Maternal and Fetal Outcomes of Adolescent Pregnanacies at Patan Hospital

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Aims: This study aims to review obstetric and neonatal outcome and risk factors in adolescent pregnant women and to compare perinatal outcomes with the adult group.

Methods: This is a retrospective comparative study in between primiparous pregnant teenager women aged 15-19 years and 20-24 years from April 2012 to April 2013 in Patan Hospital, Lalitpur, Nepal. The data was retrieved from the hospital records. Frequency of prenatal care, perinatal outcome (newborn’s weight and gestational age at delivery), mode of delivery and maternal complications if any were recorded.

Results: This is a retrospective comparative study in between primiparous pregnant teenager women aged 15-19 years and 20-24 years from April 2012 to April 2013 in Patan Hospital, Lalitpur, Nepal. The data was retrieved from the hospital records. Frequency of prenatal care, perinatal outcome (newborn’s weight and gestational age at delivery), mode of delivery and maternal complications, if any were recorded.

Conclusions: There was significant association of neonatal complications like still birth, intra uterine fetal death, fetal distress, and meconium aspiration with the adolescent pregnancy. There was no significant association between neonatal death and age of mother.

Keywords: adolescent pregnancy; preterm pregnancy; teenagers; young mother.

INTRODUCTION

Adolescence means a transitional stage of physical and mental human development, involving biological, social and psychological changes, occurs between 10-19 years of age as the World Health Organization (WHO) suggested. Pregnancy in this transitional stage is a common public health problem and social phenomenon with medical consequences worldwide. Adolescent pregnancy has been a problem with adverse obstetric and neonatal outcome being influenced by biological immaturity, unintended pregnancies, inadequate perinatal care, poor maternal nutrition and stress. Socioeconomic, cultural, geographic and racial factors are also associated with teenage pregnancy and poor pregnancy outcome.1-3

Rapid population growth rate is one of the major problems in Nepal. Early marriage and childbearing plays an important role in the rapid population growth. More than one-third of the girls are married before the age of 19 in Nepal.4 Risk of death following pregnancy is twice as great for women between 15 and 19 years than those between the ages of 20 and 24.5

Adolescent pregnancies are at increased risk for neonatal complications as prematurity, low birth weight, intrauterine growth restriction (IUGR), neonatal mortality and still birth.6-24 The maternal complications like pregnancy induced hypertension (PIH), preeclampsia, and anemia in pregnancy, perennial tear and episiotomy are also common among adolescents5,10,12 However, cesarean section (CS), instrumental delivery and premature rupture of membrane, antepartum hemorrhage (APH) and postdated were not found significantly associated with adolescents pregnancy.10, 13, 14, 18, 24, 25

METHODS

This was a retrospective study undertaken at Patan Hospital, Lalitpur from April 2011 to April 2012. Ethical approval was taken from the Institutional Review Committee (IRC) of Patan Academy of Health Sciences (PAHS). The charts were collected

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from medical record section and analyzed. Total sample size was 2451. All the primigravida mothers of 15-19 years (n=351) and 20-24 years (n=2100) were included in the study. Exclusion criteria included incomplete patient details, multigravida and twin delivery. Chi-square test and relative risk (RR) for subgroups of this study population was examined using the SPSS version 16.0.

RESULTS

Neonates with normal birth weight (>2.5-4 kg) was seen in 70% (n=248) of the adolescent age group and 85% (n=1797) of adult age group. However, neonates with low birth weight (<2.5 kg) was significantly higher in the adolescent age group with 29% (n=102) than the adult age group with only 13% (n=287).

There was no significant difference in the gestational age at birth amongst both the age group with p-value of 0.756.

Significant association of neonatal complications like still birth, IUFD, fetal distress and meconium aspiration is seen to be associated with the adolescent pregnancy with chi-square test (df 1) p-value being 0.000 which is less than 0.05. There is no significant association of neonatal death and age of mother having p-value 0.347 which is more than 0.05.

The table 1 shows that with the adolescent pregnancy there are increased maternal complications. The occurrence of hypertensive (HTN) disorder is 5.6% among the adolescent pregnancy as compared to young age mothers being 1.2% which is statistically significant with Chi square test p-value of 0.000. The occurrence of premature rupture of membrane (PROM) and Preterm premature rupture of membrane (PPROM) also show statistically significant association (Chi-square test p-value 0.000) on mother’s age having 18% and 2% respectively in adolescent pregnancy. The occurrence of postpartum hemorrhage (PPH) is statistically significant (Chi-square test p-value 0.000) among the adolescent mothers (11.3%) than the young mothers (0.3%).

The young mother age group has no complication (91.2%) as compared to the adolescent mothers (57.2%) which is statistically significant (Chi-square test p-value 0.000).

**Table 1: Age of mother and maternal complication at birth**

<table>
<thead>
<tr>
<th>Maternal complication</th>
<th>Age of Mother</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15-19 years</td>
<td>20-24 years</td>
<td>Total</td>
<td></td>
<td>p-values (Chi-square Test, df 1)</td>
</tr>
<tr>
<td></td>
<td>n=351 (%)</td>
<td>n=2100 (%)</td>
<td>n=2451 (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertensive disorder</td>
<td>20(5.6)</td>
<td>27(1.2)</td>
<td>47(2)</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Premature rupture of membrane (PROM)</td>
<td>63(18)</td>
<td>62(3)</td>
<td>125(5)</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Preterm premature rupture of membrane (PPROM)</td>
<td>7(2)</td>
<td>9(0.4)</td>
<td>16(0.6)</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Antepartum hemorrhage (APH)</td>
<td>-</td>
<td>3(0.1)</td>
<td>3(0.1)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Postpartum hemorrhage (PPH) + check curettage</td>
<td>40(11.3)</td>
<td>66(3.0)</td>
<td>106(4.3)</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>20(5.6)</td>
<td>38(1.8)</td>
<td>58(2.3)</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>201(57.2)</td>
<td>1895(90.2)</td>
<td>2096(85.5)</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>351</td>
<td>2100</td>
<td>2451</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DISCUSSION

In this study, we compared the outcome of teenage pregnancy (15-19 years) to a group of young pregnant women (20-24 years). It revealed that 29% of low birth weight was found to the mothers of 15-19 years age group. Similar findings were present in different studies where low birth weight was the important determinants of child mortality and the outcome of adolescent pregnancy.

Unlike other studies, this study revealed no association between adolescent pregnancies and preterm birth. The rate of cesarean section was found fewer in adolescent mothers. One possible explanation was the higher incidence of low birth weight infants in adolescent pregnancies, which could be associated with higher chance of vaginal delivery. Instrumental deliveries were found almost equal in both the groups in this study. Postpartum hemorrhage (PPH) was found higher among teenage mothers in this study, whereas it was found significantly higher in 20 or more year age group. Post term birth was found higher in 20 or more year age group in this study.

Among the neonatal complication, still birth and intrauterine fetal death, neonatal death, fetal distress and meconium aspiration of newborn of adolescents had greater neonatal complication than from the
young mothers in our study and similar study found neonatal mortality and still birth.9-24 The maternal complications like hypertensive disorder, prelabour rupture of membrane, preterm premature rupture of membrane, postpartum hemorrhage in pregnancy, perennial tear and episiotomy were also common among adolescents.9,10,12 However, caesarean section (CS), instrumental delivery, premature rupture of membrane and postdated were not found significantly associated with adolescents pregnancy.10, 13, 14, 18, 24, 25 but in our study prelabour rupture of membrane was higher in adolescent group.

CONCLUSIONS:

An adverse outcome of adolescent pregnancy is attributed not only to lower maternal age but also to their relatively disadvantaged socioeconomic background, quality of prenatal visits and their family supports. Strict enforcement of laws prohibiting teenage marriage in a country like Nepal is needed to prevent from adolescent pregnancy. For those who are already pregnant at teenage, quality maternity services should be provided. In order to reduce occurrence of adolescent childbearing and its consequences, education/information may provide benefit to those female adolescents with inconsistent pregnancy intentions.

REFERENCES


