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Prevalence of Eclampsia and its Fetomaternal Consequences in Bangladeshi Women: A Cross-Sectional Study

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Objective: This study aims to determine the incidence of the fetomaternal outcome of eclampsia among Bangladeshi women.

Method: A cross-sectional study was carried out among 240 patients in the Gynaecology Department of Dhaka Medical College Hospital, Bangladesh, from January 2014 to December 2015. Details and data obtained from Medical Records Section were analyzed. All patients with eclampsia were included, and fetomaternal outcomes were measured in terms of complications.

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Results: Among 5073 deliveries, 240 patients had eclampsia with the incidence of 47.3/1000 deliveries. Maximum (42.5%) patients were below 20 years of age, maximum (79%) patients had antepartum eclampsia, and the highest number of patients (71%) had cesarean section delivery. Maximum patients (51.2%) had primipara. Here, 5% patients had cerebral edema, 3.90% patients had renal failure, 4.1% patients had HELLP (Hemolysis, Elevated Liver enzymes, and Low Platelet count) syndrome, 2.8% patients had pulmonary edema, 3.2% patients had psychosis, and only 1% patients had anemia. Among perinatal complications, maximum babies (46.40%) were preterm babies and low birth weight babies (38.50%).

Conclusion: Eclampsia was prevalent in younger primigravida who did not have access to prenatal care. There is an urgent need for effective antenatal care, strict monitoring of individuals with eclampsia, and rapid hospitalization to improve maternal and fetal outcomes. Governments in low-resource countries must focus on developing and enabling women to be financially able to obtain health care to combat these figures on maternal, fetal, and neonatal health.

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I. INTRODUCTION

Eclampsia is a potentially preventable disorder in underdeveloped nations that causes maternal sickness, mortality, and poor fetomaternal outcomes. [1] It is a life-threatening pregnancy condition that is connected to an elevated risk of morbidity and mortality for both the mother and the fetus. Eclampsia complicates roughly one out of every 2000 deliveries in developed countries, but it affects one out of every 100 to one out of every 1700 deliveries in poor countries. [2] Several studies have lately shown eclampsia as the primary cause of maternal death. Heart failure, pulmonary edema, aspiration pneumonia, cerebral hemorrhage, acute renal failure, cardiopulmonary arrest, adult respiratory distress syndrome, pulmonary embolism, postpartum shock, and puerperal sepsis are all suspected causes of maternal death in eclampsia. [1] While not all cases of eclampsia can be avoided, excellent antenatal care, early detection of eclampsia symptoms, prompt treatment, and timely termination of pregnancy can all assist to improve mother and fetal outcomes. Despite our country's relative progress in women's health education, human resource expertise, and institutional obstetric care, delays in early recognition of the problem, transportation to an appropriate health facility, and timely access to expert care continue to be significant roadblocks to reducing complications. Bangladesh has a high rate of eclampsia because it is a developing country. As a result, we chose to look into the occurrence of fetomaternal eclampsia outcomes in our research.

II. OBJECTIVE

This study aims to determine the incidence of the fetomaternal outcome of eclampsia among Bangladeshi women.

III. MATERIALS AND METHODS

Type of Study- A cross-sectional study

Place of Study- Gynaecology Department of Dhaka Medical College Hospital, Bangladesh

Period of study- January 2014 to December 2015

Sample size- 240 cases

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Data collection: Data collected from the patients in a prescribed protocol.

Data analysis: After collection, all data were reviewed and edited during the analysis. Using window-based computer software built with Statistical Packages for Social Sciences (SPSS23), the data were then entered into the database, and statistical analysis of the results was obtained. The findings were presented in figures and tables.

IV. RESULTS

The patient age distribution is shown in table 1. Among 240 women, maximum (42.5%) patients were below 20 years of age. Moreover, a minimum (1.7%) of patients were more than 35 years of age. The following Table 1 showed the age distribution of the patients:

Table 1: Age distribution of the patients

Age	Frequency	Percentage (%)
Less than 20years	102	42.5%
21 years– 25years	94	39.2%
26 years– 30years	27	11.2%
31 years– 35 years	13	5.4%
More than 35 years	4	1.7%
Total	240	100.0

Figure 1 shows the types of eclampsia found among the patients of this study. Here, maximum (79%) patients had antepartum eclampsia, 14% had

intrapartum eclampsia, and a minimum (7%) of patients had postpartum eclampsia. See figure 1 below-

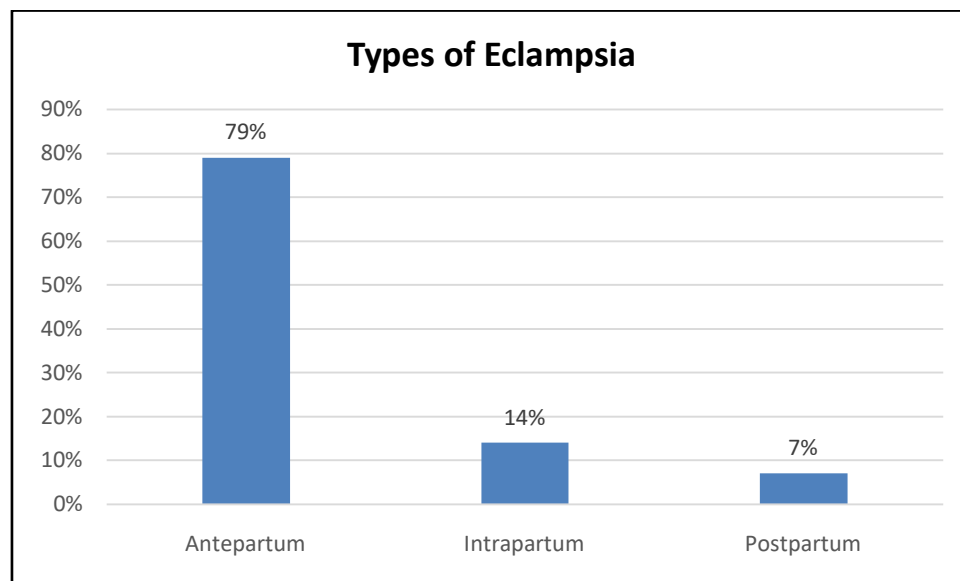


Figure 1: Types of eclampsia among the patients.

The mode of delivery of 240 women patients is shown in figure 2. Here, the highest number of patients (71%) had cesarean section delivery, 24% had a normal vaginal delivery, and only 5% had a delivery with vacuum/forceps. See below-

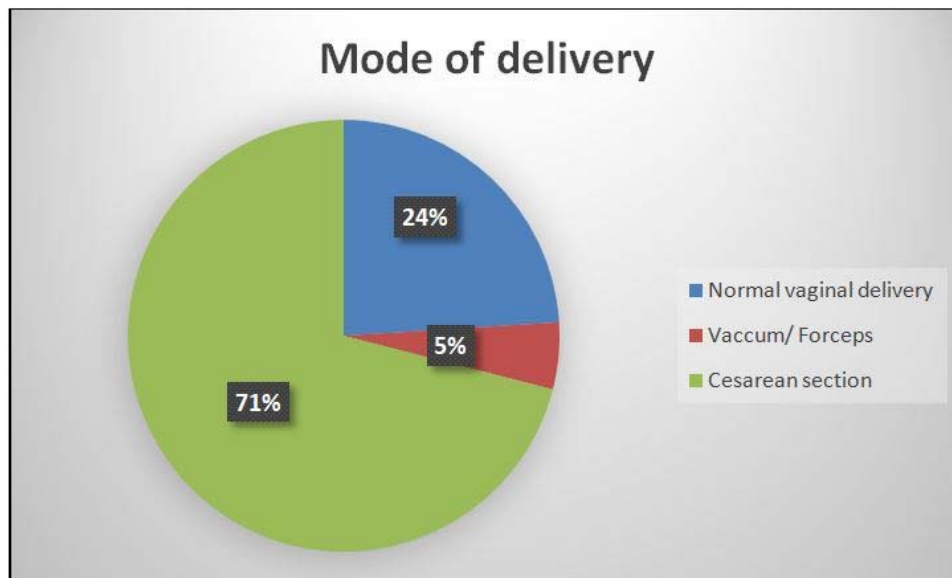


Figure 2: Mode of delivery of the patients

The distribution of parity among the 240 patients is shown in table 3. Here, maximum patients (51.2%) had primipara, while the minimum patients (2.5%) had grand multipara. See table 2 below-

Table 2: Parity distribution of the patients

Parity distribution	Frequency	Percentage (%)
Primipara	123	51.2%
Multipara	47	19.5%
Grand Multipara	6	2.5%
Antenatal care	4	1.6%
No antenatal care	98	40.8%

Figure 3 shows all the maternal complications of the patients in our study. Here, the maximum number of patients (69%) had no difficulties. However, 5% of patients had cerebral edema, 3.90% had renal failure,

and 4.1% had HELLP syndrome. 2.8% of patients had pulmonary edema, 3.2% had psychosis, and only 1% had anemia. See figure 3 here-

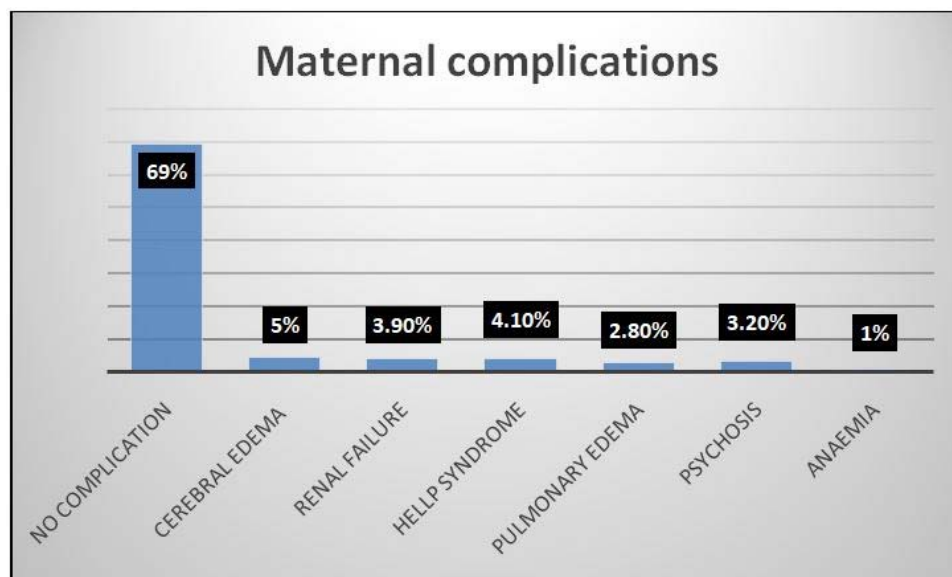


Figure 3: Maternal complications of the patients

Figure 4 shows the perinatal complications found in the babies. Here, maximum babies (46.40%) were preterm babies and low birth weight babies (38.50%). Moreover, 7.40% of babies were normal

babies, 2.90% babies were macerated babies, and 4.80% were fresh still birth. See the chart (figure 4) below-

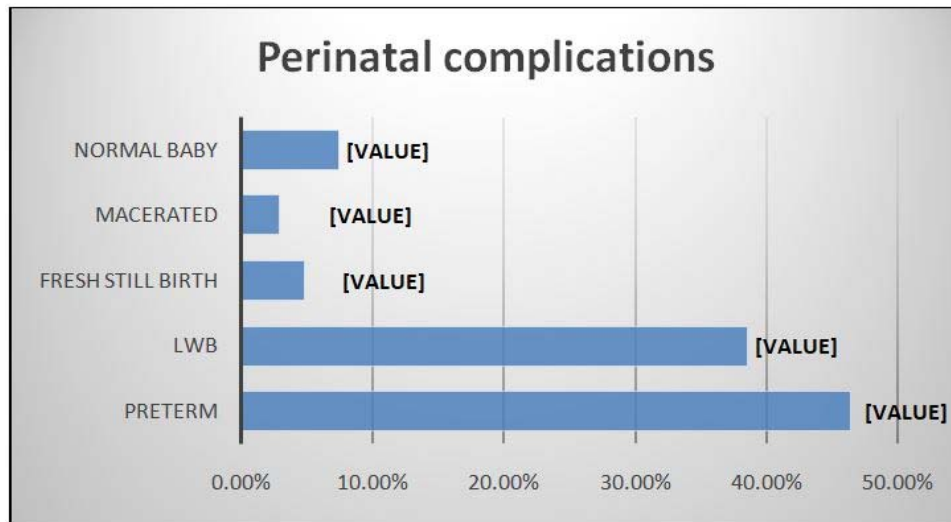


Figure 4: Perinatal complications observation.

The gestation period of the patients is shown in table 3. Maximum patients (56.25%) had 34-37 weeks of gestation, and minimum patients (3.75%) had less than

34 weeks of gestation. See all patients' gestation periods in table 3 below-

Table 3: Period of gestation of the patients

Period of gestation	Frequency	Percentage (%)
Less than 34 weeks	9	3.75%
34-37 weeks	63	26.25%
37-40 weeks	135	56.25%
Post-dated	33	13.75%

V. DISCUSSION

Eclampsia affected 240 of the 5073 deliveries made in a year (January 2019 to December 2020), with a rate of 47.3/1000 deliveries and 4.73 percent. Eclampsia has been estimated to occur at a rate of 1.0 in the United States, 3.20 in India, and 0.05 in the United Kingdom. [4-6] Our investigation discovered a higher figure because the incidence of eclampsia is dependent on several factors. Temporal factors, socioeconomic development, age at marriage, maturation and modernization of the health facility, concentration of cases in a single location, particularly from the Safe Motherhood Program, no-risk policy, and referral of severe eclamptic patients to medical colleges all have an impact on the incidence. Geographic and racial factors may also play a role in the high prevalence, but more research is needed. The majority of the time, counting the factors that come into play directly or indirectly becomes extremely difficult; the only factors that must be considered when creating plans and policies are the prominent and adjustable factors. Our center is located in a developing country (Bangladesh), where early marriage is common, people live in poverty,

and the vast majority of women do not receive antenatal care.

Due to improvements in socioeconomic status and the maturity of healthcare facilities, the prevalence in our country is decreasing over time. As a result, societal progress is becoming increasingly important in reducing the prevalence of eclampsia and its complications. In our study, eclampsia was found to be more common in young women (42.5%) and primigravidas (51.2%), which is similar to Sunita TH et al. and Kaur P et al. [7,8] In our study, 98 patients did not receive antenatal care from our center, and the amount of treatment and documentation provided to the remaining patients fell short of the standard of care. Patient and healthcare provider awareness appears to be insufficient for prompt referral and quality care. Gautam SK et al. reported that 98.4 percent of their patients received antenatal care, and the incidence of eclampsia was low in their study. [9] A study conducted by Manandhar BL found that prenatal care did not reduce the risk of severe preeclampsia/eclampsia. [10] Antepartum eclampsia, which usually occurs during a full-term pregnancy, affects the vast majority of our

patients (79 percent). Jha R et al. and Kaur P.'s findings were compared to ours. [8,11] Only 10.9 percent of patients gave birth within 6 hours of the convulsion, which is lower than Sunita TH et al (29 percent). [7] An early pregnancy termination would have been preferable, but due to logistical and other obstacles, including transportation, the time from home to the hospital was considerable. Our patients were delivered by cesarean section in the vast majority (71%) of cases, which is higher than Chaudhary P et al.'s studies (55.31%) but lower than Gautam SK et al.'s study, which had all eclamptic patients delivered by cesarean section. [9,12]

Pneumoedema, cerebral edema, renal failure, and HELLP syndrome were the most common side effects in our investigation, which matched findings from an Indian study. [7] 69 percent of participants in our study, on the other hand, had no complications. This scenario demonstrates how these patients require a high level of expertise as well as a significant financial investment. Preterm birth, low birth weight, and stillbirth are all common perinatal complications among newborns. Perinatal problems can be avoided with early intervention and well newborn care services, which are common in developed countries. Finally, we conclude that eclampsia continues to be the most common cause of maternal and neonatal complications. According to the findings, a lack of adequate antenatal care, a low socioeconomic status, and a lack of community awareness of early detection, referral, and treatment of eclampsia are all important factors. Eclamptic patients should seek appropriate medical attention as a result of proper health education and public awareness, which should be promoted at all levels of the community.

VI. CONCLUSION

According to the findings, eclampsia is still one of the leading causes of maternal and neonatal problems. Eclampsia was common among younger primigravida who lacked access to prenatal care. There is an urgent need for good antenatal care, strict monitoring of patients with eclampsia, and immediate hospitalization to improve maternal and fetal outcomes. Governments in low-resource countries must focus on developing and enabling women to be financially able to obtain health care to combat these figures on maternal, fetal, and neonatal health. This would help avoid unnecessary problems and deaths. Global initiatives must include development assistance and debt reduction for developing nations so that funding can be directed toward women's and neonatal health issues.

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