

Morbidity and Mortality in Eclampsia: An Observational Study

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Abstract

Original Research Article

Perinatal conditions in Eclampsia are a major concern of infant injury and death in Developing countries like Bangladesh. The aim of our study was to find morbidity and mortality in eclampsia patients. This was a cross sectional observational study carried out at the Department of Gynecology & Obstetrics, Combined Military Hospital (CMH), Dhaka, Bangladesh during the period from January 2021 to December 2021. One hundred and Fifty five (155) patients were selected for the study. One hundred and Fifty five mothers have delivered 161 babies (6 sets of twins). Perinatal death (PND) which included stillbirth (SB) and early neonatal death (END) was 27.32%, out of them stillbirth was 15.52% and early neonatal death was 11.80%. Eighty four (84.47%) babies were born healthy (live birth) in present study. Maternal and fetal conditions were assessed and its relation with perinatal outcome was analyzed. Among the live born neonates (n=161) 27.94% had jaundice, 30.88% had no complication. In the conclusion, we can say that Stillbirth is the main component of perinatal death and prematurity is an important cause of perinatal loss in eclampsia. So, early referral of eclampsia patients, early resuscitative measures and good neonatal care can improve perinatal outcome.

Keywords: Eclampsia, Pre- Eclampsia, Pregnancy, Primipara, Prevention.

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1. INTRODUCTION

Eclampsia defined as 'the occurrence of convulsion associated with pregnancy complicated by preeclampsia' [1]. Existing research and data reports that globally ten million women develops pre-eclampsia each year; of which 76,000 women die from this condition. Most of these deaths occur in Low and Middle Income Countries (LMICs) [2, 3]. Furthermore, women in developing countries are likely to develop eclampsia ten times higher than these in the developed countries [2]. In Bangladesh as it is elsewhere in the developing countries eclampsia is a major cause of maternal & perinatal injury and death. Despite the incidence dropped to 0.2%-0.5%⁴ of all deliveries, the incidence remains 5% of in Bangladesh [4, 5]. Still eclampsia appears as one of the five major causes of maternal mortality. Additionally, eclampsia is responsible for still birth and neonatal injury and death in the country. Eclampsia often result in low-birth weight (LBW), Intrauterine Growth Retardation (IUGR), neonatal asphyxia, neonatal hyperbilirubinemia, neonatal sepsis, prematurity and neonatal asphyxia [4]. In 2017, a survey shows 29% perinatal death was observed among the eclampsia patients in a hospital [6]. Another hospital study shows

that 32.8% perinatal death rate occurred among the patient with eclamptic condition. However, due to limited number of facilities-based service provision, availability, and affordability of patients a limited and/or no studies were conducted investigating fetal and maternal outcome of eclampsia in Bangladesh. Considering the scant amount of evidence we carried out this study in an attempt to assess perinatal outcome relating to clinical types and management of eclampsia. We believe this study will provide give new evidence that will help to policy planers, to formulate strategies to improve perinatal outcome in eclampsia and will create some interest for further research.

2. OBJECTIVES

a) General Objective

- To find out morbidity and mortality in eclampsia patients in Bangladesh.

b) Specific Objectives

- To measure prevalence of perinatal death in Bangladesh.
- To find out the cause of eclampsia in women in Bangladesh.

3. METHODS

This was a cross sectional observational study carried out at the Department of Gynecology & Obstetrics, Combined Military Hospital (CMH), Dhaka, Bangladesh during the period from January 2021 to December 2021. We included Eclampsia patients admitted in in the department of Gynecology & Obstetric. One hundred and Fifty five (155) patients were selected for the study who were diagnosed in Gynaecology & Obstetric department around two (2) years period. Eclampsia patient admitted during the study period constitute the samples. After admission, diagnosis was made mostly on the basis of history and clinical presentation with minimum aids. We used Face to face interview, examination finding & investigation report, Semi structured questionnaire & check list. Through proper administrative procedure by the

researcher took the verbal consent of the patient to interview and examine her. Finding was recorded after data collection, data were checked for consistency and necessary corrections were made of needed. Data were analyzed by using computer software SPSS.

Exclusion Criteria

- A) Patients who were discharged within 48 hours of delivery.
- B) All cases other than clinically confirmed eclampsia.

4. RESULTS

We are presenting the result of this study in this section. We will present the participant background initially, and henceforth we will present the statistical analysis.

Table 1: Background profile of the study participants (n=155)

Age group(years)	Frequency	Percentage
<20	37	23.87
20-30	93	60.00
>30	25	16.12
Mean \pm SD	26.6 \pm 6.3	
Range	16-41	
Socio-economic status		
Low	74	47.47
medium	50	32.25
high	31	20.00

Table shows that most of the study participants were 20-30 years, 93 representing 60%.The lowest proportion (16.12%) of participant of above 30 years

old. The mean age was 26.6 \pm 6.3 years. The ranged from 16– 41 years.

Table 2: Characteristics of maternal factors with perinatal mortality (n=155)

Parameters	Total birth (n=155)	Total birth (%)	Perinatal death	Perinatal death (%)
Parity				
0	52	33.54	12	23.07
1-2	92	58.35	30	32.60
>3	11	7.09	2	18.18
Antenatal care				
None	43	27.74	14	32.55
Irregular	81	52.25	24	29.62
Regular	26	16.77	7	26.92
Duration of gestation (weeks)				
<28	10	6.45	6	60.00
29-36	79	50.96	30	37.97
>37	61	39.35	11	18.03

Table shows that the highest proportion of patient (58.35%) had primipara; the prevalence of nalipara was 33.54% and 7.09% patient was identified as multipara. Twenty eight (27.74%) patients had no Antenatal care (ANC) and only 16.77 % had regular antenatal check-up. Perinatal death was higher amongst

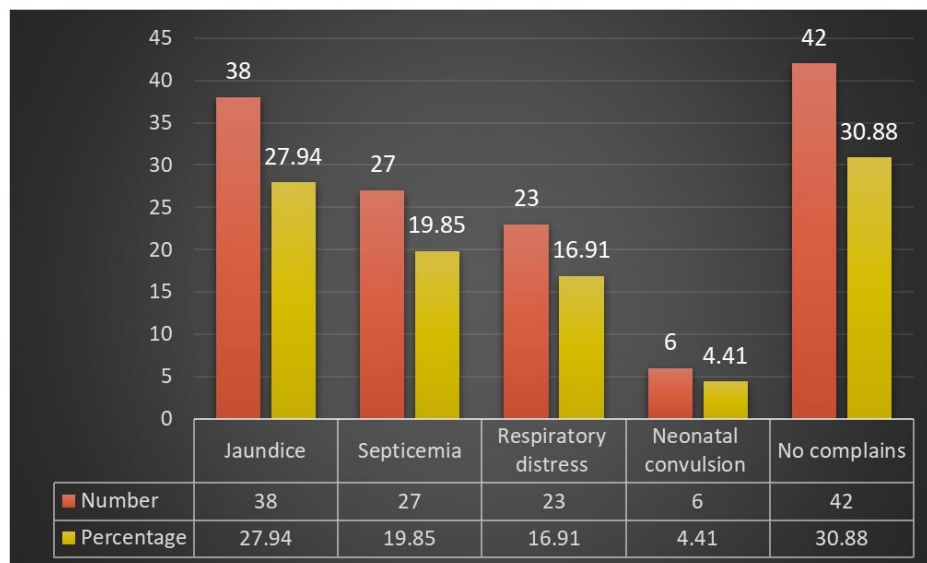
those who had no or irregular ANC. Six (6.45%) patients were of gestational age <28 weeks and perinatal death was higher (60%) among them. Only 39.35% of patients had gestational age >37 weeks and perinatal death was 18.03%.

Table 3: Outcome of pregnancies among the study participants (n=155)

Parameters	Number of patients	Percentage
Perinatal outcome (n=161)		
Live birth	136	84.47
Survived	115	71.42
Early neonatal death (END)	19	11.80
Stillbirth (SB)	25	15.52
Macerated	3	1.86
Fresh SB	22	13.66
Perinatal death (END + SB)	44	27.32

Table shows that among perinatal outcome 161, Eighty four (84.47%) were live birth, 71.42% survived, 11.80% were early neonatal death (END),

15.52% were still birth (SB). Total perinatal death (END + SB) were 44 which representing 27.32% of total birth.

**Figure 1: Distribution of perinatal conditions among live birth (n=136)**

This diagram shows that 42 (30.88%) babies out of 136 live birth had no complication and 27.94% developed neonatal jaundice, 19.85% had developed septicemia, 16.91% had respiratory distress and 4.41% suffered from neonatal convulsion.

5. DISCUSSION

The hypertensive disorders during pregnancy are important causes of maternal death throughout the world and most of these deaths are attributed to eclampsia. The hypertensive disorders also contribute extensively to still birth and neonatal morbidity and death. Hypertensive expectant mothers (or gravidas) are predisposed to the development of potentially lethal complications of pregnancy notably abruptio placentae, disseminated intravascular coagulation cerebral haemorrhage hepatic failure and acute renal failure. Out of these 210 cases, 155 who fulfilled the inclusion criteria were included in this study. Perinatal death was very high in our study (27.32%) compared to Baha's [6] study (11.8%). But in Bangladesh in several studies perinatal death were 32.1% [7], 28% [8] and 26.8% [9]. In a review of four different studies presented at the First International Conference of Obstetrics and

Gynecology held in Bangladesh, perinatal mortality in eclampsia varied from (31 to 41)% [10], and it appeared very high in comparison to general perinatal mortality rate in Bangladesh which at present is 70 per thousand livebirths [11]. In developed country, perinatal mortality in pre-eclampsia varied from 35 to 160/1000 [5]. In our study 27.74 % of them had no antenatal care (ANC); 52.25% had irregular ANC or were attending the hospital for the first time after being referred. Most of them came from low socioeconomic background. In our present study the majority of patients belong to age group of 20-30 years. Several studies were done to see the risk factors of perinatal outcome of eclampsia and showed that eclampsia was found to be particularly common in adolescent and young pregnant women. The finding is consistent with the study done by Chowdhury P, as the adolescent pregnancy constitutes a large number of hospital admission in obstetric unit and it may explain the higher no of cases of eclampsia in this age group. Regarding parity, our study shows eclampsia was significantly associated in primigravida (58.35%) and this finding is consistent with finding of Acharya G *et al.*, (71.42%) this may explain the immunological causes for preeclampsia and eclampsia and PND is the

highest in this group. Below 37 weeks of gestation (6.45%) group was also the highest (60%) PND. According to perinatal outcome, it shows that 84.47% was born alive and total still birth in eclamptic patients were 15.52% which are similar to study previously done in Bangladesh. In my study, perinatal death was 27.32 % which is similar to study done by Chowdhury P where the rate was 20% Patan hospital 31.25%, 38.6%. In our study also shows that 42 (30.88%) babies out of 136 live birth had no complication and 27.94% developed neonatal jaundice, 19.85% had developed septicemia, 16.91% had respiratory distress and 4.41% suffered from neonatal convulsion. This statistics is similar to many studies done in Bangladesh, previously. This cause of still birth may be due to late arrival of patients after onset of fits result in severe intrauterine hypoxia and intrauterine death. This may reflect lack of public awareness, lack of antenatal checkup neglected position of female in the family poor decision making ability of female, poor communication system and demerits of conservative approach in patient management. Causes of early neonatal death may be due to high rate of eclampsia in preterm pregnancy causing high preterm delivery and high perinatal loss. Other causes may be influenced by the availability and skillness of neonatal care facilities.

6. LIMITATIONS OF THE STUDY

This is a single centre study with limited sample size which can't reflect the scenario of the whole country.

7. CONCLUSION AND RECOMMENDATIONS

Incidence of eclampsia is alarming in economically deprived population. The maternal and perinatal mortality and morbidity associated with eclampsia is many fold. We should not forget the cost of treatment of such patients and burden on the staff and the hospital. It is therefore important that we should adopt the global initiative provided by the Safe Motherhood concepts. The community should be educated regarding importance of antenatal care; especially during last trimester immediate referral to a tertiary center is necessary in all patients with morbid symptoms of pregnancy induced hypertension (P.I.H).

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