

Maternal and Fetal Risks Associated with Teenage and Adult Pregnancy

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Abstract

Background: To compare the fetal and maternal complications between teenage and adult mothers.

Methods: This comparative study included 200 teenage pregnant patients (15 - 19 years) and 200 adult pregnant patients (20-28 years). The fetal and maternal complications in both age group were compared.

Results: Anaemia was more frequent in teenagers (30% vs 18%). Preterm delivery occurred in 28% of cases as compared to 12% in adult group. Spontaneous Vertex Delivery (SVD) was the mode of delivery in 73% of teenage group as compared to 65% of cases in adult group. Caesarean section was done in 10% of patients in teenage group as compared to 20% cases in adults while the rate of instrumental delivery was 8% vs 10%. Pregnancy Induced Hypertension occurred in 12% of teenagers group as compared to 5% in adult group. Eclampsia occurred in 8 patients of teenage group as compared to 3 patients of adult group. Diabetes was seen in 2% versus 12% in teenage and adult group, respectively. Low Apgar was noted in 12% of babies born to teenage age mothers as compared to 5% in adult group. Low birth weight babies were born more in teenage group as compared to adult group (20% vs 10%) Neonatal death occurred in 20 babies of teenage group as compared to 8 babies in adult group.

Conclusion: Teenage mothers generally encounter more problems during pregnancy and child birth than older women. There is an increased risk of complications such as premature labour, anaemia and small for gestational age babies.

Key Words: Teenage pregnancy; Maternal risks, Fetal risks ; Perinatal mortality.

Introduction

A woman is considered to be pregnant teenager if she becomes pregnant before her 18th birthday. ¹ Amongst 18 to 19 year teenagers, in United States, birth rate declined from 60 per 1000 in 1991 to 41 per 1000 in 2004. The birth rate for Asian teenagers, 15 to 19 years old, dropped from 27 per 1000 women in 1991 to 18 per 1000 women in 2002. It is attributed to more effective birth control practices and decreased sexual activity among teenagers. Still teenage pregnancy rates remain high. Every year according to

the WHO 20 - 24 million adolescents resort to abortion. ² WHO estimates the risk of death following pregnancy is twice as great for women between 15 and 19 years than for those between the age of 20 - 24 years. The maternal mortality rate can be upto 5 times higher for girls aged between 10 and 14 than for women of about 20 years of age. ³

Risk for maternal complications are greater for girls 14 years of age and younger as an under developed pelvis can lead to difficulty in child birth. Obstructed labour is normally dealt with by caesarean section in developed nations. However in developing regions, where medical services might be unavailable, it can lead to eclampsia, obstetric fistula, infant mortality or maternal death. ⁴

Medical complications associated with teenage pregnancy include anaemia, urinary tract infections, hypertension, preterm labour and low birth weight babies, and higher analgesic requirement in labour. ⁴

Patients and Methods

Two hundred teenage patients admitted to POF Hospital Wah , over a period of two years were included in the study. All booked and unbooked (referred) cases were included. These patients were compared with the same number of patients in adult group (age 20-28 years) and were followed upto puerperium. Cases with miscarriages were not included in the study. The inclusion criteria were patients in teenage group and adult group after 24 weeks of gestation irrespective of number of visits and parity. Post natal follow-up was done for 40 days after delivery.

Results

Anaemia was the most common complication noted in teenage group (30% vs 18%; p-Value <0.05) (Table 1). Severe Pregnancy Induced Hypertension (PIH) occurred in 12% of patients in teenage group as compared to 5% in adult group (p-Value <0.05) Eclampsia occurred in 4% of teenage group as compared to 1.5% (p-Value <0.05) which was

statistically significant. Similarly preterm labour occurred more in teenage group as compared to adult group (28% vs 12% p-Value <0.05) which was statistically significant (Table 1). There was no significant difference between the incidence of ante partum haemorrhage, malpresentations and malpositions between the teenage group and adult group respectively (Table1). Caesarean section rate was 10% in teenage group as compared to 20% in adult group (p-value <0.05). (Table-2)

Table 1: Teenage Vs Adult Group Complications

Complications	Teenage	Adult	p Value
	Group	Group	
Urinary tract infection	10(5%)	14(7%)	NS*
Anaemia	60(30%)	36(18%)	<0.05
Preclamptic toxemia	24(12%)	10(5%)	<0.05
Preterm labour	56(28%)	24(12%)	<0.05
Eclampsia	8(4%)	3(1.5%)	<0.05
Diabetes	4(2%)	24(12%)	<0.05
Malpositions	12(6%)	10(5%)	NS*
Malpresentations	6(3%)	8(4%)	NS*
Antepartum hemorrhage	8	24	NS*

N.S:Not Significant

Low Apgar score was noted in 12% of babies in teenage group as compared to 5% babies in adult group (p-Value <0.05). Neonatal deaths, neonatal jaundice, still births and low birth weight babies were seen more in teenage mothers as compared to adult group (Table-3 & 4).

Table 2: Mode of delivery

Mode of Delivery	Teenage	Adult Group	p.Value
	Group	Patients(%)	
Spontaneous	160 (73)	140 (65)	N.S*
Instrumental	16 (8)	20 (10)	N.S*
Caesarean	20 (10)	40 (20)	<0.05
Twin vaginal	8 (4)	6 (3)	<0.05
Assisted breech	10 (5)	4 (2)	<0.05

N.S:Not Significant

Post partum hemorrhage occurred in 12 patients in adult group as compared with 9 patients in teenage group Follow-up attendance in out patient department for postnatal checkups, was more in the adult group as compared to teenage group (60% vs 40%) respectively.

Table 3: Perinatal mortality

Teenage group	Adult group
Total Babies = 208	Total Babies = 206
Single = 192	Single = 194
Twins 8 (sets) = Total 16	Twins 6 (sets) = Total 12
Alive =178 (85.5%)	Alive =190 (92.23%)
Still born = 18	Still born = 10
Neonatal death = 12	Neonatal death = 6

Table 4: Nursery Admission Cases

Cause of admission	Teenage group	Adult group
	Total Babies 208	Total Babies. 206
Low Apgar score	24 (11.53 %)	10 (4.85 %)
Asphyxia	12 (5.76 %)	6 (2.91 %)
Neonatal sepsis	15 (7.21 %)	10 (4.85 %)
Respiratory distress syndrome	40 (19.2 %)	20 (9.71 %)
Diabetes	0 (0 %)	1 (0.485 %)
Congenital abnormality	4 (1.92 %)	6 (2.912 %)
Heart disease	1 (0.485 %)	2 (0.97 %)
Prematurity	36 (17.30 %)	20 (9.708 %)
Neonatal jaundice	20 (9.615 %)	8 (3.88 %)

Discussion

Teenage pregnancy is a high risk pregnancy. The world wide incidence of premature births and low birth weight is higher among teenage mothers. Teenage mothers are less likely to gain adequate weight during pregnancy leading to low birth weight. They have poor eating habits and are less likely to take iron and vitamins to maintain adequate nutrition during pregnancy. Teen age mothers are at greater risk of having medical complications. They often become

anaemic and are more likely to develop vitamin deficiency. Pelvic bones don't reach their maximum size until about the age of 18 years. Babies born to these mothers are more likely to die in the first year of life compared with others.⁵⁻⁷

Adolescence pregnant are at particular risk of nutritional deficiencies. In present study acute toxemia of pregnancy occurred twice as often in the teenage group as compared to adult group. A study done by Amber Tufail et al, in Pakistan, on primigravidas aged 16-19 years versus adult group indicated that acute toxemia of pregnancy cases were significant in teenage primigravidas as compared to adult group (16% vs 1.6%).⁸

Spontaneous vaginal delivery was the commonest mode of delivery in both the teenage and adult group but the percentage was high in teenage group (73% to 65%). Study by Maputo showed that 89.5% of patients in teenage group were delivered by spontaneous vaginal delivery as compared to 72% in control group.⁹

Caesarean sections and instrumental deliveries are seen more in adult pregnancies, while preterm labour, low birth weight babies, low Apgar score, still births and neonatal deaths are more common in teenage deliveries. The present study and other studies also substantiate these findings.¹⁰⁻¹³

The main cause of poor perinatal outcome in the teenage group in this study were Prematurity, pregnancy induced hypertension and its complications. Only those patients in this group were allowed vaginal breech delivery who came in advanced labour. No indicated caesarean section / operative delivery was withheld in any group. The higher incidence of neonatal jaundice in the teenage group could also be due to the complications enumerated above.

Conclusion

1. Teenage pregnancy is associated with higher risk of

pregnancy induced hypertension, Pre eclamptic toxemia, eclampsia, premature labour, fetal death and premature delivery.

2. Early booking, good care during pregnancy and delivery and proper utilization of contraceptive services can prevent the complications in this group.

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