

A RETROSPECTIVE STUDY OF OBSTETRIC OUTCOME IN TEENAGE PREGNANCY AND OLDER PREGNANCIES

Anita Valsaladevi¹, Adma Harshan Sathyabhama²

¹Assistant Professor, Department of Obstetrics and Gynaecology, Government Medical College, Manjeri, Kerala.

²Associate Professor, Department of Obstetrics and Gynaecology, Government Medical College, Manjeri, Kerala.

ABSTRACT

BACKGROUND

Younger age pregnancy of the group 18 years to 19 years is characterized by adverse maternal outcomes like anaemia, hypertension, low birth weight babies and intra uterine growth restriction. A comparative retrospective study on the obstetric outcome in teenage mothers and older women was carried out. Data for the study was obtained from a hospital where considerable teenage pregnancy is reported. Evidence obtained in this study regarding antenatal complications and birth weight shows that good antenatal care and support by family and caregivers can bring down the incidence of anaemia and low birth weight babies in teenage pregnancy.

The aim of the study is to compare the obstetric outcome of pregnancy in teenagers and older women in a tertiary care hospital.

MATERIALS AND METHODS

This was a retrospective study conducted in Government Medical College, Manjeri, Malappuram, Kerala, India for a period of three months from March 2017 to May 2017. This is a teaching hospital with annual delivery rate of around 3500. Obstetric outcome of young mothers in the age group 18 -19 years were compared to older women (20-38 years) delivering in the same hospital. A total of 843 deliveries were considered, out of which 87 belonged to teenage group. They were compared in terms of social and educational data, age, number of pregnancy, antenatal care, complications, mode of delivery, birth weight, episiotomy and perineal tears.

RESULTS

The incidence of teenage pregnancy was fairly high. (10.3%) Most of them were in their first pregnancy. A significant number of teenage pregnant mothers (72.4%) had completed higher secondary education as compared to (27.6%) in older women. Contrary to many prior studies, teenage pregnancies showed less anaemia (6.9% versus 12%) and lesser incidence of low birth weight babies in comparison to older women. Preterm birth was higher in teenage group (33.1%) and incidence of hypertensive disorders and intrauterine growth restriction was very low. Occurrence of gestational diabetes considered to be low, showed an increasing trend in the study group.

CONCLUSION

Young maternal age per se is not the only risk factor for adverse maternal outcome. Religious and cultural practices, poor socioeconomic condition, lack of awareness of risks are contributing factors for teenage pregnancy. Conflicting evidence obtained in this study regarding antenatal complications and birth weight shows that good antenatal care and support by family and caregivers can bring down the adverse effects of teenage pregnancy.

KEYWORDS

Teenage Pregnancy in India, Adolescent Pregnancy Anaemia, Preterm Birth.

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BACKGROUND

Teenage pregnancy comes under universal group of high risk pregnancy and is a global phenomenon. Adolescence is a distinct and unique physical and developmental stage in a

woman's life, so the diagnosis and management of pregnancy during this time, before age of 20 deserves acknowledgement of the distinctive inherent risks and an understanding of relevant elements of care required for successful outcomes for the mother, infant and surrounding social circle. Worldwide, poverty and lower educational attainment are risk factors for teenage pregnancy. Once pregnant, a teenager becomes more likely than her own non pregnant peers to have lower educational attainment, to drop out of school and to have lower socioeconomic status and lower social capital. Teenage pregnant girls were more likely to have antenatal complications like anaemia, hypertension, preterm labour,

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Corresponding Author:

Dr. Adma Harshan Sathyabhama,

House No. 24, Devikripa,

Belhaven Gardens, Kowdiar, Trivandrum-695003.

E-mail: anuadma@gmail.com

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low birth weight babies and intrauterine growth restriction. They are biologically more vulnerable to sexually acquired infections Adolescent mothers are twice as likely to experience depression in the postpartum period than adult mothers. Multidisciplinary teenager focused prenatal care leads to better outcomes than standard prenatal care in adolescents including reduction in preterm birth, (PTB) low birth weight (LBW) and neonatal intensive care unit admissions (NICU). Whether biological or social factors account for most medical complications is unclear. The only biological factor that has been associated consistently with negative pregnancy results are low prepregnancy weight and height, and poor pregnancy weight gain. Social factors implicated include low educational levels, poverty, unmarried status, drug use and inadequate prenatal care. Psychosocial complications of teenage pregnancy include school interruption, persistent poverty, limited vocational opportunities, separation from child's father and repeat pregnancy.

Objective of the Study-The study was undertaken to compare the obstetric outcome in teenage pregnant mothers (18-19 years) and older women >19 years in a tertiary care hospital at Government Medical College Manjeri, Kerala India.

MATERIALS AND METHODS

The aim was to compare the obstetric outcome of pregnancy in teenage and older women. This was a retrospective study of labour records and case records of pregnancies during a three month period from March 2017 to May 2017. Teenaged girls aged 18-19 years were compared with pregnancy outcomes in older women whose ages ranged from 20 to 38 years, in the same hospital during the same period. The study was conducted in Government Medical College Manjeri, Malappuram district in the northern part of Kerala state India. This hospital is located in a semi urban area and is a teaching and tertiary care hospital. The annual delivery rate is about 3500. A total of 843 deliveries were included in the study out of which 87 belonged to teenage group and 756 women belonged to older women group. The subjects were compared on their social, educational data, age, number of pregnancy, antenatal care, complications, mode of delivery and birth weight of babies. All deliveries during the study period were included. Prevalence of teenage pregnancy was higher in this hospital than other hospitals elsewhere in Kerala so the study topic was selected. The obtained data was entered into excel sheet and statistical packages were used to calculate significance. Quantitative data was expressed by mean and standard deviation. Qualitative data was expressed as proportions. Qualitative data was compared by Chi square test. SPSS version 22.0 was used for statistical analysis $p < 0.05$ was considered as statistically significant.

RESULTS

	Frequency	Percentage
Teenage women	87	10.3
Older women	756	89.7
Total	843	100.0

Table 1

Teenage pregnancies constituted 10.3% of the studied pregnancies.

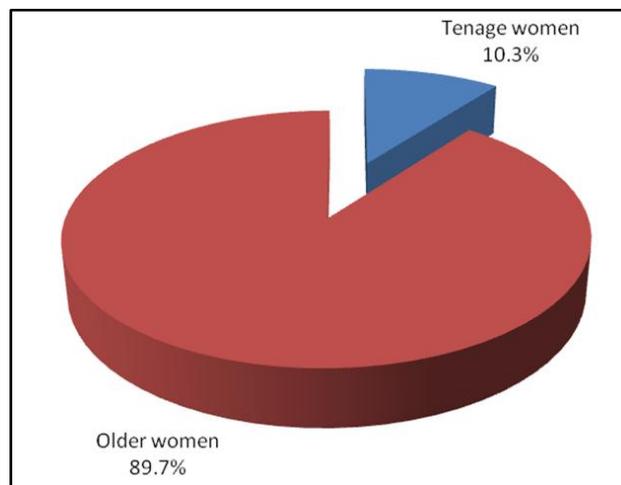


Figure 1

Age	Teenage		Older Women	
	N	%	N	%
18 years	18	20.7	0	0.0
19 years	69	79.3	0	0.0
20-38 years	0	0.0	756	100.0
Total	87	100.0	756	100.0

Table 2

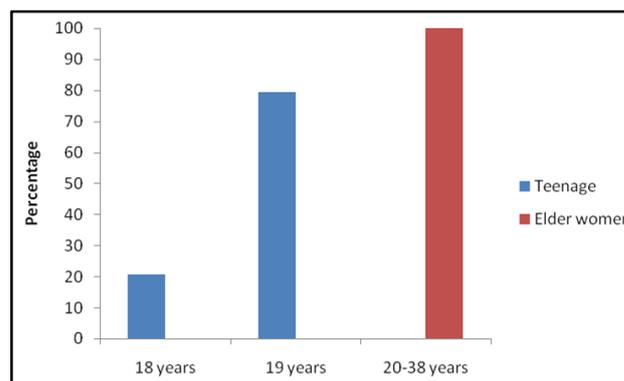


Figure 2

	Teenage		Older women	
	N	%	N	%
G1	84	96.6		
G2A1	3	3.4		
Total	87	100.0		

Table 3

Majority of teenage pregnancies were in their first pregnancy.

Education	Teenage		Older women	
	N	%	N	%
High school	21	24.1	406	53.7
Higher secondary	63	72.4	209	27.6
Degree and above	3	3.4	141	18.7
Total	87	100.0	756	100.0

Table 4

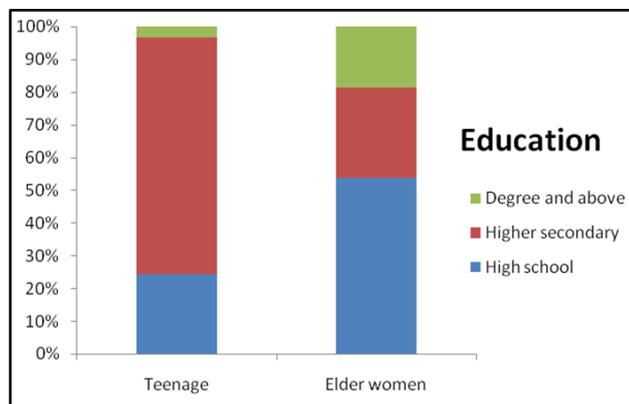


Figure 3

72.4% among teenage pregnant mothers had completed higher secondary education as compared to 27.6% in older women suggesting that poor scholastic performance is not associated with incidence of teenage pregnancy.

Religion	Teenage		Older women	
	N	%	N	%
Muslim	73	83.9	579	76.6
Hindu	14	16.1	177	23.4
Total	87	100.0	756	100.0

Table 5

$\chi^2=2.386$ $df=1$ $p=0.652$.

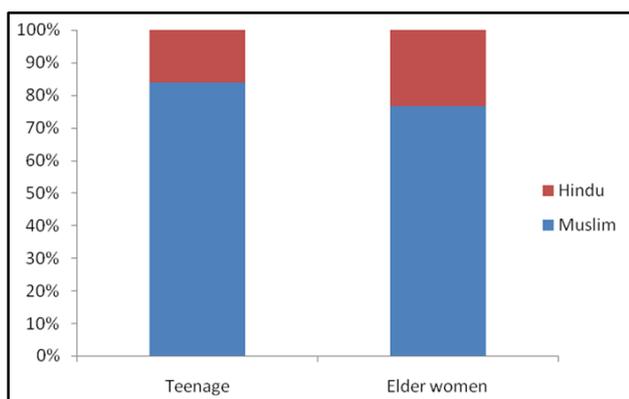


Figure 4

Presence of both religions was similar in both groups and no significant relationship could be established.

Booking Status	Teenage		Elder women	
	N	%	N	%
Booked	87	100.0	754	99.7
Unbooked	0	0.0	2	0.3
Total	87	100.0	756	100.0

Table 6

Booking status was very good; only 2 unbooked cases noted during the study period.

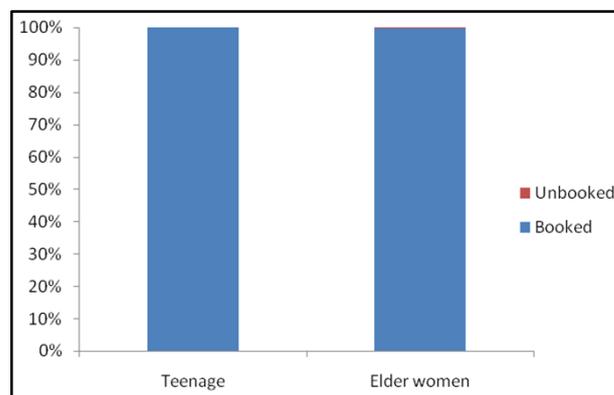


Figure 5

Complications	Teenager =87		Elder Women n=756		p
	N	%	N	%	
Anemia	6	6.9	91	12.0	0.155
GDM	7	8.0	76	10.1	0.552
PROM	5	5.7	38	5.0	0.772
Malpresentation	6	6.9	14	1.9	0.003
Preterm	4	4.6	15	2.0	0.120
HTN	0	0	136	18.0	
IUGR	0	0	19	2.5	
TWINS	0	0	20	2.6	
Placenta previa	0	0	8	1.1	

Table 7

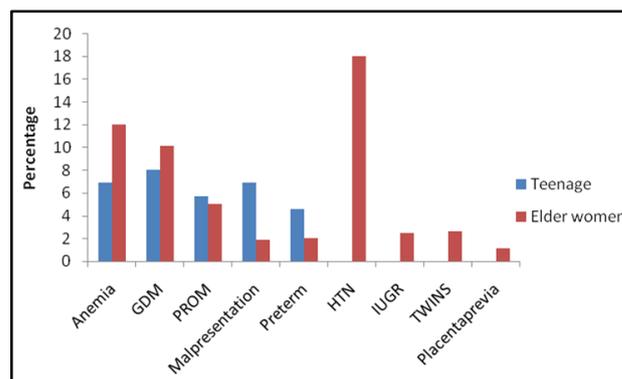


Figure 6

Teenage pregnancies showed less anaemia. Premature rupture of membranes (PROM) and prematurity showed an increase in teenagers. Gestational Diabetes (GDM) incidence was similar in both groups. Teenage girls had a statistically increased occurrence of malpresentations (6.9% vs 1.9%). Incidence of hypertension and intrauterine growth restriction was very low in teenagers.

Birth Weight	Teenage		Elder women	
	N	%	N	%
≤2.5 Kg	26	29.9	257	33.1
2.5- 3.0 Kg	40	46.0	232	29.9
3.0-4.0 Kg	21	24.1	280	36.1
>4 Kg	0	0.0	7	0.9
Total	87	100.0	776	100.0

Table 7

Low birth weight was less in the teenage girls (29.9%) as compared to older women. (33.1%) Chi square 0.591 p 0.443.

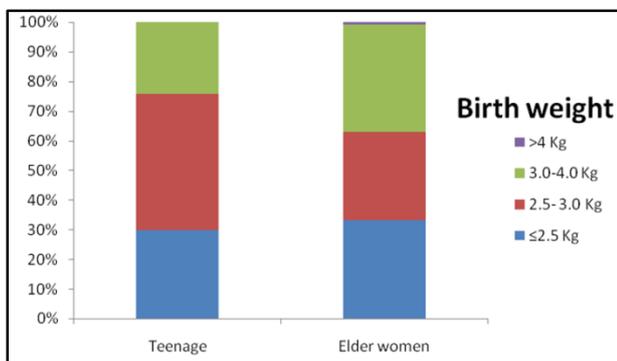


Figure 7

Birth Weight	Teenage		Elder Women	
	N	%	N	%
≤2.5 Kg	26	29.9	257	33.1
>2.5 Kg	61	70.1	499	66.9
Total	87	100.0	776	100.0

Table 8

$\chi^2=0.591$ df=1 p=0.443.

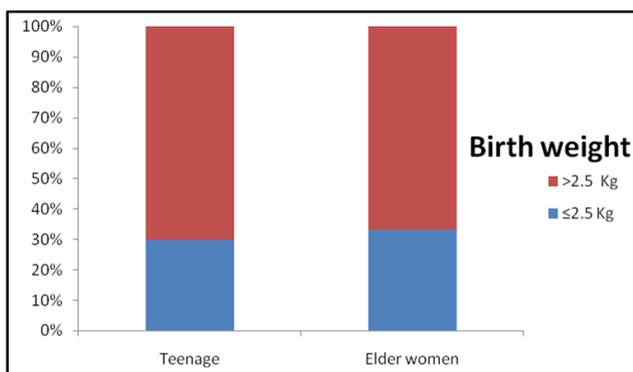


Figure 8

	Teenage n=87		Elder Women	
	N	%	N	%
Episiotomy	58	66.7	129	17.1
1° tear	5	5.7	287	38.0
2° tear	0	0.0	15	2.0
3° tear	2	2.3	0	0.0

Table 9

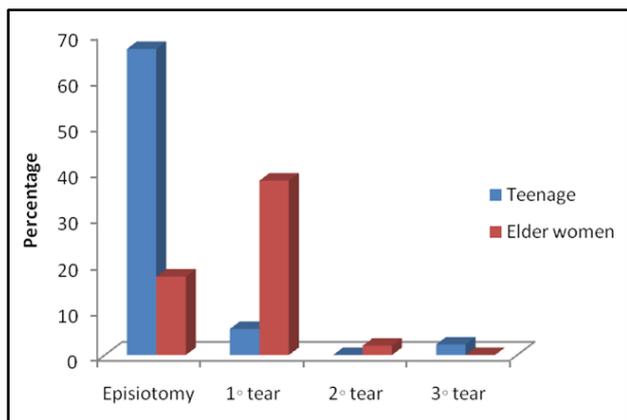


Figure 9

Teenage girls had higher incidence of episiotomy(66.7%) as compared to older women. They were 4 times more likely to have an episiotomy than older women.

Mode of Delivery	Teenager		Older women	
	N	%	N	%
LSCS	19	21.8	227	30.0
Normal	68	78.2	529	70.0
Total	87	100.0	756	100.0

Table 10

$\chi^2=2.531$ df=1 p=0.112.

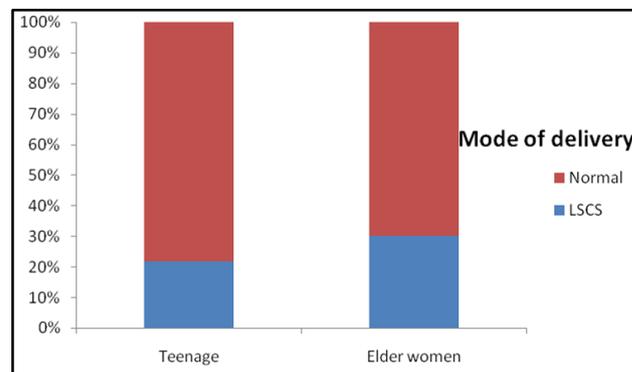


Figure 10

Among teenage pregnancies, 21.8% had operative delivery or LSCS (Lower segment Caesarean section) and 78.2% had vaginal delivery, whereas 30% of older women had LSCS. Chi square 2.531p 0.112. No statistically significant lesser occurrence of LSCS was noted among teenagers. Teenagers were likely to have vaginal delivery than older women.

DISCUSSION

Teenage or adolescent pregnancy is still occurring in India at a reasonably high rate. Religious and cultural practices, poverty, poor school performance and lack of awareness of risks have contributed to it. Teenage pregnancy is a risk factor for poor obstetric outcome. They are more at risk for developing anaemia, hypertensive disorders and delivering preterm and LBW babies.¹ Conflicting evidence were obtained in this study with regard to development of anaemia, hypertension and delivering LBW babies. in teenage mothers. Multidisciplinary adolescent focussed antenatal care has shown significant better outcome including reduction in PTB, LBW, and NICU admissions and reduction in operative delivery.² The adolescent should have easy access to care based on a philosophy of providing care in a welcoming environment with multidisciplinary teams to meet the many health care needs of the adolescent. Where possible, "one stop shopping" and easy visit work best for teenager. Antenatal opportunities to develop parenting skills that continue in the post-partum period are likely to improve birth outcomes, increased maternal school attendance and reduce repeat pregnancy. Lower rates of gestational diabetes have been reported in teenagers.³ However, at

this time. screening of pregnant adolescents should follow the same guidelines and managements for adult older women. Teenage pregnancies have higher risk of adverse outcomes like PTB, IUGR, LBW, stillbirth and NICU admissions.⁴ The effect of adolescent pregnancy on neonatal mortality disappeared after adjustment of birth weight and gestational age which suggests that unfavourable perinatal outcome could be due to higher incidence of prematurity and LBW babies.⁵ Lao TT et al⁶ have pointed out more sophisticated studies, controlling for a range of factors have found minimal differences between teenage and older mothers. Such findings suggest that pregnancy and childbirth complications may be attributable to social and economic factors associated with teenage childbearing, rather than effects of physical immaturity. Biological means for poor pregnancy outcome in teenage mothers have been suggested but it is argued that they are based on speculation rather than research evidences.⁷ Furthermore, insufficient antenatal care is related to complications and prenatal medical and social care could improve the health of teenage mother and the outcome of her pregnancy.⁸ Teenage mothers were likely to deliver vaginally with no significant increase in the risk of assisted vaginal delivery or Caesarean section(CS).⁹ As rate of CS is increasing all over the country, CS rate is also increasing among teenage women. Another study found less favourable outcomes in teenage mothers than those in older mothers.¹⁰ It was found that incidence of hypertension, IUGR, preterm labour and postpartum haemorrhage was similar in both groups.¹¹ Major risk factor associated with teenage pregnancy is preterm labour, but perinatal outcome is favourable. Good results were attributed to readily available antenatal care and quality of support from family and welfare agencies. Young maternal age by itself is not a significant risk factor in terms of pregnancy outcomes. Various other factors like socioeconomic factors, social support available, good antenatal care can bring significant reduction in adverse obstetric outcome. Early booking, good antenatal care during pregnancy and delivery, proper contraceptive services can further better the obstetric and perinatal outcome in adolescent pregnancy. Further research into lifestyle factors and better utilization of contraception is the need of the hour.

CONCLUSION

In spite of government policies and programmes, teenage pregnancies are still a common occurrence in India. The educational status of teenage mothers has shown significant improvement this could be explained by improving literacy rate among girls in this part of the country. Religious and cultural practices have contributed to the increased incidence of teenage mothers rather than poor school performance or poverty. Availability and access to antenatal care and family support is adequate indicated by high booking status. In this study, teenagers showed less anaemia as compared to older women this can be attributed to their better nutritional status and lifestyle

changes. Younger girls usually have lower incidence of gestational diabetes. But gestational diabetes had a comparable incidence in both groups. This could be explained by increasing incidence of diabetes in Kerala and increased occurrence of insulin resistance among teenagers. Conflicting evidence was obtained with regard to incidence of hypertension and intrauterine growth restriction (IUGR) The incidence of hypertension and IUGR were very low in the teenage group of the age range considered. Preterm birth and PROM was found to be higher in the teenage group. Malpresentation were significantly higher in the teenage group, for which mechanism is not clear. It requires a much larger study to establish any relationship. In contrast to classical teaching, low birth weight babies were less among teenage mothers. Teenage mothers had higher chances of delivering vaginally than their older counterparts, but no statistically significant difference was established Teenage girls were 4 times more likely to have assistance of episiotomy for delivery as compared to older women. This can be explained by their uncooperative nature borne out of fear, ignorance and due to being younger in age. The study does not prove that teenage pregnancy has a favourable obstetric outcome but, family support and professional antenatal care can reduce incidence of anaemia and low birth weight babies.

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