

An analytic study on maternal and fetal complications as the pregnancy outcome in teenage pregnancy

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Abstract: *Background:* The aim of the study is to find out the strategies on the maternal and fetal complications as the pregnancy outcome in teenage women. With modernization, teenage pregnancy rate is rapidly declining in developed countries, but it is still high in developing countries like India, and socially backward district like Vijayapur. Hence this prospective study was carried out at Al-Ameen Medical College, Vijayapur, Karnataka. *Aims:* (1) To find out strategies for prevention of problems of teenage pregnancies. (2) To find out strategies for prevention of perinatal mortality. *Methodology:* A prospective study of teenage pregnancy was carried out for two years period; all Teen Primigravidae admitted to the labour ward were taken for study. 150 cases of teenage primigravidae of 13yrs to 19yrs were studied. Cases were selected randomly and randomization was attained. *Results:* Teenage primigravidae who delivered comprised of 29.6% of the total term deliveries to the labour ward. In this study 72% teenage pregnancies were associated with mild to severe complications. The major maternal complications were Sever-Anemia 16%, Hypertensive Disorders of Pregnancy 18.66%, Premature Rupture of Membranes 18.21%, and Low Birth Weight 20%, Pre-term births 6% and Stillbirths 1.33% was major adverse fetal outcome. *Conclusion:* Early childbearing is associated with various health risks for both mother and child. Teenage mothers are more likely to experience pregnancy related complications which often lead to raised MMR and adverse fetal outcome. But Teenage pregnancy is still a common occurrence.

Keywords: Teenage pregnancy, Clinical prospective study, Maternal and fetal outcome.

Introduction

Throughout the history of the world until the modern era, teen-pregnancy was the norm. When a young girl attains menarche, she was married off and was expected to accomplish what she was biologically designed for i.e. giving birth to the next generation. With modernization, while teenage pregnancy rate is rapidly declining in developed countries, it is still high in developing countries like India. Teenage pregnancy remains a public health problem as about 70,000 adolescent mothers die every year due to early childbearing all over the world [1]. The NHFS III 2005-2006 estimates that the overall teenage pregnancies in India are 16% [2]. In developing nations, as in India, teenage pregnancies are due to early age of marriage and tend to be welcomed by family members and society. Despite legal age for marriage of girls being 18, 47.4% of women in India were child brides [3].

According to the United Nations Population Fund (UNFPA), "Pregnancies among girls less than 18

years of age have irreparable consequences. It violates the rights of girls, with life-threatening consequences in terms of sexual and reproductive health, and poses high development costs for communities, particularly in perpetuating the cycle of poverty"[4]. Teenage pregnancies have shown association with higher risks of prematurity, low birth weight, preeclampsia and anemia as compared to adult pregnancies. Hence, the present study aims to find out the incidence and to evaluate the various complications associated with teenage pregnancy.

Material and Methods

A prospective study of teenage pregnancy was carried out at Al-Ameen Medical College Hospital, Vijayapur, Karnataka during the period 2013-2015. Teen Primigravidae admitted in labour ward were taken for study. 150 cases of teenage primigravidas 13yrs to 19yrs were studied. Cases were selected randomly and randomization was attained.

A structured proforma was used to collect information. The study was done as they were admitted in the labour ward and were followed till they got discharged. Information regarding age, educational status, occupation, marital status, health awareness, knowledge about pregnancy and delivery, antenatal visits were obtained from history. Basic checkup like Height and Weight of the patient, Hemoglobin and B.P checkup were done. Complications during antenatal period, delivery and postpartum were observed. Details regarding mode of delivery and birth weight of the baby were noted. Baby details noted and babies admitted in neonatal ward followed up till they were discharged. Patients and their babies were followed up at O.P. 1month later and toward events in the intervening period were noted down.

Inclusion Criteria:

1. Study Group : 13 - 19 yrs
2. As almost 95% of teenage pregnant women were only primigravidae, only primigravidas were included in the study group to eliminate influence of parity on maternal complication and birth weight of the newborn.
3. Only primigravidae with singleton pregnancy were taken into account to avoid influence of multiple pregnancies on birth weight of the new born.

Exclusion criteria:

1. Multigravidae
2. Primigravidae undergoing abortions - only pregnancies that have crossed the period of viability were taken into consideration as this study mainly focuses on the neonatal outcome of teenage pregnancy.

pregnant teenagers were 19yrs old and almost the rest 26% belonged to the 18 yrs category. 97.33% were married, early teen marriage hence leads to increased fertility years in a women’s life. 55.33% women had their primary education, but none of them had attended college studies, and 17% teenage pregnant women were illiterate. Out of the 150 teenage pregnancies, 108 were associated with complications (72%) either in mild or severe form and the remaining 42 were without any complication (28%).

Only 12% of the teenage mothers booked during there I trimester because most of them were unaware that they were pregnant during the initial period, 28% of women in the teenage group were un-booked. After booking, further antenatal checkups were also irregular among teenagers. Most of them had their I visit to hospital only at the end of second trimester, and half of them at the time of delivery, this was due to the lack of knowledge about pregnancy and its related complications on mother and fetus. The most common complication associated with teenage pregnancy during third trimester and during Labor was Anemia and Hypertensive disorders of pregnancy and Pre-term birth. 12 teenage pregnant women suffered Pre-eclampsia, 11 women suffered imminent eclampsia and 5 women suffered eclampsia. Out of 150 pregnant teenagers almost 94.67% of teenagers were diagnosed to have mild to moderate degree of Anemia during their labour, out of which 24 of the teenage pregnant women were found to be very severely anemic.

Maternal	Fetal
Anemia	Low birth weight
Hypertensive Disorders of Pregnancy	Pre term births
Cephalo-pelvic disproportion	Birth asphyxia
Labor and delivery problems	Congenital anomalies
Puerperal problems	Perinatal mortality

Complications	No. Teenage women	%
Anemia	24	16%
Hypertensive disorders	28	18.66%
Medical disorders	4	2.66%
IUGR	12	8%
Mal-presentation	17	11.33%
IUFD	2	1.33%
CPD	32	21.33%
Oligo-hydromnios	8	5.3%
PROM	17	11.33%

Results

The incidence of teenage pregnancy during the study period in AMCH was 29.6%. 26.67% of

Mode of Delivery: There was no significant difference in the mode of delivery between vaginal birth and LSCS in our study. The incidence of LSCS was high as there was increased incidence of CPD, fetal distress, mal-presentation and mal-position.

Mode of delivery	Teenage group	
	No.	%
Normal Delivery	56	37.33%
LSCS	52	34.67%
Assisted breech	3	2%
Ventouse	23	15.33%
Outlet forceps	14	9.33%
Expulsion of IUFD	2	1.33%
Total	150	100%

Indication for cesarean section: The increased incidence of CPD (21.33%), mal-presentation (7.33%) and obstructedlabour (4.6%) and fetal distress (4%) were the major cause for Cesarean section.

Indication	No.	%
Fetal distress	6	4%
Mal-presentation	11	7.33%
CPD	32	21.33%
Obstructedlabour	7	4.6%
Cervical dystocia	1	0.67%

Complications	No.	%
Postoperative fever	1	0.67%
Local sepsis	6	4%
Septicemia	2	1.33%
UTI	2	1.33%
Mastitis	3	2%
Puerperal Psychosis	1	0.67%
Total	15	10%

Lack of knowledge regarding nutrition, personal hygiene and new born care were the major cause for local sepsis (4%), mastitis (2%), and septicemia (1.33%) among the teen mothers.

Fetal Outcome in Teenage Pregnancies: Out of 150 deliveries, 126 fetuses were healthy and were discharged, whereas 30fetuses were LBW, 63 fetuses were in need of NICU admission and 24 fetuses expired.

Fetal Outcome	No.	%
Alive and healthy	126	84%
Low birth weight	30	20%
NICU admissions	63	42%
Expired	24	16%

Discussion

The present study on teenage pregnancy was undertaken with a view to understand the factors contributing to teenage pregnancy and to study the complications during the intra-partum and post-partum period and to study the neonatal outcome of teenage pregnancy and the above results were compared with the review of other authors.

The mean age at marriage of teenage women in T.Thekkekara et al’s study was 16.5yrs [5] and A.K.Sharma et al’s study was 16.71 yrs [6]. The mean age at marriage among the teenage women in the present study was 17.08 yrs.

These results show an inclining trend in the extremely young teenage group compared to previous studies such as study by Bhalerao et al [7] showed that 7% of teenage pregnancies belonged to 16-17 yrs age group and in a study by Kumar Ashok et al [8] showed that about 33% of teenage pregnancies were from 16-17 years age group and out of 29.6% of teenage pregnancy in the present study 52.67% were among 18-19yrs of age.

The incidence of complication’s are reduced in people having early booking and regular visits, M.K. Malviya et al [9] in his study has stated that only 25% of the teenage pregnant women had their 1st ANC visit during I trimester and 12% during their III trimester and the rest during II trimester. In the present study 12% of the women had their 1st. ANC visit in there I trimester, 14% in the III trimester and the 74% during II trimester.

Incidence of HDP in the study group was 18.66% out of which more than 50% had complications of HDP. The incidences in HDP in various studies were almost similar.

The incidence of CPD in our present study in the teenage group was 21.33%. Incidence of CPD in BhaleRao et al [7] was 1.5%. The increase in incidence of CPD in the present study is probably

due to over diagnosis of CPD since among the cases diagnosed as CPD; most of them came under the category of first degree CPD. As in other studies, there was no significant increase in complication.

In the present study, other complications like LBW, Respiratory distress (16%) and neonatal jaundice (10.66%) were increased.

Table-7: Comparison Of Various Components Of Teenage Primi With Different Studies

Component	Present Study	Other Study	Author's
Mean Age of Marriage	17.08yrs.	16.5yrs.	T.Thekkekara et al [5]
		16.71yrs	A.K.Sharma et al [6]
Pregnancies at 16-17yrs	32.66%	7%	Bhalerao et al [7]
		33%	Kumar Ashok et al [8]
ANC in Ist. Trimester	12%	25%	M.K. Malviya et al [9]
Hypertensive Disorder of Pregnancy	18.66%	10.0%	Bhalerao et al [7]
		7%	A.K. Sharma et al [6]
		20.17%	GazalaYasmin et al [10]
CPD	21.33%	1.5%	Bhalerao et al [7]
Low Birth Weight	20%	44.1%	Bhalerao et al [7]
		87.2%	Kumar Ashok et al [8]
		16.86%	GazalaYasmin et al [10]

According to ICMR classification, Hemoglobin level > 11 gm% is considered normal for pregnant women. In our study, only 5.33% women in the study group had Hemoglobin more than 11 gm%

Table-8: Severity Of Anemia and Its Incidence

Hb	Anemia	Present Study	A.K. Sharma (2001) [6]
> 11g%	No anemia	5.33%	31.4%
10.0 - 10.9 g%	Mild	22.67%	41.4%
7.0 – 9.9 g%	Moderate	56%	24.3%
4.0 – 6.9 g%	Severe	14%	2.9%
< 4g%	Very severe	2%	0

The most common cause of perinatal mortality in teenage mothers is low birth weight which could be either due to prematurity or small for gestational age babies. 27.33% of babies born to teenage mothers were less than 2.5 kg in the present study.

Table-9: Incidence Of Fetal Complications

Components	Present Study	Gazala Yasmin et al [10]
PROM	11.33%	18.21%
Malpresentation	9.33%	9.80%
Foetal distress	4%	9.24%
IUGR	8.0%	8.40%
IUFD	1.33%	7.56%
APH	1.33%	3.36%
Pre-term births	6%	16%
Oligohydromnios	5.3%	2.24%

Conclusion

Teenage pregnancy is a serious problem today all over the world and more so in developing countries like India. Throughout the world, various measures are being taken to prevent teenage pregnancy. Educating and creating awareness about the perils of teenage pregnancy is the best approach for this problem. Global researchers have gathered substantial evidence in favor of the fact that

pregnancy among adolescents is associated with maternal complications and fetal complications. So, teenage pregnancies should be discouraged by increasing the age at marriage for girls and providing better educational facilities for them.

The present approach is to provide general health education about the risks of teenage pregnancy, strictly enforce the minimum age at marriage law,

screen all pregnant mothers for risk factors and provide at risk mothers with education about childbearing and rearing and referral to a tertiary hospital for safe delivery. A multi-disciplinary approach involving educationists, health workers, social workers and obstetrician and gynecologists is required to improve the adolescent's reproductive health.

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