adult

pregnancies.

The Number of 2 doses of tetanus toxoid in teenagers versus adults was 64.06% versus 75.52%. Consumption of more than 100 iron-folic acid was 52.60% in the adult group and 40.10% in the teenage group. This result is similar to the study by Mukhopadhyay, Chaudhuri, RN et al.[21] They reported that the two-dose tetanus toxoid was 74.3% versus 78.8% and iron-folic acid consumption was 40.0% versus 49.1% in the teenage group versus the adult group.

Our study results on antenatal check-up, folic acid acceptance & vaccination during pregnancy are supported by the survey by Mezmur, Assefa et al,[26] which showed antenatal check-up 65.1% versus 74.6%, folic acid 61.5% versus 69.2%, and vaccination 12.7% versus 6.4% respectively, for the teenage versus adult group.

Ever use of contraceptive methods was higher in adults than in the teenage group, 24.47% versus 2.34%, which is comparable to the study by Mukhopadhyay P, Chaudhuri RN et al (2118.8% versus 1.7% for the adult versus the teenage group).

Various outcomes of mothers during our study period, including anemia on admission, pregnancy-induced hypertension, pre-eclamptic toxemia, eclampsia, premature onset of labor, and intrauterine growth retardation, were more common in teenage mothers compared to adult mothers. This is because of minimal knowledge about the various complications during pregnancy, low socioeconomic conditions to provide a better nutritious diet, misconceptions of patients and family members that proper intake of medicine and a healthy diet may cause a big baby, which may be the causative factor for operative delivery, as well as the negligence of family members. We found that 37.76% teenage mothers were anemic on admission, and that for the adult group was 25.52%. Anaemia was mainly due to inadequate intake of iron-folic acid and poor-quality food. This result is similar to the study by Ezegwui, Ikeako et al. [27], where they reported that anemia was 32.4% in the teenage group versus 24.8% in the adolescent group. Our findings regarding anemia are also.

Identical to 75% versus 57.6% for teenage versus adolescent in the study of Saloi M, Baruah KK, et al.[28] Study of Ogunwale & Rangiah,[29] reported anaemia in the teenage & adult group was 39.8% versus 43.1%, which was opposite of our result.

Pregnancy-induced hypertension was 14.06% versus 3.90% for the teenage versus the adult group.Pre-eclamptic toxemia was found 5.46% versus 2.60% of teenage and adult mothers, respectively. The rate of eclampsia was 4.68% versus 2.08% for the teenage versus the adult group. Our study result is lower than that of Kumar A, Singh T et al,[17] where pregnancy induced hypertension 11.4% versus 2.3%, pre-eclamptic toxemia 4.3% versus 0.6%, eclampsia 4.9% versus 0.6%. For teenage vs. adult premature onset of labor was more common in the teenage group (30.20%) than in the adult group (15.62%). Intrauterine growth retardation was also less in the adult group compared to the adolescent group; it was 5.20% versus 10.68% for adult versus teenage pregnancy. Our findings on preeclampsia and eclampsia are supported by the study by Shruthi, Arpitha, et al,[30] which reports pre-eclampsia rates of 12.3% versus 8.4% and eclampsia rates of 3.5% versus 1.5% for the teenage & adult groups, respectively. Like our study, the percentage of pregnancy-induced hypertension was higher in the adolescent group, 11.3% compared to that of the adult group, 4.2% in the study of Abebe, Fitie et al.[31]

Though Rexhepi M, Besimi et al23 resulted that premature rupture of membrane (PROM) was more in adult group compare to teenage (22.60% versus 31.94%), our resulted PROM was 30.20% versus 15.62% for teenage versus adult respectively is supported by Kumar A, Singh T et al,[17] showed 26.1% versus 14.6%, Siakwa, M., Nyarko-Sampson et al,[32] 4.9% versus 6.53% for teenage versus adult respectively and by Leppert, P. C., Namerow et al,[33] reported 1.5% versus 0.5% for teenage versus adult group.

Intrauterine growth retardation was 10.68% and 5.20% in the study and control groups, respectively. In our study, this is supported by the study of Duran, M. N., Pek et al,[24] showing 10.6% versus 6.3% and that of 2.8% versus 0% in the study of Seneesh KV, Shah M et al.[25]

We found that the maximum number of patients in both the study and control groups were delivered vaginally, with 68.75% in the teenage group and 66.14% in the adult group, similar to the study by N. Hoque M, Hoque S et al. 34 74.9% versus 71.2%.

The fetuses in the teenage group were delivered before maturity. It was 58.85% for the teenage group and 18.75 % for the adult group. The birth weight of babies was 48.96% versus 30.25%. For teenage and adult mothers, respectively. Our results for preterm delivery and low birth weight are similar to those reported by Lao TT, Ho LF et al. (35): 13.0% versus 7% for preterm delivery, and 13.5% versus 6.5% for low birth weight in teenagers versus adults, respectively. These findings are also supported by Kumbi & Isehak et al,[36] who reported 21.8% versus 11.8% and 27% versus 10% for preterm delivery and low birth weight, respectively, in the teenage versus the adult group. Prenatal asphyxia was found 10.93% in teenage group and 2.3% of the adolescent group, which is similar to 11.7% versus 1.9% in the study of Kumar A, Singh T et al.[17] Admission to the Neonatal Intensive Care Unit of babies born to teenage mothers was higher than that of the adult group. It was 13.28% for teenage pregnancy, which was 5.9% for the adult group, which was supported by a study of Mezmur H, Assefa N, et al.26, where the result is 15.4% versus 9.9% but unlikely to the study of Rexhepi M, Besimi F, et al,[23] 6.95% versus 11.75%. The rate of stillbirth was also higher for the teenage group compared to the adult group. Stillbirth was 1.5% versus 0.78% for the teenage versus the adult group. Mukhopadhyay P, Chaudhuri RN et al,[21] showed preterm birth 27.7% versus 13.1%, low birth weight 38.9% versus 30.4%, still birth 5.1% versus 0.9% for the teenage and adult group, respectively, which is similar to Our result. The rate of neonatal death was 3.12% versus 1.30% in the teenage and adolescent group in our study, similar to the study result of Kumar A, Singh T et al,[17] where it is 3.8% versus 0.5%.

Conclusion

The outcome of this study showed that despite various government programmes and legislation, teenage pregnancy is still a common occurrence in rural India. Obstetric outcomes are poor for adolescent pregnancy compared to adult pregnancy in rural India. Among various contributory factors, poor socioeconomic conditions, illiteracy, cultural practices, lack of awareness of contraception, and complications of teenage pregnancy are the main contributory factors. Early booking, proper antenatal care, proper utilization of contraceptive services, and improvement of socio-economic conditions are the preventive measures to reduce the incidence and complications in the teenage group.

Recommendation: Increase awareness of family members and the teenage couple about various complications of teenage pregnancy and their impact on the mother and baby, so that family pressure can be minimized. Females should be encouraged to complete high school education so that they can be knowledgeable about the outcome of a teenage pregnancy. Appropriate and adequate counselling about various contraceptive methods and antenatal services provided. Teenage pregnancy should be talked about as a case of socioeconomic burden as well as a major health problem. As we have a single-centre hospital-based study, a multicentre community-based study is recommended.

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Conflicts of interest

There are no conflicts of interest.

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