Comparative Study of Obstetrical Outcomes of Teenager and Older Primigravida

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A B S T R A C T

Objective: To compare the obstetric outcome in terms of anemia, pregnancy induced hypertension, preterm delivery, mode of delivery and birth weight between teenage primigravida and older primigravida.

Study Design: Case control study

Place and Duration of Study: Department of Obstetrics and Gynaecology, Benazir Bhutto Hospital, Rawalpindi, from January 2012 to December 2012.

Methodology: Three hundred and ninety one women presenting to Department of Obstetrics and Gynaecology of Benazir Bhutto Hospital, Rawalpindi, having singleton pregnancy, including 60 teenagers (<19 years) and 331 older primiparas (>20 years) were studied. Obstetric outcome in terms of anemia, pregnancy induced hypertension, gestational age at delivery, vaginal delivery rate and low birth weight was compared between the two groups. Data was analyzed using Statistical Package for Social Sciences (SPSS) version 16.

Results: Younger mothers were more likely to develop anemia (58% vs. 43%) pregnancy induced hypertension (10% vs. 3%), preterm delivery (20% vs. 10.5%) and low birth weight babies (23% vs. 10.5%). More teenager mothers delivered vaginally (80% vs. 75%), however caesarean section rate was similar between the two groups.

Conclusion: This study showed that adolescent primigravida have significantly higher risk of adverse pregnancy outcomes such as anemia, pregnancy induced hypertension, preterm delivery and low birth weight babies as compared to older primiparas.

Key Words: Obstetrical outcome. Teenage primigravida. Older primigravida.

Introduction

Teenage pregnancy is a worldwide problem and is considered to be a high risk group despite the conflicting evidence. It has serious implications on maternal and child health especially in developing countries. 1 Child marriage and teenage pregnancy is widespread in Pakistan. Using data from the Pakistan Demographic and Health Survey for 2006-07, it is found that over 50% of the ever married women in Pakistan between the ages of 20 to 24 were married before they turned 18. Child marriage increases the risk of high fertility and poor fertility health indicators.2 Teenage pregnancy occurs when women aged less than 20 years become pregnant. Maternal age plays a serious role in adverse outcome and complications of pregnancy. Teenage pregnancy is a high risk group as it puts a double burden of growth and reproduction. Complications of pregnancy and labour are the leading cause of mortality among girls aged 15-19 years in developing countries.3
Child bearing and poor nutrition are the factors which expose young girls to serious health risks. Several studies have found an increased risk of pregnancy related complications like anemia, pregnancy induced hypertension, preterm delivery, low birth weight, and an increased incidence of operative deliveries among teenagers.\(^4\) However, there are studies which have attributed the poor pregnancy outcome of teenage pregnancy to low socioeconomic status, illiteracy, lack of antenatal care, social support and contraception rather than to maternal age.\(^5\) Studies on complications of teenage pregnancy have yielded conflicting results and opinions vary.

With understanding of other antecedents of teenage pregnancy, especially in the context of Pakistan, it may be possible to eradicate this problem. There is a lack of recent data on the outcomes of teenage pregnancy in Pakistan. Our objective was to compare obstetric outcomes of teenager and older primigravida.

**Materials and Methods**

This case control study was conducted in Obstetrics and Gynaecology Unit, Benazir Bhutto Hospital, Rawalpindi from January 2012 to December 2012. Total of 391 patients were included in the study. 60 primigravida teenage mothers, aged ≤19 years, having antenatal visits before 36 weeks and who had singleton pregnancy were regarded as cases, while 331 primigravida adult mothers aged 20-35 years, having antenatal visits before 36 weeks and who had singleton pregnancy on USG formed the control group. Women aged >35 years, multiple gestation and women with major illnesses pre-pregnancy were excluded from the study. Patients were called for follow up as: 4 weekly till 32 weeks, then fortnightly up to 36 weeks and weekly till delivery. Complications of pregnancy like anemia, pregnancy induced hypertension, preterm delivery, caesarean section rate and low birth weight were compared between the two groups.

Data was collected through interviews and by observations for a period of 1 year. The first contact with the study participant for data collection started during antenatal period. They were then followed till delivery, mode of delivery and perinatal outcomes were observed. Missing information was obtained from OPD and labour ward registers. Data analysis was done using Statistical Package for Social Sciences (SPSS) version 16.

**Results**

A total of 391 patients were included in the study. Out of these 60(15%) were in study group and 331(85%) patients formed comparison group (Figure 1).

Anemia is defined as Hb less than 11 gm/dl. It was found that more than half (58%) of teenage mothers had anemia, as compared to elderly mothers, of which 43% developed anemia. Pregnancy induced hypertension was more common among teenage mothers(10%) as compared to older mothers(3%). 20% of teenage primigravidas had preterm delivery in comparison to 10.5% of elderly patients who delivered preterm (Table 1).

**TABLE I: Complications Of Pregnancy Seen In Two Groups**

<table>
<thead>
<tr>
<th>Complications</th>
<th>Study group</th>
<th>Percentage</th>
<th>Control group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anemia</td>
<td>34</td>
<td>58%</td>
<td>144</td>
<td>43%</td>
</tr>
<tr>
<td>PIH</td>
<td>6</td>
<td>10%</td>
<td>9</td>
<td>3%</td>
</tr>
<tr>
<td>Preterm Delivery</td>
<td>12</td>
<td>20%</td>
<td>34</td>
<td>10.5%</td>
</tr>
</tbody>
</table>

Teenagers were more likely to deliver vaginally with no significant increase in risk of instrumental delivery or caesarean section (Table II). However, younger mothers were twice(23%) at risk of delivering low birth weight babies as compared to older primigravidas (10.5%)(Table III).

**Table II: Comparison Of Mode Of Delivery Between Teenager And Elderly Mothers**

<table>
<thead>
<tr>
<th>Mode of delivery</th>
<th>Study group</th>
<th>Percentage</th>
<th>Control group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous vaginal delivery</td>
<td>48</td>
<td>80%</td>
<td>251</td>
<td>75%</td>
</tr>
<tr>
<td>Instrumental delivery</td>
<td>0</td>
<td>0%</td>
<td>10</td>
<td>3.02%</td>
</tr>
<tr>
<td>LSCS</td>
<td>12</td>
<td>20%</td>
<td>70</td>
<td>21%</td>
</tr>
</tbody>
</table>

**Table III: Effect of Maternal Age on Birth Weight Of Babies**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Study group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Birth Weight Babies</td>
<td>14(23%)</td>
<td>34(10.5%)</td>
</tr>
</tbody>
</table>
Discussion

This study focused on determination of the maternal and fetal risks associated with pregnancy in teenage mothers. The frequency of teenage mothers in our study was found to be 15% which is higher as compared to 11% reported in a study from Karachi. However, the latest Pakistan Demographic Health Survey (PDHS) 2007 has reported the frequency of teenage pregnancy as 7% for Pakistan. Majority of the women in both groups were anemic (Hb<11gm/dl) which may reflect the general state of nutritional deficiency in our women. However, the frequency of anemia was found to be 15% higher in teenage mothers. This may be explained by their physical immaturity, as these young mothers are still growing and may compete with the growing fetus for nutrients. This finding has also been reported by several other studies.

The rates of other obstetric complications such as pregnancy induced hypertension and preterm labour were also higher in teenager mothers. PIH occurred in 10% of teenage mothers in comparison with only 3% in older mothers. Similarly the rate of preterm delivery in teenagers was double in comparison to older mothers. Likewise, a study from Lahore, Pakistan, has reported higher rates of pregnancy-induced hypertension in teenage mothers as compared to older mothers.

Our study showed a higher rate of vaginal delivery and a lower rate of instrumental delivery among the teenagers, while the caesarean section rates were similar between the two groups. A lot of controversy exists in the literature about the mode of delivery in teenage mothers. Some studies have reported increased rates of normal vaginal delivery and reduced rates of caesarean section and instrumental delivery for teenagers, whereas others have shown no significant difference in the mode of delivery between the teenagers and nonteens. Findings similar to ours have been reported by a study from Pakistan which also showed a similar rate of caesarean section among teenagers as compared to adult women. A higher risk of maternal mortality has been reported for adolescents under 15 years of age but not for those above.

The present study found that the number of low birth weight babies was more in the case of teenage mothers (23%) as compared to the adult mothers (10.5%). Babies born to premature mothers are likely to be premature, hence the higher incidence of low birth weight. The observation corroborates the findings of a study in India.

In Pakistan, teenage pregnancy usually occurs within wedlock where family and social support is not usually a problem. However, because of their younger age and usually the lower socioeconomic status of women, these girls are not empowered to make their own decisions. Teenage is basically a time for growth and the girl is not physically and emotionally mature enough to reproduce. Furthermore, these young girls, having little or no knowledge of contraception, usually become pregnant soon after marriage which further aggravates the physical and psychological stress. Psychological distress has been reported to be an important predisposing factor for preterm labour by causing endocrine disturbances, our study showed a significant increase in the risk of preterm labour for teenage mothers.

The main limitations of our study were, firstly, the sample size for teenage pregnancies was small. Moreover, socioeconomic status of women was not assessed. One reason for only a small number of teenage pregnant mothers attending the tertiary care hospitals might be that most of the teenage pregnant women are being attended by the traditional birth attendants. In that case, the maternal and fetal outcome of those pregnancies could be worse than what we observed in tertiary care hospitals. In addition, the outcome of pregnancies of those teenagers who became pregnant out of wedlock could not be documented. Further large scale studies are required to determine the risks associated with teenage pregnancy.

Conclusion

Pregnant teenagers are at a higher risk of developing anaemia, pregnancy induced hypertension and preterm labour. Furthermore, they are more likely to have vaginal delivery in comparison to older primigravidae. Low birth weight babies is the neonatal complication seen in the teenage pregnancies.

References

3. Mayor S; pregnancy and childbirth are leading causes of death in teenage girls in developing countries. BMJ. 2004;328:1152. [PMC free article] [PubMed]


