Global Journal of Medical Research: E
Gynecology and Obstetrics
Volume 17 Issue 2 Version 1.0 Year 2017
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

# Incidence and Fetomaternal Outcome of Eclampsia in a Tertiary Medical College Hospital in Bangladesh

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*Objectives:* To determine the incidence of eclampsia and associated feto-maternal outcome.

*Materials and Methods:* A retrospective study was conducted on the diagnosed patients of eclampsia admitted in Enam Medical College and hospital, Dhaka, Bangladesh, during the period of January 2015 to December 2016. During these years total 2295 patients were admitted in obstetrics unit among them 35 patient were admitted with eclampsia. Analysis done regarding age of women, parity, type of eclampsia, gestational age of delivery, mode of delivery, maternal and fetal outcome. Patients with convulsion and or coma due to other causes were excluded. Study was ethically approved by Ethical Review committee of Enam Medical College and Hospital. All data were entered in SPSS16 and also analyzed through it.

*Keywords:* *eclampsia, perinatal death, preterm delivery.*

*GJMR-E Classification:* *NLMC Code: WQ 215*


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# Incidence and Fetomaternal Outcome of Eclampsia in a Tertiary Medical College Hospital in Bangladesh

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*Results:* Total admitted patients in obstetrics unit during the given time period were 2295. Among them 35(1.52%) were eclampsia. Among eclampsia patients more than half that is 19(54.28%) were in between age of 21 to 30 years of age. Most 21(60%) were nulliparous and 14(40%) were multiparous.15 (42.85%) were antepartum eclampsia whereas 20(57.14%) were postpartum. Maximum 22(62.85%) delivered preterm. Mode of delivery by caesarean section 24(68.57%) is more than double of vaginal delivery. Maternal outcome was good after treatment in eclampsia ward in 18 (51.42%) cases, whereas 14 (40%) needed ICU support and 3 (8.57%) died in hospital. Most of the babies were born preterm low birth weight (37.14%) and perinatal deaths were 20%. Only 6 babies were term and healthy.

*Conclusion:* Our observation states postpartum eclampsia is more common in nulliparous between 21-30 years of age with preterm delivery and poor fetomaternal outcome.

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## I. Introduction

Now a days Eclampsia is one of the leading cause of maternal and perinatal mortality as well as morbidity throughout the world[1,2]. Pre-eclampsia when complicated with generalized tonic-clonic convulsions and/or coma is called eclampsia[3]. Since eclampsia is a severe form of pre-eclampsia, early detection of risk factors, symptoms and signs by good antenatal checkup and initiation therapy will prevent occurrence of eclampsia. Unfortunately, eclampsia still complicates much larger number of pregnancies in the world. It is estimated that every year eclampsia is associated with about 50, 000 maternal death worldwide, most of which occur in developing countries[4]. The incidence of eclampsia has been reduced to. 2%-.5 % of all deliveries in developed countries. But in Bangladesh about 5% of the total pregnancies develop eclampsia[5]. There are approximately 3.6 million births per year in Bangladesh and over 10,000 women develop eclampsia each year[6]. It is one of the common cause of maternal mortality and responsible for 20% of maternal death[7]. Incidence of eclampsia varies inversely with the quality of antenatal care.

## II. Methodology

This retrospective study was conducted on the diagnosed patients of eclampsia admitted in Enam medical college hospital, Savar, Dhaka, Bangladesh, during the period of January 2015 to December 2016. During these months total 2295 patients were admitted in obstetric ward and among them 35 patients were eclampsia. Age of patients, parity, type of eclampsia, gestational age, mode of delivery, maternal and fetal outcome were noted from medical records of patients. Patients with diagnosis of convulsion and coma of other causes were excluded.

All patients of eclampsia were followed up thoroughly from admission to discharge. Study was ethically approved by Ethical Review committee of Enam Medical College and Hospital. All data were entered in SPSS16 and also analyzed through it.

## III. Results

35 cases of eclampsia were recorded out of 2295 obstetric patients admitted during the study period which gives an incidence of 1.52%. 19(54.28%) cases were in between age of 21 to 30 years, while 12(34.28%) were less than 21 years and 4(11.42%) were more than 30 years as illustrated in Table 1.

*Table 1:* Age distribution of patients of eclampsia

| Age | Frequency | Percentage |
|---|---|---|
| < 21 Years | 12 | 34.28 |
| 21 to 30 years | 19 | 54.28 |
| > 30 years | 4 | 11.42 |

Majority (60%) were nulliparous, while 40% were multiparous which is shown in Fig 1.

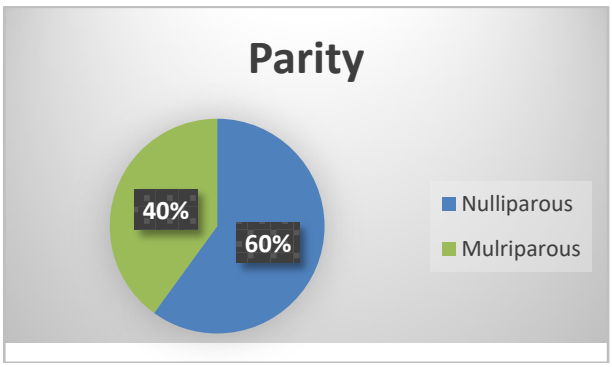


*Fig. 1:* Distribution of study patients according to parity

Most (62.85%) of the cases delivered preterm and 37.14% at term. Caesarean section were common mode of delivery being 24 (68.57%) cases, whereas delivered by vaginally only 13 (37.14%) cases. 15 (42.85%) had convulsion before delivery and 20 (57.14%) thereafter as illustrated in Fig 2, 3 and 4.

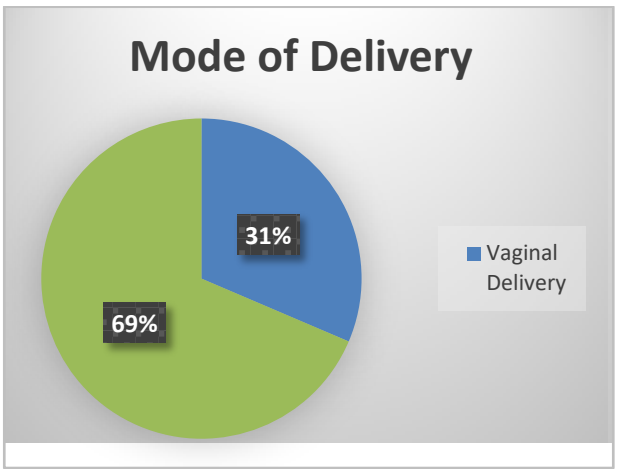


*Fig. 2:* Distribution of study group according to mode of delivery

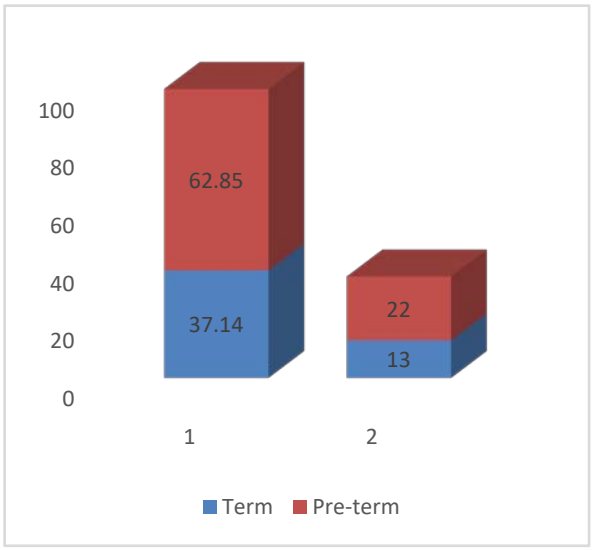


*Fig. 3:* Distribution of study group according to duration of pregnancy

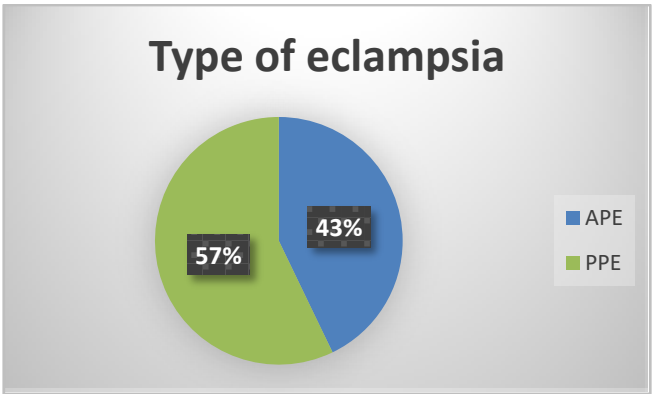


*Fig. 4:* Distribution of study population according to type of eclampsia

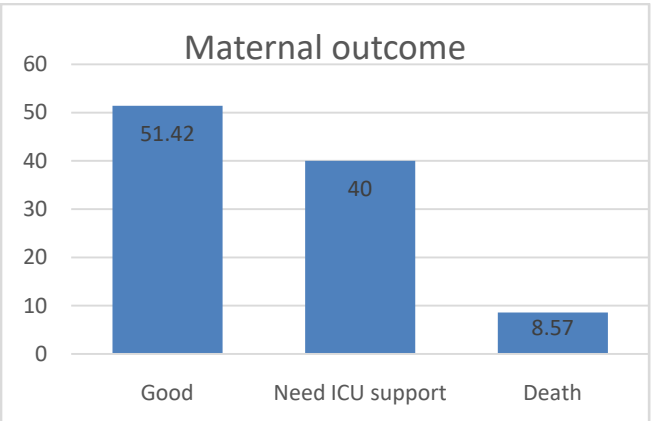


*Fig. 5:* Distribution of study group according to maternal outcome

*Table 2:* Distribution of study subjects according to fetal outcome

| Fetal Outcome | Frequency | Percentage |
|---|---|---|
| Term Healthy | 6 | 17.14 |
| IUGR | 9 | 25.71 |
| Preterm LBW | 13 | 37.14 |
| Perinatal Death | 7 | 20 |

After meticulous treatment 18(51.42%) patients improved in eclampsia ward, while 14 (40%) patients needed ICU support and 3(8.57%) died. Among the babies only 6(17.14%) were term and healthy. Most (37.14%) of the babies were preterm low birth weight, 9 (25.71%) were IUGR and 7 (20%) were perinatal death which is shown in Fig 5 and Table 2.

## IV. Discussion

The incidence of eclampsia in our hospital was 1.52% of total obstetric admission.. Onuh in Benin Nigeria reported 1.32% and Okafor recently reported an incidence of 0.82% in Abujia, Nigeria[8]. A high incidence of eclampsia is common in developing countries where most patients have no antenatal care which would allow for early recognition and treatment of eclampsia. Majority of the patients were between age 21 to 30 years in this study which is contrary to the report in the developed world where severe preeclampsia with severe features and eclampsia is significantly commoner among women older than 40 years[9]. Nulliparity strongly associated with eclampsia in this study is supported by previous reports in other centres[10-12].

Antepartum eclampsia accounted for 42.85% in this study is higher than 36.8% reported in Lagos but lower than 61.6%,84% and 85% reported in Ethiopia, Enugu and Ibadan respectively[11,13-15]. In our study post partum eclampsia was more common, about 57.14% which correlate with another study on similar topic[16].

The majority of antepartum cases in our study had eclampsia before term and caesarean section was a leading mode of delivery, which is comparable to other studies[17,18]. In this study patients underwent caesarean section due to an unfavourable cervix remote from delivery, but the decision to perform a caesarean delivery was based on multiple factors which included gestational age, foetal condition, stage of labour and Bishop scoring of cervix[19].

Maternal mortality rate of 8.57% reported in this study was higher than 7.9%, 8% and 9% reported respectively from Tanzania, India and Ibadan, Nigeria[14,20,21].

Hypertensive disorders are a common cause of preterm labour, perinatal death and intrauterine growth restriction[22]. The 20% perinatal mortality rate in this study is higher than 10% reported from Ibadan, but lower than 29% and 40.9% reported from Ethiopia and Kaduna, Nigeria respevtively[23,14,24]. A significant percentage (37.14%) of low birth weight neonates might have been the result of the high number of preterm deliveries among the eclamptic patients. Similar findings have been reported in the literature that links the incidence of low birth weight infants with preterm deliveries in eclamptic patients[17,25,26].

## V. Conclusion

The incidence of eclampsia remains high in our hospital. Fetomaternal morbidity and mortality are in alarming rate. Hence, eclampsia remains a continuing problem in developing countries and leading cause of fetal-maternal mortality and morbidity. Careful antenatal supervision, early detection and management of high risk cases can reduce this dreadful disease.

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