ORIGINAL ARTICLE

Maternal and Fetal Outcomes in Teenage Pregnant Women

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ABSTRACT

Objective: The aim of this study is to determine the adverse adverse maternal and fetal outcomes in teenage pregnant women.

Study Design: Randomized controlled trial

Place and Duration: Study was conducted at Obstetrics and Gynecology departmentofCombined Military Hospital, Peshawar for six months duration from April, 2020 to September, 2020.

Material and methods: Total one hundred and sixty patients were enrolled in this study. Patients were aged between 14- 40 years. Patients detailed demographics were recorded after taking written consent. Patients were equally divided into two groups I and II. 80 patients of aged between 14-18 years were included in group I and equally patients of aged >18 were included in group II. Frequency of pre-eclampsia, gestational diabetes mellitus and post-partum haemorrhage were calculated. Adverse outcomes among (cesarean section, instrumental delivery, induction of labor and prolong labor, hypertensive disorder) were calculated among both groups. Fetal outcomes Perinatal mortality, Low birth weight, Low Apgar score and NICU admission were observed. Complete data was analyzed by SPSS 24.0 version.

Results: Mean age of the patients in group I was 18.34±0.22 years with mean BMI 21.14±5.35 Kg/m^2 and in group IImean age was 17.58±6.46 years with mean BMI 23.65±6.86 Kg/m^2. Fetal outcomes, perinatal mortality in group I 10 (12.5%) and in group II was 6 (7.5%),low birth weight in group I was among 30 (37.5%) and in group II was 11 (13.8%), low apgar score in group I was 13 (16.25%) and in group II was 11 (12.5%), 18 (21.25%) in group I went to NICU admission and 5 (6.25%) patient in group II admitted to NICU.Frequency of pre-eclampsia in group I were high among 35 (43.8%) patientsas compared to group II 15 (22.5%) patients, frequencyof gestational diabetes mellitus in group I was among 20 (25 %) patients and 8 (10%) patients were in group II, post partumhaemorrhage was seen in 55 (68.8%) cases in group I and 30 (37.8%) cases in group II.

Conclusion: We concluded in this study that the risks of low birth weight, delaying intrauterine development, premature admission to neonatal intensive care are also increasing.Teenage childbirth is linked to increased mother risk, including anemia, urinary tract infection, high blood pressure pregnancy and surgical delivery.

Keywords: Pre-eclampsia, Partum haemorrhage, Maternal outcome, Fetal outcome

INTRODUCTION

Before the age of 19, one in four girls worldwide become a mother. Every year 14 million teenage girls are born, most of them from non-industrialized countries. In the least developed world one in four children of a teenage mother (15-19 years old) are born. In Holland (14/1000), pregnancy among adolescents is the lowest and in Sub-Saharan Africa the highest (143/1000). [1]

There is no consistent evidence to support the view that a certain age should be used as an ideal for first pregnancy, but childbearing is less risky for women aged between 20-29 years[2]. The reproductive age refers to the interval between the menarche age and the time of conception. The design or delivery shall be regarded as representing the lower extreme of breeding age distribution within two years after the commencement of menarche. The period between ten years and 19 years is described as the adolescent term,[3] as the time of opportunities and risks; the reality is that the access to reproductive health services by young people is less educated, less relaxed and less experienced.

Some agree that young teenage mothers are at high risk during pregnancy and childbirth for adverse health outcomes. The debate exists as to whether the risks associated with the adolescent motherhood are due to biological, lifestyle and socioeconomic circumstances[4,5].Teenage pregnancies have been associated with adverse pregnancy outcomes, specifically with low birth weight, small for gestational age infants, prematurity, and higher rates of neonatal and post-neonatal mortality.[6-8] Adverse pregnancies, particularly low birth weights, small premature and higher rates of neonatal and postneonatal mortality, have also been linked with young pregnants' pregnancies. Except in the case of the young teenager (<16 years) teenage pregnancy is not biologically dangerous.[9] The only primary protective factor identified for breast cancer can include full-length teenage pregnancy.

The goal was to evaluate the prevalence and the related maternal and perinatal outcome of adolescent pregnancies, which is predominantly rural. in this study. In this study

MATERIAL AND METHODS

This randomized control trial was conducted atObstetrics and Gynecology departmentof Combined Military Hospital, Peshawar for duration of six months, from April, 2020 to September, 2020.The sample of the study was comprised

of 160 patients. Patients detailed demographics were recorded after taking written consent. Patients with chronic illness and had < 26 weeks of gestation were excluded from this study.

The women recruited were examined abdominally to determine the fetus' location, lie and presentation. Two trans-abdominal dimensions Ultrasound was performed to assess Age conception and fetal predictions weight, volume, placental amniotic fluid and exclude large fetal sites deficiencies.Patients were equally divided into two groups I and II. 80 patients of aged between 14-18 years were included in group I and equally patients of aged >18 were included in group II. Frequency of pre-eclampsia, gestational diabetes mellitus and post-partum haemorrhage were calculated. Adverse outcomes among (cesarean section, instrumental delivery, induction of labor and prolong labor, hypertensive disorder) were calculated among both groups. Fetal outcomes Perinatal mortality, Low birth weight, Low Apgar score and NICU admission were observed. Complete data was analyzed by SPSS 24.0 version.

RESULTS

Mean age of the patients in group I was 18.34±0.22 years with mean BMI 21.14±5.35 Kg/m^2 and in group IImean age was 17.58±6.46 years with mean BMI 23.65±6.86 Kg/m^2. Mean gestational age of group I was 35.36±4.91 weeks while in group II mean gestational age was 36.63±5.51 weeks. Mean parity in-group I was 4.13±1.51 while in group II it was 3.59±1.91. (table1)

Table 1: Baseline detailed demographics of presented patients

Variables	Group I	Group II
Mean age (years)	18.34±0.22	17.58±6.46
Mean BMI	21.14±5.35	23.65±6.86
Gestational age (weeks)	35.36±4.91	36.63±5.51
Mean Parity	4.13±1.51	3.59±1.91

Frequency of pre-eclampsia in group I were high among 35 (43.8%) patients as compared to group II 18 (22.5%) patients, frequency of gestational diabetes mellitus in group I was among 20 (25 %) patients and 8 (10%) patients were in group II, post partumhaemorrhage was seen in 55 (68.8%) cases in group I and 30 (37.8%) cases in group II.(table 2)

Table 2: Frequency ofpre-eclampsia, Gestational Diabetes and Post PartumHaemorrhage among study cases

Variables	Group I(n=80)	Group II (n=80)
Pre-eclampsia		
Yes	35 (43.8%)	18 (22.5%)
No	45 (56.2%)	62 (77.5%)
Gestational Diabetes		
Yes	20 (25 %)	8 (10%)
No	60 (75%)	72 (90%)
Post PartumHaemorrhage		
Yes	55 (68.8%)	30 (37.8%)
No	25 (31.2%)	50 (62.2%)

Frequency of maternal outcomes (cesarean section, instrumental delivery,induction of labor and prolong labor,) in group I were significantly higher than that of adult women. Fetal outcomesperinatal mortality in group I 10 (12.5%) and in group II was 6 (7.5%), low birth weight in group I was among 30 (37.5%) and in group II was 11 (13.8%), low apgar score in group I was 13 (16.25%) and in group II was 11 (12.5%), 18 (21.25%) in group I went to NICU admission and 5 (6.25%) patient in group II admitted to NICU. (table 3)

Table 3: Frequency of maternal and fetal outcomes among both groups

Variables	Group I	Group II
Maternal Outcomes		
Cesarean section	27 (33.8%)	11 (13.75%)
Instrumental delivery	12 (15%)	5 (6.25%)
Induction of labor	20 (22.5%)	8 (8.75%)
Prolong labor	9 (11.25%)	2 (2.5%)
Fetal Outcomes		
Perinatal Mortality	10 (12.5%)	6 (7.5%)
Low birth weight	30 (37.5%)	11 (13.8%)
Low Apgar score	13 (16.25%)	11 (12.5%),
NICU Admission	18 (21.25%)	5 (6.25%)

DISCUSSION

Maternal mortality and adolescent morbidity are a significant universal public health concern. Natural vaginal delivery in adult mothers was higher, while instrumental and optive CS in adolescent mothers were higher. There was no adequate prenatal treatment for a large proportion of females in both classes. This may be because they are reluctant to seek medical advice (particularly for teenagers). The rejection of pregnancy can also lead to delayed bookings for adolescents. [10] Similar findings have been found in other studies which further support that young mothers are a risk factor for preterm births. [11-13]

In our study total 160 cases were presented in which 80 patients in group I were aged between 14-18 years and 80 patients in group II were aged >18 years. Mean age of the patients in group I was 18.34±0.22 years with mean BMI 21.14±5.35 Kg/m^2 and in group IImean age was 17.58±6.46 years with mean BMI 23.65±6.86 Kg/m^2. Our findings were comparable the previous studies.[14-15] Fetal outcomes, perinatal mortality in group I 10 (12.5%) and in group II was 6 (7.5%), low birth weight in group I was among 30 (37.5%) and in group II was 11 (13.8%), low apgar score in group I was 13 (16.25%) and in group II was 11 (12.5%), 18 (21.25%) in group I went to NICU admission and 5 (6.25%) patient in group II admitted to NICU. Frequency of pre-eclampsia in group I were high among 35 (43.8%) patients as compared to group II 15 (22.5%) patients , frequency of gestational diabetes mellitus in group I was among 20 (25 %) patients and 8 (10%) patients were in group II, post partumhaemorrhage was seen in 55 (68.8%) cases in group I and 30 (37.8%) cases in group II. Frequency of maternal outcomes (cesarean section, instrumental delivery,induction of labor and prolong labor,) in group I were significantly higher than that of adult women. These outcomes were similar to the previous many studies. [16-18]

The role of characteristics in the analysis of maternal adverse events during adolescence remains unclear. The higher incidence of adverse effects of pregnancy among young people is believed to be due to socioeconomic factors such as low education levels, individual and insufficient prenatal care[19-21]. Furthermore, the risk

factors of adverse pregnancy results were inadequate prenatal treatment, a low nutritional status, and a lack of parental involvement among teenagers[22,23]. But, in addition to socioeconomic characteristics, de Vinne et al [24] found a connection between inadequate prenatal care and pregnancy results[24]. In adolescents it is recorded that low apgar scores, asphyxia and low birth weight are more frequent[25-26." The low birth weight rates ranged between 5 and 28.7%[27.28], which related to parity, interval, wages, prenatal care and nutrition during embryo. [29].

Increased mother risk in conditions like anaemia, urinary tract inflammations, high blood pressure induced pregnancy and surgery in young people is linked to pregnancy. There is also an increasing risk of low birth weight neonates, intrauterine growth delays, premature entry, and frequent entry to neonatal treatment units.

CONCLUSION

We concluded in this study that the risks of low birth weight, delaying intrauterine development, premature admission to neonatal intensive care are also increasing.Teenage childbirth is linked to increased mother risk, including anemia, urinary tract infection, high blood pressure pregnancy and surgical delivery.

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