ASSSESSMENT OF PREGNANCY OUTCOME IN BOOKED AND UNBOOKED WOMEN

ABSTRACT

Objective: The aim of study is to compare the pregnancy outcome in booked pregnant women i.e. who had at least 3 antenatal visits and unbooked pregnant women i.e. without any antenatal visit and to identify if there is any relation between pregnancy outcome and antenatal care.

Material and methods: It was a descriptive observational study conducted at Lyari General Hospital in which 500 married women of 15-45 years of age were included who came in labour ward for delivery. Data was collected with the use of questionnaire by interview. Women were divided into two groups booked group i.e. who had at least 3 antenatal visits unbooked group or without any antenatal care.

Results: During the study period 500 women were interviewed out of which 89% (445) did receive antenatal care; whereas 11% (55) did not receive any antenatal care. In the booked population prevalence of anemia was 54.8%, 1.3% had gestational diabetes, 6.7% had pregnancy induced hypertension, where as in unbooked patients 65.5% (36) were anemic, 10.9% (6) had pih, 1.8% (1) had gdm. In the booked group 24% had cesarean sections while in unbooked group 32.7% (18) had cesarean sections.

As far as fetal outcome is concerned in booked group 15.7% infants were born having low birth weight, and 3.0% were stillbirth, while in unbooked patients (13) 23.6% were Low birth weight, 3.6% (2) were stillbirth.

Conclusion: The study showed a positive correlation between unbooked mothers and increased risks of maternal and foetal adverse outcomes. This emphasizes the need for regular antenatal visits and promotes the utilization of antenatal care to avoid the complications of pregnancy.

Key Words: booked, unbooked women, pregnancy outcome.

INTRODUCTION

Antenatal care is one of the key strategies in maintaining safe motherhood. It is consists of care provided to women during pregnancy by skilled health personnel (1). It includes health assessment of pregnant women, encouraging good health habits, addressing pregnancy related complications and providing social and psychological support (1, 2).

“The antenatal period clearly presents opportunities for reaching pregnant women with a number of interventions that may be vital to their health and well being and that of their infants”(3). Various maternal behaviors and experiences before, during, and after a pregnancy are associated with adverse health outcomes for both the mother and the infant (4). Maternal complications and poor perinatal outcome are highly associated with non-utilisation of antenatal and delivery care services and poor socioeconomic conditions of the patient, with poorer outcomes in unbooked than booked patients (5). WHO estimated that more than 500,000 mothers die each year because of pregnancy and related complications. It was found that about 88% to 98% of all maternal deaths could be avoided by proper handling during pregnancy and labour (6). Moreover, seven million of perinatal deaths in the developing countries were due to maternal health problems.
Four million were stillbirth and three million were early neonatal deaths (6). Adequate prenatal care was recognized as an important factor in the reduction of maternal and newborn deaths (6). During her lifetime, a Pakistani woman has a 1 in 23 chance of dying from maternal causes compared to 1 in 5,000 in the industrialized world (7). In another study one woman in 38 dies during pregnancy or childbirth in Pakistan, compared with a regional average of one in 230 (8).

OBJECTIVE:
The aim of study is to compare the pregnancy outcome in booked women i.e. who had at least 3 antenatal visits and unbooked women i.e. without any antenatal visit and to identify if there is any relation between pregnancy outcome and antenatal care.

METHODOLOGY:
The study was descriptive observational, conducted in the department of Obstetrics and gynaecology ward 4 from 1st of October, 2011 – 31st March 2012 at Lyari General Hospital in which 500 married women of 15-45 years of age were included who came in labour ward for delivery. A questionnaire was designed for evaluation. Data was collected with the use of questionnaire by interview. Informed consent was taken and anonymity guaranteed. Women were divided into two groups i.e. booked group (who had at least 3 antenatal visits) and unbooked group (without any antenatal care).

Maternal outcome measures included mode of delivery i.e. spontaneous vaginal deliveries, emergency or elective lower segment caesarean sections and fetal health was studied as alive, stillbirth, low birth weight babies (birth weight below 2,500g), and early neonatal deaths. All singleton births during the study period were included. Study variables included were age, parity, level of education, monthly income, employment status and socio economical status of husband and women. Medical risk factors in pregnancies that have implications for maternal outcomes i.e. anemia, pregnancy induced hypertension, pre-eclampsia and gestational diabetes were also studied.

Data has been entered and analyzed using SPSS version 16. Descriptive statistics were used to describe the data frequencies along with mean and percentages. The chi-squared test for significance was used for comparing categorical variables. The level of significance was taken as P < 0.05.

RESULTS:
During the study period 500 women were interviewed out of which (55) 11% did not receive any antenatal care where as (445) 89% did receive antenatal care, breakdown of which is (280) 63% were registered in second trimester, (165) 37% in third trimester and 65% (289) received 2 doses of Tetanus Toxoid Vaccine. The mean age of booked women was 25.37 (st.dev. 6.92) and 24.54 (st.dev. 5.38) in unbooked women. In booked group 57.8% (257) were 15–25 years old, 30.8% (137) were 26-35 years old and 11.5% (51) were over 36 years old, in unbooked group 56.4% (31) were 15 – 25 years old, (23) 41.8% were 26-35 years old and (1) % (1.8%) were over 36 years old and the difference was statically significant (P value 0.044). With regards to parity, booked group had mean of 2.38 (st.dev 0.486), 61.8% (275) women had 1-2 children and 38.2% (170) had more than 3 children. Whereas unbooked group had mean of 2.30 (st.dev 0.466), 69% (38) had 1-2 children and 30.9% (17) had more than 3 children.

In booked group the monthly income of 62% (n=276) were below Rs 6000 (US$ 71.4), which were extremely poor, 34.8 % (n=155) were earning Rs 6000 to 12000 (US$ 71.4 to 142.8) and only 3% (14) were earning above Rs 12000 (US$ 142.8). In unbooked group monthly income of 65.5% (36) were below Rs 6000 and 32.7% (18) were earning Rs 6000 to 12000.

Women’s demographic characteristics are shown in table 1. With regard to education level of the booked group of women 55.3%
in the study maternal, foetal, obstetrical and child mortality \((n=246)\) were uneducated and only 3.8% (17) reached high school. In unbooked group 52.7% (29) were uneducated, 7.3% (4) reached high school. In the booked population prevalence of anemia was 54.8%, 1.3% had gestational diabetes, 6.7% had pregnancy induced hypertension, where as in unbooked patients 65.5% (36) were anemic, 10.9% (6) had pregnancy induced hypertension, 1.8% (1) had gestational diabetes mellitus. No significant relationship was observed between the maternal medical conditions in both groups \((p=0.141)\). Maternal pregnancy outcome is shown in table 2.

In the booked group, ratio of vaginal deliveries was 76% and 24% had cesarean sections. While in unbooked group 67.3% (37) had vaginal deliveries and 32.7% (18) had cesarean sections. As far as fetal outcome is concerned in booked group 15.7% infants had vaginal deliveries and 32.7% \((p=0.161)\) had cesarean section, which is also seen in other study \((22)\). Ratio of vaginal deliveries was 75.4% while 25.4% had cesarean section in booked group, which is also seen in other study \((22)\). While in unbooked group \((36)\) 65.5% vaginal deliveries and \((19)\) 34.5 had cesarean section. The high incidence of cesarean section in unbooked patients may be due to late presentation of contraceptive services every now and then. The utilization of antenatal care is more in younger age women (ranged 15 – 25 years) as compared to older women which are more in number in unbooked group which is also reported in another study from South Africa \((11)\). Where as in various other studies older women are more likely to use maternal health services \((5,11)\). Regarding parity inverse relation was observed in the study, multiparous were more in un booked group which may be due to their prior successful hospital deliveries or they may not be concerned about the antenatal visits. \((5,12,13,14)\). In the both groups more than 88.6% of women visiting hospital live in households of low socio economic status and income, which is in consistent with another studies \((13,14,17)\). 62.4% earning below 6000 PKR which were extremely poor. 94.8% women were housewives and monthly incomes were mainly earned by their spouses majority of which were laborers earned on daily or weekly basis. There was no association seen regarding socioeconomic class of the women in both groups. More than half of the study population in both groups was uneducated and rest of the women could only read and write simple words. \((15,18)\). The education status of women does not show any association with antenatal care in the study. Whereas according to another study, literacy does play some role in receiving antenatal care \((19)\).

### TABLE 2

MATERNAL AND FETAL PREGNANCY OUTCOME

<table>
<thead>
<tr>
<th>Pregnancy outcome</th>
<th>Booked patients N=445 (89%)</th>
<th>Un Booked patients N=55 (11%)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maternal medical conditions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anemia</td>
<td>244 (54.8)</td>
<td>36 (65.5)</td>
<td>0.141</td>
</tr>
<tr>
<td>P i h</td>
<td>30 (6.7)</td>
<td>6 (10.9)</td>
<td></td>
</tr>
<tr>
<td>Gestational diabetes</td>
<td>6 (1.3)</td>
<td>1 (1.8)</td>
<td></td>
</tr>
<tr>
<td><strong>Mode of delivery</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaginal deliveries</td>
<td>338 (76)</td>
<td>37 (67.3)</td>
<td>0.161</td>
</tr>
<tr>
<td>Caesarean section</td>
<td>107 (24)</td>
<td>18 (32.7)</td>
<td></td>
</tr>
<tr>
<td><strong>Fetal outcome</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low birth weight</td>
<td>70 (15.7)</td>
<td>13 (23.6)</td>
<td>0.315</td>
</tr>
<tr>
<td>Still birth</td>
<td>14 (3.1 )</td>
<td>2 (3.6 )</td>
<td></td>
</tr>
<tr>
<td>alive</td>
<td>361 (81.1)</td>
<td>40 (72.7)</td>
<td></td>
</tr>
</tbody>
</table>

### DISCUSSION

A safe motherhood initiative is a global effort to reduce maternal mortality and morbidity and ensuring the provision of ANC may help progress to the Millennium Development Goals for maternal and child mortality \((1)\). In the study maternal, foetal, obstetrical and socio demographical characteristics were studied in booked and unbooked pregnant women for antenatal care. Overall larger proportion of women had received antenal care i.e. 89% which is consistent with the study from India 92.24% \((10)\) and Libya with 94% results\((10)\) as compared to other studies in the country where it ranged from 50 - 70% \((10)\). The percentage of antenatal care in the study was encouraging as compared to other studies in the country, may be due to availability of free medical facilities at doorsteps within the vicinity existing a government hospital. In addition, being housewives provided them abundance of spare time at their disposal to seek health services every now and then. The utilization of antenatal care is more in younger age women (ranged 15 – 25 years) as compared to older women which are more in number in unbooked group which is also reported in another study from South Africa \((11)\). Where as in various other studies older women are more likely to use maternal health services \((5,11)\). Regarding parity inverse relation was observed in the study, multiparous were more in un booked group which may be due to their prior successful hospital deliveries or they may not be concerned about the antenatal visits \((5,12,13,14)\). In the both groups more than 88.6% of women visiting hospital live in households of low socio economic status and income, which is in consistent with another studies \((13,14,17)\). 62.4% earning below 6000 PKR which were extremely poor. 94.8% women were housewives and monthly incomes were mainly earned by their spouses majority of which were laborers earned on daily or weekly basis. There was no association seen regarding socioeconomic class of the women in both groups. More than half of the study population in both groups was uneducated and rest of the women could only read and write simple words \((15,18)\). The education status of women does not show any association with antenatal care in the study. Whereas according to another study, literacy does play some role in receiving antenatal care \((19)\). Regarding maternal health conditions the prevalence of anemia in booked group of patients was 52.6% and 65.5% \((36)\) were anemic in unbooked patients. The prevalence of anemia in both groups especially in unbooked patients is point of concern. This might be due to the lower socioeconomic and ultimately poor nutritional status and non existence of doctor’s advice could be the cause of higher anemia in unbooked group. This association is also seen in another study \((18)\). It is estimated that more than half of the pregnant women in developing countries suffer from anemia \((20)\). World health Organization recommended supplementation of all pregnant women with a daily dose of 60 mg iron and 400 g folate to control iron deficiency anemia as a primary prevention method \((21)\). Ratio of vaginal deliveries was 75.4% while 25.4% had cesarean section in booked group, which is also seen in other study \((22)\). While in unbooked group \((36)\) 65.5% vaginal deliveries and \((19)\) 34.5 had cesarean section. The high incidence of cesarean section in unbooked patients are may be due to late presentation of pregnancy.
patients in hospital with complications and such association was also seen in other studies (23,24). Regarding the neonatal outcome, the low birth weight babies were 11.6% (which leads to high infant morbidity and mortality), which is low as compared to Pakistan’s overall 19% (23) an Indian study’s 19.2% (10) which may be because our was a hospital based study with good antenatal care in spite of women are living below poverty line. Whereas two other recent population based studies had still birth rate of 3.2% which is in consistent with this study’s still birth rate 3% (24). It is pertinent to note that low birth weight and stillbirth is one of the most common adverse outcomes of pregnancy. These outcomes are preventable with appropriate obstetric care, improving nutritional trends and overcoming number of unwanted behaviours (1,12,22).

CONCLUSION

The study showed a positive correlation between unbooked mothers and increased risks of maternal and foetal adverse outcomes. This emphasizes the need for regular antenatal visits and promotes the utilization of antenatal care to avoid the complications of pregnancy. There is also a need to improve the quality, availability and accessibility of antenatal care services, education level and socioeconomic status of women. It is suggested that necessary steps may be taken to lower the prevalence of anemia in the pregnant women by providing the iron supplements in government health services.

REFERENCES