

Obstetrical Outcome of Teenage And Adult Pregnancies

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ABSTRACT

Objective To compare the obstetric and neonatal outcome of teenage mothers with that of adult mothers.

Study design Case control study.

Place & Duration of study Department of Obstetrics & Gynaecology, United Medical & Dental College / Creek General Hospital Karachi, from January 2016 to December 2017.

Methodology Study group consisted of teenage pregnant women aged 14-19 years compared with control group which consisted of adult pregnant women aged 20-35years, who delivered during the same period. Maternal and fetal complications in both the groups were compared.

Results The study showed that teenage mothers had poor compliance for antenatal care 30% vs 18% in control group ($P=0.047$). Anemia was found to be more in study group 32% vs 15% in controls and p value found to be highly significant. ($P=0.004$), Preterm labor seen 8% in study group and 7% in controls ($P=0.010$) which was statistically significant. UTI was also more prevalent in study group compared to controls, 12% vs. 1% ($P=0.001$). In comparison of neonatal weight, less than 2.5 kg observed in 11% in cases group vs. 3% in control group and p-value was found to be significant ($P=0.029$), while extremely low birth weight were same in both groups.

No statistically significant association was reported between hypertensive disorders of pregnancy, prolong pregnancy, obstructed labor, third stage complications and mode of delivery between the teenage group and women in the adult age group. Regarding neonatal complications (still birth, premature birth, congenital anomaly), none was found to be statistically significant.

Conclusion Teenage pregnancy has increased risk of complications to mother and newborn, requiring more attention and effective antenatal care for prevention and treatment of adverse outcomes.

Key words Teenage pregnancy, Low birth weight, Neonatal outcome.

INTRODUCTION:

Pregnancy in teenagers is one of the primary women health concerns to care providers, health professionals and health policy makers.^{1,2} Globally, around 11% of women giving birth annually are under

age of nineteen year and majority of these births take place in third world countries.³ The incidence of teenage pregnancy is 20 times higher in under developed countries due to lack of better health facilities.⁴ Teenage pregnancies are considered to be high risk pregnancies because it is the transitional time period when advanced physical and mental growth and maturation are under progression.⁵

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Young maternal age compared with adult pregnant women is associated with higher risk of preterm labor and delivery, maternal anemia, post-gestational depression, delivering baby with low birth weight and increased risk of neonatal morbidity.⁶ Five times higher mortality rate is observed in adolescent

pregnant women compared to its adult counterparts.⁷ There is limited data available from Pakistan on teenage pregnancies thus burden of the problem is not completely known. The objective of this study was to determine the maternal and newborn complications in teenage pregnancies.

METHODOLOGY:

This was a case control observational study conducted in the Department of Obstetrics & Gynaecology, Creek General Hospital affiliated with United Medical & Dental College Karachi, from January 2016 to December 2017. Cases were women between 14 – 19 year delivering singleton baby and controls were women between 20 - 35 year of age delivering in same period. One hundred participants were included in study for comparison in both the groups, that is cases and controls. Women with twin or high order pregnancies, those with medical disorders, skeletal deformities and the patients with previous cesarean sections, were excluded from the study. The primary outcome measures included maternal age, parity, gestational age at the time of delivery, number of antenatal hospital visits, presence of anemia, preterm birth, pregnancy induced hypertension, urinary tract infection, prolong pregnancy, antepartum hemorrhage (APH), obstructed labor, postpartum hemorrhage and neonatal outcome were low birth weight, premature birth, stillbirth and congenital abnormalities.

Women with hemoglobin level less than 11 g/dl were defined as anemic, preterm delivery as delivery before term (37 weeks of gestation) and post dates pregnancy as pregnancy continued beyond 42 weeks of gestational amenorrhea. Pregnancy induced hypertension or gestational hypertension was diagnosed when women had blood pressure

recorded equal to or greater than 140/90 mmHg after 20 weeks gestation. Booked patients were those who had three or more regular antenatal visits. Low birth weight babies were defined as those with a birth weight of less than 2500 grams. The statistical analysis was performed with SPSS software. Frequency and percentages were calculated for maternal characteristics and complications, mode of delivery, neonatal birth weight and neonatal complications. Chi-square test was applied to compare characteristics and complications, mode of delivery, neonatal birth weight and neonatal complications between teenage and adult mothers by taking $P = 0.05$ as significant.

RESULTS:

A total of 100 pregnant women were included in each group. The study group was noncompliant for antenatal care 30% vs 18% in control group ($P < 0.047$). Anemia was seen more commonly in this group 32% vs 15% in controls ($P < 0.004$), preterm labor was noted in 8% of study group and 7% in controls ($P = 0.010$) which was statistically significant. UTI was more in study group compared to controls, 12% vs. 1% ($P = 0.001$)

There was no statistically significant association between the frequency of hypertensive disorders in pregnancy, obstructed labor and postpartum hemorrhage between the teenage group and adult group (table I). Instrumental deliveries were 1% in teenage group and 3% in adult group ($P = 0.621$), while cesarean section rate was 30% in teenage group as compared to 24% in adult group (P value 0.621 and 0.384 respectively), which was not found statistically significant (table II).

Regarding the neonatal outcomes, birth weight in teenage mothers babies was low than adult mothers (11% vs. 3% - $P = 0.049$), while extremely low birth

Table I: Comparison of Characteristics & Complications Between Teenage & Adult Mothers

	Cases %	Control %	P - Value
Booked	70	82	0.047
Non booked	30	18	0.047
Anemia	32	15	0.004
Preterm Labor	8	7	0.010
Pregnancy induced hypertension	6	5	0.75
Urinary tract infection	12	1	0.001
Post dates	8	6	0.579
Obstructed labor	3	2	0.650
Postpartum hemorrhage	2	4	0.687

Table II: Comparison of Mode of Delivery Between Teenage & Adult Mothers

	Cases %	Control %	P - Value
Normal Delivery	69	73	0.533
Instrumental Vaginal Delivery	01	03	0.621
Cesarean section	30	24	0.384

Table III: Comparison of Neonatal Birth Weight Between Teenage & Adult Mothers

Weight (Grams)	Cases %	Control %	P - Value
< 1.5 kg	02	02	0.999
< 2.5 kg	11	03	0.049
2.5 -3.5 kg	85	93	0.071
> 4 kg	02	02	0.999

Table IV: Comparison of Neonatal Complications Between Teenage & Adult Mothers

	Cases %	Control %	P - Value
Still birth	04	02	0.682
Premature birth	08	07	0.7772
Congenital anomaly	01	02	0.999

weight were same in both the groups (table III).

Neonatal complications like still birth (4% vs. 2% in cases and controls respectively), premature birth (8% vs. 7% in teenage mothers and adult group respectively) and congenital anomalies were diagnosed in 1% of cases in teenage mother group and 2% in adult mothers group. None was found to be statistically significant (table IV).

DISCUSSION:

Most of the women in this study were unbooked, and had anemia which was associated with increased maternal morbidities and adverse neonatal outcomes. This has been observed in many international studies.^{7,8} It was found in index study that most of the women in study group did not know the importance of regular and frequent antenatal visits and need of regular intake of supplements like iron, folic acid and multivitamins in their antenatal period. Anemia is a major maternal complication affecting fetal outcome. Babies with low birth weight (LBW) were more in study group, demanding extra care for them.

Premature delivery was seen more in teenage mother compared to controls, resulting in higher number of preterm babies among them. This is in agreement with other studies from Pakistan.^{9,10} Birth weight is a valuable prognostic parameter of newborn health and survival. This is a significant factor to

forewarn regarding infant morbidity, when classified as low birth weight.^{11,12,13} In this study teenage mothers delivered low birth weight infants more often than the adult mothers.

According to the literature search those pregnant mothers who are in their teens if fortunate enough to have substantial support from their families, had essential antenatal care and supervised delivery, can have better obstetric outcome, comparable to adult mothers.^{14,15} So proper counseling and health education at community level, adequate maternal nutrition in antenatal period and provision of quality antenatal care services are needed to reduce the risk of low birth weight babies among vulnerable group of teenage mothers. Teenage pregnancies in this study did not have any association with hypertensive diseases in pregnancy and life threatening third stage complications when compared with adult pregnancies. These findings are in agreement with other study.¹¹

Limitations of this study included it being a hospital based study rather than community level with small sample size. Thus a large scale community based study is needed to determine the actual prevalence of teenage pregnancies and adverse obstetrical and neonatal outcomes including maternal and perinatal mortality.

CONCLUSION:

Pregnant teenagers had increased risk for both maternal and neonatal complications requiring effective antenatal care.

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Sadia Suboohi: Concept generation, data collection, analysis & literature review.

Saba Pario: Literature review, data analysis and report writing.

Shahnaz Hassan Siddiqui: Literature review, analysis of data & final approval.

Conflict of Interest:

The authors declare that they have no conflict of interest.

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