Epidemiology of Eclampsia in Bangladesh
Fatema Begum1, Arshad Jahan2, Sheuly Akter3, Farhana Dewan4, Sinthia Tabassum5.

Introduction
Eclampsia is defined as seizure activity or coma unrelated to other cerebral condition in an obstetrical patients with preeclampsia.1 Eclampsia is a potentially fatal disorder of pregnant woman that has been prevalent since the time of Hippocrates. It remains an important cause of maternal mortality worldwide, accounting for about 50,000 deaths worldwide.2 In developing countries the prevalence of eclampsia varies widely, from 1 in 100 to 1 in 1700.3,4 The incidence of eclampsia is high in Bangladesh-7.9% according to results of house to house survey.5 For the period of 1998 to 2000 the rate of maternal death from eclampsia was 8.6%.6 In Bangladesh, only 2.3% women end their pregnancy under medical supervision (whether it be abortion or delivery), the rest have no obstetric care.7 As a result most preeclampsia cases remains unrecognized until severe complication, such as eclampsia. Because Dhaka Medical College and Hospital has a special unit and is the largest tertiary referral Govt. hospital in the country, the incidence of eclampsia is higher in this hospital setting at 9%.8 Eclampsia is associated with increased perinatal mortality and morbidity. The different studies in Bangladesh showed perinatal death due to eclampsia was 28%, 32.8%, 29% respectively.9-11

Abstract
Background: The purpose of these study was to find out the risk of eclampsia in relation to several demographic and anthropometric factor and to find out a way to prevent eclampsia. Objective: To find out the epidemiology of eclampsia and to reduce maternal and neonatal mortality and morbidity due to eclampsia. Materials and Methods: A cross sectional descriptive study was conducted to assess the fetomaternal outcome of eclampsia. The study was carried out at the Eclampsia unit, Dhaka Medical College Hospital, Dhaka over a period of six months from 1st July 2008 to 31st December 2008. A total of 48 patients with diagnosis of antepartum and intrapartum eclampsia were consecutively taken in the study. The test statistics used to analyse the data were descriptive statistics. Results: About 39.6% of the patients was under the age of 20 years, 43.7% patient was between the age of 20-25 years. By occupation 77.1% patient was housewife, 17.9% patient was Garments worker and 4.1% patient was day labour. By level of education about 56.3% patient was illiterate, 29.2% patient was of primary level. About 57% of patients remained unconscious. About 7% of patients developed acute renal failure, 16.7% CVA, 14.6% HELLP syndrome and 39.6% pulmonary oedema. The mean hospital stay was 9.5 ± 3.3 days. Majority (93.8%) of the patients recovered while 6.3% died. Conclusion: Eclampsia is still a major cause of maternal mortality and morbidity in Bangladesh. A qualitative and quantitative improvement in prenatal consultation should make it possible to reduce incidence of eclampsia in our community. Monitoring of high-risk patients may reduce the complication rate.

Key words: Eclampsia, Incidence, Fetomaternal Outcome.

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It is a common problem in developing countries because illiteracy, lack of health awareness, poverty, and superstitious belief prevent women from seeking medical advice during pregnancy. Besides poor communication facilities, it is also an important factor. In Bangladesh, about 80% of the population lives in rural areas, where facilities do not exist to deal with patients with eclampsia. Many of these patients come to referral hospitals from distant places. Among the referral hospitals, DMCH deals with a high number of eclampsia patients.

Eclampsia is the second major cause of maternal death in Bangladesh (16%), preceded by HGE. In developing countries, death from HGE and infection has almost disappeared, and eclampsia has become the primary killer, indicating that death from eclampsia is particularly difficult to prevent.

Maternal complications like pulmonary oedema, intracranial haemorrhage, DIC, aspiration pneumonia, acute renal failure, etc. are serious factors causing maternal mortality and morbidity. The most common cause of maternal death is prematurity and birth asphyxia.

The purpose of this study was to report the frequency of this lethal pregnancy associated disorder in terms of age, parity, occupation, residence, socioeconomic status, level of education, antenatal care. Also, to highlight the lapses of our setup, which can be overcome to improve outcome and reduce its incidence.

Materials and Methods

The study was a cross-sectional descriptive study conducted in the Eclampsia Unit of Dhaka Medical College and Hospital (DMCH) over a period of 6 months from 1st July 2008 to 31st December 2008. A total of 48 patients were included in the study. Inclusion criteria was patients with diagnosis of antepartum eclampsia and intrapartum eclampsia. Exclusion criteria were all cases other than clinically confirmed eclampsia, postpartum eclampsia, and preeclampsia. A consecutive sampling was done to include required number of patients. The demographic, anthropometric, obstetric, and clinical variables were included in the study.

Prior permission was taken from Ethical review committee, DMCH, to conduct the study. Keeping compliance with Helsinki Declaration for medical research involving human subjects, 1964, the study subjects were informed verbally about the study design, the purpose of the study and their rights from withdrawing themselves from the project at any time, for any reason, what so ever.

A structured data collection form was developed containing all the variables of interest which was finalized following pretesting. Data were collected by interview.

Data were processed and analyzed using SPSS (Statistical Package for Social Sciences). The test statistics used to analyze the data were descriptive statistics. The summarized data were presented in the form of tables and charts.

Results

Table I: Distribution of patient by age (n=48)

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20</td>
<td>19</td>
<td>39.6</td>
</tr>
<tr>
<td>20-25</td>
<td>21</td>
<td>43.8</td>
</tr>
<tr>
<td>≥25</td>
<td>08</td>
<td>16.7</td>
</tr>
</tbody>
</table>

*Mean age=(20.6±4.4) years; range=(15-32) years

39.6% was below 20 years of age, 43.8% between 20-25 years and the remaining 16.7% of patients was 25 years or above. The mean age of patient was 20.6 ±4.4 years, and the lowest & highest ages were 15 and 32 years respectively (Table I).

Figure 1: Distribution of patients by occupation (n=48)

Over three quarters (77.1%) of patients were housewives, 18.8% garments workers, and rest 4.1% day laborers (Figure 1).

Table II: Distribution of patients by residence (n=48)

<table>
<thead>
<tr>
<th>Residence</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>09</td>
<td>18.8</td>
</tr>
<tr>
<td>Suburban</td>
<td>15</td>
<td>31.3</td>
</tr>
<tr>
<td>Rural</td>
<td>20</td>
<td>41.6</td>
</tr>
<tr>
<td>Slum</td>
<td>04</td>
<td>8.3</td>
</tr>
</tbody>
</table>

Nearly 20% of patients were urban resident, 31.3% suburban, 41.6% rural and 8.3% slum (Table II).

Figure 2: Distribution of patients by socioeconomic status (n=48)

Two-thirds (67%) of the patients were poor and rest 33% belonged to lower middle class (Figure 2).

Table III: Distribution of patients by level of education (n=48)

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiterate</td>
<td>27</td>
<td>56.3</td>
</tr>
<tr>
<td>Primary</td>
<td>14</td>
<td>29.2</td>
</tr>
<tr>
<td>Secondary</td>
<td>07</td>
<td>14.6</td>
</tr>
</tbody>
</table>
Twenty seven (56.3%) of 48 patients were illiterate. About 30% was primary level and 14.6% secondary level educated (Table III).

Figure 3: Distribution of patients by distance of residence from DMCH.

Nearly two-third (65%) had distance 30 kilometers or less and the remaining 35% more than 30 kilometers from DMCH (Figure 3).

Discussion

The results of the current study demonstrated that the mean age of the patients was 20.6±4.4 years, and the minimum and maximum ages were 15 and 32 years respectively. Onuh reported that the mean age of the study subjects were 27.1±5.6 years. Low also demonstrated the patients' ages to range from 16 to 45 years.

In the present study, over three-quarters(77.1%) of patients were housewives, 18% were garments workers and the remaining 4.1% were day labourer. Nearly 20% of the patients were urban residents, 31.1% were suburban and 8.3% were slum dwellers. Two-thirds(67%) of the patients were poor, and the remaining 33% belonged to the lower-middle class.

Twenty-seven(56.3%) out of the 48 patients were illiterate. About 30% of the patients were educated up to primary level, and 14.6% were up to secondary level. Dare in a similar study reported that majority of the patients (86.7%) were from the low socio-economic class or of low educational status keeping consistency with findings of the present study.

Antepartumeclampsia accounted for majority (85%) of patients and intrapartum eclampsia for 15%.

Lopez conducted a similar study and reported that 97.4% of the patients with antepartum eclampsia. Ikechebelualso noted intrapartum eclampsia in majority (82.4%) of the cases.

The mean gestational age was 34.6±2.4 weeks, and the minimum and maximum ages were 28 and 40 weeks respectively. Majority (83.3%) of the patients were primipara and 16.7% were multiparas. About 5% of patients received infrequent and 10.4% regular antenatal care during pregnancy. Begum reported that the mean gestational age (±SD)was 30.65±2.38 weeks, and the range was 24-34 weeks which is almost consistent with our study. Chen observed that 27% of the patients received regular ANC during pregnancy.

Conclusion

Eclampsia is still a major cause of maternal and fetal mortality and morbidity in Bangladesh. It can be prevented by proper antenatal care, availability of health care facilities and prompt referral to tertiary care hospital. Improving socio-economic condition and literacy will raise awareness among the pregnant women to take proper care during antenatal period which will go a long way in preventing the development of eclampsia. Raising awareness will also motivate the patients' relatives and attendance to take their patients to nearby hospitals for receiving emergency obstetric care as soon as convulsion arises.

Besides these steps, monitoring of high-risk patients will reduce the maternal and neonatal mortality, and morbidity.

Acknowledgement

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References


