



## Study on adolescent pregnancies

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### Abstract

WHO defines adolescence or teenage as transition from childhood to adulthood. Adolescent pregnancy, also known as teenage pregnancy, is pregnancy under the age of 20. Adolescents are not physically developed and pregnancy puts them at risk of educational, economic, social and financial issues apart from health issues.

**Aim of the study:** To study the subjects with pregnancy in adolescent or teenage group and to analyse the sociodemographic, medical and obstetrical complications and fetomaternal outcome in teenage pregnancy.

**Material and methods:** 100 cases of teenage primigravidae (13-19 years) after 28wks, were selected at random in the observational study conducted at Government General Hospital /Rangaraya Medical College (RMC), Kakinada for a period of one year from January 2016 to December 2016.

**Results:** The rate of teenage pregnancy is 34/1000 deliveries. Mean age of the cases is 16.8yrs. Unbooked cases were 74 %, with inadequate antenatal care. Majority [72%] belonged to low socioeconomic status 28% of women are illiterate. Anemia and Hypertensive disorders were common medical disorders. Prolonged labour was in 28 %. The incidence of caesarean section is 35%. Cephalopelvic disproportion is most common indication of caesarean section in teenage pregnancy. Perinatal mortality was 8% there were no maternal deaths.

**Conclusion:** Adolescent pregnancy poses a problem to both the mother and foetus. It is associated with increased antenatal complications like anemia, preeclampsia, eclampsia, intrauterine growth restriction. Operative interventions like caesarean section and forceps are high. Perinatal mortality was high due to low birth weight babies resulting from prematurity or IUGR. Comprehensive sex education and access to birth control appear to reduce unplanned teenage pregnancy with multifaceted preventive approach in home, school and society.

**Keywords:** adolescent, teenage pregnancy

### Introduction

Teenage pregnancy, also known as adolescent pregnancy, is pregnancy under the age of 20 [1]. The global problem of teenage pregnancy is also a public health concern both in developed and developing world. Teenage pregnancy was normal in previous centuries, and was common in developed countries in the 20th century. The 2014 World Health Statistics indicate that the average global birth rate among 15 to 19 year olds is 49 per 1000 girls and 11% of all births worldwide are still in girls aged 15 to 19 years old. Country rates range from 1 to 299 births per 1000 girls, with the highest rates in sub-Saharan Africa<sup>2</sup>. As per UNICEF 2013 report, the adolescent population in India is 20% of the total population, 26% of girls aged 15 to 19 years are married with adolescent birth rate of 38 per 1000 girls [3]. The adolescent pregnancies in developed world are different than in developing world where unmarried and adolescent pregnancy are seen as a social issue. By contrast, teenage parents in the developing countries are often married, and their pregnancy may be welcomed by the family and society. Health consequences include developing physical growth for pregnancy and childbirth leading to complications and malnutrition as the majority of adolescents tend to come from

lower-income households [4]. Teenage pregnancy puts young woman at risk for health issues, educational, economic, social and financial issues [5]. Maternal and prenatal health is of particular concern among teens who are pregnant or parenting. The worldwide incidence of premature birth and low birth weight is higher among adolescent mothers [6].

### Material and Methods

The study was conducted at Government General Hospital/RMC Kakinada tertiary care teaching hospital and referral centre for one year. 100 cases of adolescent primigravidae (13-19yrs) after 28wks were selected at random from admissions in antenatal OP, labour ward admissions. Adolescent admissions below 13yrs were for medical termination of pregnancy for social reasons and were excluded from the study. Follow up was done till delivery and postnatal period till 6wks. Age, sociodemographic factors, general condition, obstetric examination, investigative workup, complications, mode of delivery, fetomaternal outcome, contraceptive advise at discharge were studied. All the patients were given advice on contraception, breastfeeding and immunisation. They were analysed statistically by SPSS software, Chisquare test for comparison of proportions.

**Results**

In our sample of 100 subjects, mean age was 16.7yrs. The youngest subject in the study was 15.6yrs. Most of them were 18yrs (42%). Most of the cases were unbooked pregnancies (72%) while only 28% were booked. Demographic analysis showed that 66% of these cases are from rural areas while the rest 34% are urban population. 78% of the cases are from lower socioeconomic strata of the society while 20% are from middle and only 2% from higher socioeconomic status. Analysis showed that 26% are illiterates and 74% had only primary education. (table1) Among medical disorders complicating pregnancy anemia accounted to 43%. Pregnancy induced hypertension 21% were more common (table3) Other medical disorders were rheumatic heart disease, viral hepatitis, epilepsy complicating pregnancy, sickle cell anemia with crisis. HIV was only sexually transmitted disorder in one case (table 5). In Obstetric complications CPD and preterm labour were more common with others like multiple gestation, Rh negative pregnancy, IUGR, placenta previa (table6). 94% had cephalic presentation. Vaginal delivery is more common compared to cesarean section and instrumental deliveries (table7). Most of them delivered at term, with preterm were 26%, past dates 2%. (table8) Normal delivery was conducted in 52% followed by lower section caesarean sections (LSCS) in 35%. (table 9). The most common indication for Emergency LSCS was CPD (80%). Low birth weight was common in 32%. Perinatal death rate was 8%. Neonatal outcome was 88% take home rate with 2% IUD (table10). Paediatric admissions were 12%. The maternal morbidity due to fever, UTI, mastitis, wound infection was 16%. There were no maternal deaths. Postpartum IUCD insertion was done in 42% with consent and all were advised contraception.

**Table 1:** Distribution of study population according to Registration, area of residence, socioeconomic status.

1. Registration status	No of cases	Percentage
Booked	26	26%
Unbooked	74	74%
Total	100	100%
2. Area	No of cases	Percentage
Rural	66	66%
Urban	34	34%
Total	100	100%
3. Socioeconomic status	No of cases	Percentage
Low	78	78%
Middle	20	20%
High	2	2%

**Table 2:** Severity of anemia

Degree of anemia	No of cases	Percentage
Mild	20	20%
Moderate	18	18%
Severe	13	13%
Total	43	43%

**Table 3:** Severity of preeclampsia

Severity of preeclampsia	No of cases	percentage
Mild	5	5%
Severe	13	13%
Eclampsia	3	3%
Total	21	21%

**Table 4:** PIH \* Outcome Crosstabulation

		Count				Total
		Alive	IUD	Neonate death	Stillbirth	
PIH	Nil	75	0	1	1	77
	No	1	1	0	0	2
	Yes	18	1	2	0	21
Total		94	2	3	1	100

Chi-Square – 30.12 p value – 0.000 PIH was found to be less among the study subjects and this association was found to be significant (p<0.05)

**Table 5:** Other Medical complications

Complications	No of cases	Percentage
Heart disease	2	2%
Viral hepatitis	1	1%
Sickle cell anemia	1	1%
UTI	4	4%
Epilepsy	1	1%
HIV	1	1%

**Table 6:** Obstetric complications

Complications	No of cases	Percentage
Placenta previa	4	4 %
Preterm labour	26	26%
Twins	3	3%
Oligohydramnios	9	9%
Pastdates	18	18%
Rh negative	7	7%
Uterine anomalies	1	1%
IUGR	4	4%
CPD	35	35%

**Table 7:** Type of Delivery

Type of delivery	No of cases	Percentage
Vaginal delivery	52	52%
Forceps	10	10%
Caesarean section	35	35%
Assisted breech	3	3%

**Table 8:** Gestational age of newborn babies

Gestational age	No of cases	Percentage
Preterm	26	26
Term	72	72
Post term	2	2

**Table 9:** Birth weight of neonates

Weight of neonate's	Number of cases	Percentage
< 1kg	4	4%
1 to 1.4kg	8	8%
1.5 to 2.0 kg	24	24%
2.1 kg to 2.5kg	52	50%
>2.5kg	12	12%

**Table 10:** Outcome in neonates

Outcome	No of cases	Percentage
Live births	92	92.2%
IUD	2	1.9%
stillbirth	1	0.9%
Neonatal death	5	4.8%
Total	100	100%

## Discussion

Adolescent or teenage pregnancy is at increased risk for adverse medical and social outcomes and is a global problem even in developed world apart from developing world. Teenage is basically a time for growth and the girl is not physically and emotionally mature and teenage pregnancy is associated with higher rate of pregnancy-related complications, leading to high fetomaternal morbidity and mortality. Even in developed world, in 2015, a total of 229,715 babies were born to women aged 15–19 years, in the United States for a birth rate of 22.3 per 1,000 women in this age group<sup>7</sup>. Adolescent pregnancy remains a major contributor to maternal and child mortality and cycle of ill health and poverty. Over past decade, India has successfully reduced the proportion of pregnancy between 15-19 years to half (16% during NFHS 3 in 2005-06 and 7.9% during NFHS 4 in 2015-16). Still, the estimation by UNFPA runs to 11.8 million teenage pregnancy for the country. An early marriage inevitably put the adolescent girls at the risk of being pregnant with low contraceptive awareness. High fertility and discontinued education after marriage remain the other cause for this rise with various fetomaternal complications. Risks for medical complications are greater for girls aged under 15, as an underdeveloped pelvis can lead to difficulties in childbirth. In developing regions where medical services might be unaccessible, it can lead to eclampsia, obstetric fistula, infant mortality, or maternal death<sup>[8]</sup>.

We studied a sample group of 100 is taken from the total teenage pregnancies of (402/11284 deliveries) the incidence is 3.56%. The incidence of teenage pregnancy is 3.2% to 18.6% in India<sup>[9]</sup>. Many of the health-issues associated with teenage mothers appear to result from lack of access to adequate medical care<sup>[10]</sup> In our study all cases were married. Though pregnancy is with marriage and family support in the study, because of their younger age and usually the lower socioeconomic status of women, these girls are not empowered to make their own decisions. 78% were unbooked. Younger adolescents were admitted for medical termination of pregnancy for social reasons of rape were excluded from the study. The youngest teenage mother in our study was 15.6 years. The mean age is 16.8yrs less than in other studies<sup>[11, 12]</sup>. Most of them belonged to 17-18yrs (41%). In present study 66% belong to rural area comparable with other<sup>[13]</sup> where health approaches are less. In the Indian subcontinent, early marriage and pregnancy is more common in traditional rural communities than in cities<sup>[14]</sup>. In our study 78% belonged to low socioeconomic status, 20% are middle economic status and 2% are from high socioeconomic status. Although the no. of teenage pregnancies are more among lower economic status there is no significant statistical association on the outcome of pregnancy ( $p > 0.05$ ) Chi-Square – 2.243 p value – 0.896. This has reflected in financial constraints early marriage and pregnancy with various obstetric complications some with a statistical significance. For mothers who are older than fifteen, age in itself is not a risk factor, and poor outcomes are associated more with socioeconomic factors rather than with biology<sup>[15]</sup>.

Anemia complicating pregnancy (Hb < 11 gm/dL) seen in 43%. and severe anemia in 13%. Most of the cases were nutritional anemia mostly iron deficiency anemia. One case was admitted

with sickle cell anemia. This reflects the general state of nutritional deficiency in our women which is more than in other studies<sup>[16, 17, 18]</sup> The rates of other obstetric complications such as pregnancy induced hypertension and preterm labour were also higher in teenager mothers. PIH occurred in 21% in our study comparison<sup>[19, 20]</sup> This has a statistical significance more in low socioeconomic status (TABLE 4) The rate of preterm delivery in teenagers was 26% Maternal and prenatal health is of particular concern with adolescent pregnancies. The worldwide incidence of premature birth and low birth weight is higher among adolescent mothers<sup>[21]</sup> In our study normal vaginal delivery conducted in 52%, caesarean sections were 35% and 10% instrumental delivery comparable with other studies<sup>[22, 23]</sup> The present study found that the number of low birth weight babies was more in the case of teenage mothers (26%) Babies born to premature mothers are likely to be premature, hence the higher incidence of low birth weight. The observation nearer to the other studies in India<sup>[24]</sup>.

Management firstly includes preventive aspects on health and sex education. Teenage pregnancy is to be treated as a high risk pregnancy which needs multi speciality approach and worked up as such after antenatal booking and admission. International and national organizations are working on it. WHO is also involved in a variety of joint efforts with related agencies and programmes, such as the “H4+” initiative that includes UNAIDS, UNFPA, UNICEF, UN Women and the World Bank. It also tackles teenage pregnancies, child marriage and limited access to education for girls. H4+ aligns closely with national health plans and provides some financial and technical support to governments. Through mass awareness and legislation, India tries to mitigate the burden of early marriage. In addition, adolescent girls are being introduced to basic knowledge of reproductive health. With the introduction of peer educators, India is expecting to bridge this gap and addressing a sensitive social and medical issue like teenage pregnancy. Keeping adolescent girls in schools, using economic incentives and livelihood programs can help reduce teenage pregnancy<sup>[25]</sup>.

## Limitations of our study

Sample size for teenage pregnancies was small random sample. All the subjects were married. The study is in tertiary care centre. Further large scale studies are required to determine the risks associated with teenage pregnancy.

## Conclusion

Adolescent pregnancy poses a problem to both the mother and foetus with a higher risk of developing anaemia, pregnancy induced hypertension and preterm labour more so in low socioeconomic group. Perinatal mortality was due to low birth weight babies resulting from prematurity or IUGR. Comprehensive sex education and access to birth control appear to reduce teenage pregnancy with multifaceted preventive approach in home, school and society

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