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Original Research Article

Obstetric Outcomes of Pregnant Women with Eclampsia: A study in a Tertiary Care Hospital

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Abstract

Introduction: Usually, eclampsia is the commonest cause of convulsions in pregnancy next being epilepsy. Moreover, in developing countries like Bangladesh, perinatal condition in eclampsia is a major concern of infant injury. So, proper treatment planning and initiatives against eclampsia can save many lives by decreasing the total mortality and morbidity of child and mother. The aim of our study was to assess the perinatal outcomes of pregnant women with eclampsia in a tertiary care hospital in Bangladesh. ***Methods*:** This cross-sectional observational study was conducted at the Department of Obstetrics and Gynaecology in Rangpur Medical College, Rangpur, Bangladesh during the period from January 2020 to December 2020. Proper written consents form all the participants were obtained and the ethical committee of the mentioned hospital had approved the study before starting the intervention. In total 78 pregnant women with eclampsia were selected as the study population. A predesigned questioner was used in collecting patient data. All data were processed, analyzed and disseminated by using MS Office and SPSS version 23 as per need. ***Result:*** As final outcome we observed, there was not any case of multiple pregnancy or maternal mortality. Among total 78 fetus, cases of stillbirth (SB), early neonatal death (END), perinatal death (END + SB) and death after birth were found as 8%, 12%, 19% and 4% respectively. So, total case of neonatal death was found 35% whereas the survival rate was 65%. As neonatal complication among survived babies, frequencies of jaundice, septicemia and respiratory distress were found in 27%, 24% and 18% babies respectively who were noticeable. As maternal complication, cases of ICU admission, acute kidney injury and haemorrhagic stroke were found as 4%, 3% and 1% respectively. ***Conclusion:*** Stillbirth may be considered as the main component and prematurity may be considered as another important cause of perinatal mortality in obstetric management of delivery in pregnant mothers with eclampsia. Early referral of eclamptic patients, early resuscitative measures as well as good neonatal care can improve perinatal outcomes in such cases.

Keywords: Eclampsia, Outcome, Pregnancy, Perinatal, Stillbirth, Mortality.

1. INTRODUCTION

Usually, eclampsia is the commonest cause of convulsions in pregnancy next being epilepsy. Moreover, in developing countries like Bangladesh, perinatal condition in eclampsia is a major concern of infant injury. Eclampsia is an acute as well as life threatening complication of pregnancy, characterized by convulsions and unexplained coma in a patient with the signs and symptoms of pre-eclampsia during pregnancy or in postpartum period [1]. Pre-eclampsia precursor to eclampsia ranges from 2% to 10% of total pregnancies worldwide. WHO (World Health Organization) estimated the incidences of pre-eclampsia as seven times higher in developing countries than that occur in developed countries [2]. The incidences of eclampsia in developed countries are estimated to about

in 5-7/10,000 deliveries. But in developing countries it varies widely 1 case/100 to 1 case/1700 pregnancies [3]. Existing research and data reports that globally ten million women develops pre-eclampsia each year; of which 76,000 women die from this condition [4]. In another study it was also reported that, most of the cases of death from such pregnant mothers occur in Low- and Middle-Income Countries (LMICs) [5]. Generally, women in developing countries are likely to develop eclampsia ten times higher than that occur in the developed countries [6]. In Bangladesh, eclampsia is a major cause of maternal & perinatal injury, complication as well as death. Despite the incidence dropped from 0.2% to 0.5% of all deliveries, the incidence still remains at 5% in Bangladesh [7]. Eclampsia often results in low-birth weight, Intrauterine Growth Retardation, neonatal sepsis, neonatal asphyxia, and neonatal hyperbilirubinemia, prematurity and neonatal asphyxia [8]. In the year of 2017, a survey showed 29% perinatal death was found among the eclampsia patients in a hospital [9] whereas another hospital study showed that, 32.8% perinatal death rate occurred among the patient with eclampsia. There had been very limited study in Bangladesh regarding the outcomes of pregnant mothers with eclampsia. We think, this study may provide some new information that will be helpful to the policy planers, to formulate strategies to improve perinatal outcome in delivery of pregnant women with eclampsia.

2. METHODS

This cross-sectional observational study was conducted at the Department of Obstetrics and Gynaecology in Rangpur Medical College, Rangpur, Bangladesh during the period from January 2020 to December 2020. We written consents form all the participants were obtained and the ethical committee of the mentioned hospital had approved the study before starting the intervention. In total 78 pregnant women with eclampsia were selected as the study population. In total 78 pregnant women with eclampsia were selected as the study population. As per the inclusion criteria of this study, only eclampsia patients admitted to this hospital during the study period constitute the samples. On the other hand, according to the exclusion criteria of this study, patients who were discharged within 48 hours of delivery and patients other than clinically confirmed eclampsia were excluded from the study. After admission, diagnosis was performed mostly on the basis of history and clinical presentations with minimum aids. We used “face to face” interview, examination finding and investigation reports, semi structured questionnaire as well as the check list for data accumulating. Through proper administrative procedure by the researchers, we took the verbal consents of the patients to interview and examine. Findings were recorded after data collection. All data were checked for consistency and necessary corrections were made where needed. All data were processed, analyzed and disseminated by using MS Office and SPSS version 23 as per need.

3. RESULT

In this study among total 78 participants, we found most of the cases from 20 to 30 years age group which was 63%. This trend was followed by 23% from >30 years age group and the rest 14% from <20 years age groups. In analyzing the economic status of their families, we found the highest cases were from lower class which 45%. This trend was followed by 36% from middle class and the rest 19% from higher class families. Most of the cases of this study were with 1-2 parity and their number was 42 (54%). It was followed by 31 (40%) with no parity and the rest 6 (8%) with three or more parity. We found, the most of the patients having irregular antenatal care. The number of such type of cases was 58%. This trend was followed by 26% had not taken antenatal care at all and the rest 17% patients taken proper antenatal care. As per the findings of gestation period we observed, 53% participants were with gestation of 29-36 weeks which was the highest. This trend was followed by 40% were with >37 weeks and 8% were with <28 weeks. As final outcome we observed, there was not any case of multiple pregnancy or maternal mortality. Among total 78 fetus, cases of stillbirth (SB), early neonatal death (END), perinatal death (END + SB) and death after birth were found as 8%, 12%, 19% and 4% respectively. So, total case of neonatal death was found 35% whereas the survival rate was 65%. As neonatal complication among survived babies, frequencies of jaundice, septicemia and respiratory distress were found in 27%, 24% and 18% babies respectively who were noticeable. As maternal complication, cases of ICU admission, acute kidney injury and haemorrhagic stroke were found as 4%, 3% and 1% respectively.

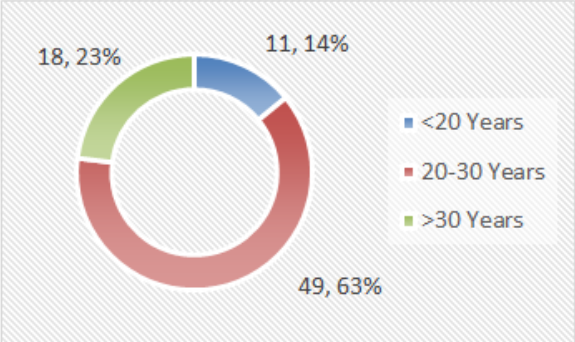

Fig-1: Age distribution of participants (N=78)

Table-1: Distribution of socio-economic status of participants (N=78)

Status	n	%
Lower	35	45%
Meddle	28	36%
Higher	15	19%

Table-2: Clinical status of participants (N=78)

Variables	n	%
Parity distribution		
0	31	40%
1-2	42	54%
≥3	6	8%
Status of antenatal care		
None	20	26%
Irregular	45	58%
Regular	13	17%
Duration of gestation		
<28	6	8%
29-36	41	53%
>37	31	40%

Table-3: Final outcomes (N=78)

Parameters	n	%
Multiple pregnancy	0	0%
Maternal mortality	0	0%
Stillbirth (SB)	6	8%
Early neonatal death (END)	9	12%
Perinatal death (END + SB)	15	19%
Death after birth	3	4%
Total Death (Baby)	27	35%
Survival (Baby)	51	65%

Table-4: Neonatal and maternal complications

Complications	n	%
Neonatal complications (n=51)		
Jaundice	14	27%
Septicemia	12	24%
Respiratory distress	9	18%
Neonatal convulsion	3	6%
Maternal complications (n=78)		
ICU Admission	3	4%
Acute kidney injury	2	3%
Haemorrhagic stroke	1	1%

4. DISCUSSION

The aim of our study was to assess the perinatal outcomes of pregnant women with eclampsia in a tertiary care hospital in Bangladesh. The incidence of eclampsia in the Eastern India region is 3.2%. In Kerla it is 3.8%, in Andra Pradesh it is 4.9%, in Madya Pradesh it is 15% and in Bihar it is 20.7% [10]. But, 'the incidence of 1 in 3250 pregnancies in US (United States) [11] and 1 in 2000 pregnancy in Europe [12] were found. Generally, in developing countries, the signs as well as the symptoms of pre-eclampsia are not detected until development of eclampsia is observed. In these current settings, among total 78 participants, we found most of the cases from 20 to 30 years age group which was 63%. This trend was followed by 23% from >30 years age group and the rest 14% from <20 years age groups. These findings regarding the age range of patients are comparable with another study conducted by Chaurvedi *et al*. [13]. Among total 78 fetus of our study, cases of stillbirth (SB), early neonatal death (END), perinatal death (END + SB) and death after birth were found as 8%, 12%, 19% and 4% respectively. So, total case of neonatal death was found 35% whereas the survival rate was 65%. In a study it was described that, in several studies conducted in Bangladesh, the perinatal death was found as 32.1%, 28% and 26.8% [14]. In a review presented at an international conference on "Obstetrics and Gynecology" held in Bangladesh, perinatal mortality in eclampsia varied from 31 to 41% [15], and it appeared very high in comparison to general perinatal mortality rate in Bangladesh which at present is 70 per thousand livebirths [16]. As neonatal complication among survived babies, frequencies of jaundice, septicemia and respiratory distress were found in 27%, 24% and 18% babies respectively who were noticeable in this intervention. As maternal complication, cases of ICU admission, acute kidney injury and haemorrhagic stroke were found as 4%, 3% and 1% respectively. All the findings of this study may be helpful for the physicians in the management of eclamptic pregnant mothers.

Limitations of the study

This was a single centered study with a small sized sample. So, the findings of this study may not reflect the exact scenario of the whole country.

5. CONCLUSION

Stillbirth may be considered as the main component and prematurity may be considered as another important cause of perinatal mortality in obstetric management of delivery in pregnant mothers with eclampsia. Early referral of eclamptic patients, early resuscitative measures as well as good neonatal care can improve perinatal outcomes in such cases.

6. RECOMMENDATIONS

We would like to recommend for conducting more study on the same issue with some larger sample size in several places to get more specific findings.

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