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FETOMATERNAL OUTCOME OF ECLAMPTIC PATIENTS IN DIFFERENT PRIVATE HOSPITALS, DHAKA

Dr. Aklima Akter[1*], Dr. Fowzia Yasmin[2], Dr. Md. Rafiqul Alam Talukder[3], Dr. Md. Jamshed Alam[4], Dr. Jakir Hossain Khondaker[5] and Dr. Md. Noor Uddin Talukder[6]

[1]Assistant Professor, Dept. of Gynae & Obs. Sheikh Hasina Medical College, Tangail, Bangladesh.
[2]Assistant Professor, Dept. of Gynae & Obs, SSMC & Mitford Hospital, Dhaka, Bangladesh.
[3]Assistant Professor, Dept. of Anaesthesia, Sheikh Hasina Medical College, Tangail, Bangladesh.
[4]Assistant Professor, Dept. of Child Health, Sheikh Hasina Medical College, Tangail, Bangladesh.
[5]Assistant Professor, Dept. of Anaesthesia, IMCH, Tongi, Bangladesh.
[6]Asstant Professor (Paediatrics), Dept. of Child health, Sheikh Hasina Medical College, Tangail.

***Corresponding Author: Dr. Aklima Akter**

Assistant Professor, Dept. of Gynae & Obs. Sheikh Hasina Medical College, Tangail, Bangladesh.

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ABSTRACT

Background: Eclampsia is defined as the development of seizures that cannot be attributed to other causes and /or unexplained coma during pregnancy or puerperium in a woman with pre-eclampsia. Eclampsia is a preventable and treatable cause of maternal morbidity and mortality with poor feto maternal outcome in developing countries. **Objective:** To find out the feto maternal outcome of eclamptic patients. **Methodology:** The study was a cross sectional observational study conducted in different private hospitals in Dhaka City over a period of 3 years from 1st January 2017 to 31st December 2019. Total 100 patients were included in the study. Inclusion criteria were patients with diagnosis of antepartum, intrapartum and postpartum eclampsia. Exclusion criteria were all cases other than clinically confirmed eclampsia and pre eclampsia. **Results:** More than half (51.0%) patients had unconscious, 33(33.0%) had raised BP. Majority 41(41.0%) patients had pulmonary edema, 18(18.0%) had CVA, 7(14.0%) had HELLP syndrome. Mean hospital stay was 10.1±2.1 days. Majority 45(45.0%) patients had recovered and 5(5.0%) had died. Majority 67(67.0%) newborns were male. Alive babies were found 77(77.0%) and stillbirth 23(23.0%). Referred to NICU was found 56(56.0%). Prematurity was found 38(67.9%), feeding problem 34(60.7%), ventilator support 21(37.5%) and jaundice 4(7.1%). Majority 42(42.0%) patients had jaundice, 35(35.0%) had respiratory distress. **Conclusion:** Unconscious and raised BP were common maternal morbidities. Maternal complications were pulmonary edema, CVA, HELLP syndrome and acute renal failure. More common fetal morbidities were jaundice, respiratory distress, convulsion and septicemia.

KEYWORDS: Eclampsia, Fetomaternal outcome, Magnesium sulphate.

INTRODUCTION

Eclampsia is a major cause of maternal and neonatal morbidity and mortality in low and middle-income countries.[1] Eclampsia is defined as the development of seizures that cannot be attributed to other causes and /or unexplained coma during pregnancy or puerperium in a woman with pre-eclampsia.[2] The incidence of eclampsia and its complication is high. It is one of the leading causes of maternal mortality in Bangladesh accounting about 20%.[3] This is also associated with poor perinatal outcome.[3]

The case fatality rate (number of deaths/number of cases) of eclampsia ranges from 0-1.8% in high-income countries up to 17.7% in India.[4] These data highlights the impact of the socioeconomic standard and availability of medical facilities on the magnitude of the problem.[4]

Eclampsia has been reported as number one killer in terms of maternal mortality in recent years in various studies.[5,6] Cardiac failure, pulmonary edema, aspiration pneumonia, cerebral hemorrhage, acute renal failure, cardiopulmonary arrest, adult respiratory distress syndrome, pulmonary embolism, postpartum shock and puerperal sepsis are thought to be the cause of maternal death in eclampsia.[1] Similarly prematurity, intrauterine asphyxia, effects of drugs and trauma during delivery may increase perinatal mortality up to the extent of 1 about 30-50%.[7]

Eclampsia is a preventable and treatable cause of maternal morbidity and mortality with poor feto-

maternal outcome in developing countries. The delay in early recognition of the problem, transportation to proper health facility and getting proper expert care are major hurdles to reduce complications.[8] Although all cases of eclampsia are not preventable but we can improve maternal and fetal outcome by good antenatal care, early detection of sign and symptoms of preeclampsia, prompt treatment and timely termination of pregnancy.

MATERIALS AND METHODS

The study was a cross sectional observational study conducted in different private hospitals in Dhaka City over a period of 3 years from 1st January 2017 to 31st December 2019. Total 100 patients were included in the study. Inclusion criteria were patients with diagnosis of antepartum eclampsia, intrapartum and post partum eclampsia. Exclusion criteria were all cases other than clinically confirmed eclampsia and preeclampsia. A consecutive sampling was done to include required number of patients. The demographic, anthropometric, obstetric and clinical variable, management, complication, fetal outcome, cause of referral and perinatal outcome were included in the study. Before data collection 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 right from withdrawing themselves from the study at any time, for any reason, what so ever. To manage convulsion anticonvulsants were used. Inj. MgSO4 where patellar reflexes were present, respiratory rate was > 16 beats/min and urine output > 30ml/hour. If these criteria were not met, then other anticonvulsant like diazepam was used. A structured data collection form was developed containing all the variables of interest, which was finalized following pretesting. Data were collected by interview, observation and clinical examination. Data were processed and analyzed using SPSS ver-23 (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.

RESULTS

Table 1 shows that majority 60(60.0%) patients belonged to age group 21-30 years with mean age 22.7±3.5 years. Majority 61(61.0%) patients came from urban area. Three fourth (75.0%) patients were housewives, 22(22.0%) patients were service holder and 3(3.0%) were day laborer. Most of the patients came from lower economic status 60(60.0%). Table 2 shows that majority 71(71.0%) patients were primigravida. More than three fourth (77.0%) patients had unbooked. Majority 58(58.0%) patients had gestational age <37 weeks. Regarding type of eclampsia 83(83.0%) patients had antepartum, 5(5.0%) had intrapartum and 12(12.0%) had postpartum. Regarding mode of delivery, 39(39.0%) had vaginal delivery and 61(61.0%) had cesarean section. Table 3 shows that more than half (51.0%) patients had unconscious, 33(33.0%) had raised BP, 17(17.0%) had high temperature and 11(11.0%) had persistent proteinuria. Table 4 shows that majority 41(41.0%) patients had pulmonary edema, 18(18.0%) had CVA, 7(14.0%) had HELLP syndrome and 5(5.0%) had acute renal failure. Mean hospital stay was 10.1±2.1 days. Majority 45(45.0%) patients had recovered and 5(5.0%) had died. Table 5 shows that majority 67(67.0%) patients were male. Alive babies were found 77(77.0%) and still birth 23(23.0%). Mean weight of baby was 2.3±0.4 kg. Referred to NICU was found 56(56.0%). Table 6 shows that prematurity was found 38(67.9%), feeding problem 34(60.7%), ventilator support 21(37.5%) and jaundice 4(7.1%). Table 7 shows that majority 42(42.0%) patients had jaundice, 35(35.0%) had respiratory distress, 6(6.0%) had convulsion and 2(2.0%) had septicemia.

Table 1: Socio-demographic characteristics of the study patients (n=100).

Variables	Frequency	Percentage
Age (years)		
≤20	37	37.0
21-30	60	60.0
>30	3	3.0
Mean±SD	22.7±3.5	
Residence		
Urban	61	61.0
Rural	39	39.0
Occupational status		
Housewife	75	75.0
Service holder	22	22.0
Day laborer	3	3.0
Socio-economic status		
Lower	60	60.0
Middle	37	37.0
High	3	3.0

Table 2: Clinical characteristics of the study patients (n=100).

Variables	Frequency	Percentage
Gravidity		
Primi	71	71.0
Multi	29	29.0
Booking status		
Unbooked	77	77.0
Booked	23	23.0
Gestational age (weeks)		
<37	58	58.0
>37	42	42.0
Types of eclampsia		
Antepartum	83	83.0
Intrapartum	5	5.0
Postpartum	12	12.0
Mode of delivery		
Normal vaginal delivery	39	39.0
Cesarean section	61	61.0

Table 3: Distribution of the study patients by postpartum morbidity (n=100).

Postpartum morbidity	Frequency	Percentage
Unconscious	51	51.0
High temperature	17	17.0
Raised BP	33	33.0
Persistent proteinuria	11	11.0

Table 4: Complication developed of the patients (n=100).

Complication	Frequency	Percentage
Acute renal failure	5	5.0
CVA	18	18.0
HELLP syndrome	7	14.0
Pulmonary edema	41	41.0
Hospital stay (mean±SD) day	10.1±2.1	
Condition of mother		
Recovered	45	45.0
Died	5	5.0

Table 5: Distribution of patients by fetal outcome (n=100).

Fetal outcome	Frequency	Percentage
Sex		
Male	67	67.0
Female	33	33.0
Alive	77	77.0
Still-born	23	23.0
Weight of baby (mean±SD) kg	2.3±0.4	
Referred to NICU	56	56.0

Table 6: Distribution of patients by causes of referral (n=56).

Causes of referral	Frequency	Percentage
Prematurity	38	67.9
Feeding problem	34	60.7
Ventilator support	21	37.5
Jaundice	4	7.1

Table 7: Distribution of patients by perinatal morbidity (n=100).

Perinatal morbidity	Frequency	Percentage
Septicemia	2	2.0
Convulsion	6	6.0
Respiratory distress	35	35.0
Jaundice	42	42.0
Duration of hospital stay (days)	4.6±1.5	

DISCUSSION

In this study observed that the majority 60(60.0%) patients belonged to age group 21-30 years with mean age 22.7±3.5 years. Begum et al. reported that the mean age of patient was 20.6±4.4 years and the lowest & highest ages were 15 and 32 years respectively. In Haque and Thapa study, the incidence of eclampsia was highest in the younger age group i.e. 58.7% from age group of 21-30 years and 36.96% from age less than 20 years of age.[9] Raji et al. also found similar observation maximum number of cases 115 (78.8%) were in the age group between 20-25 years, while 22 (15.1%) were having age of < 19 years, 6 (4%) were in the age group between 25- 30 years and 3 (2%) were in the age between 31-40 years.[10]

In this study majority 61(61.0%) patients came from urban area. Haque and Thapa study found rural area patients was 26(56.52%) and urban area was 20(43.48%).[9] Begum et al. also observed nearly 20% of patients were urban resident, 31.3% suburban, 41.6% rural and 8.3% slum.[11]

In this study most of the patients came from lower economic status 60(60.0%). Similar observation was found Begum et al. they showed two-third 67%) of the patients was poor and rest 33% belonged to lower middle class.

In this study observed that majority 71(71.0%) patients were primigravida.[11] In study of Haque and Thapa observed majority of patients i.e. 34(73.91%) were primigravida.[9] Gautam (Bhattarai) et al.[12] found 61.3% of their study samples were primigravida. The finding demands regular and compulsory screening of young pregnant woman especially primigravida for preeclampsia/eclampsia. In Raji et al.[10] study, 126 (86%) were referred cases. Most of the cases 101 (69.2%) were primigravidae, 40 (27.4%) had parity in the range of 2-4, while 5 (3.4%) had parity between P5 and P6.

In current study more than three fourth (77.0%) patients had unbooked. Haque and Thapa study reported Out of 46 eclampsia patients, only 10(21.74%) had antenatal booking and 36(78.26%) were unbooked cases. It was noticed that 78% of women who developed eclampsia were unbooked that means they had not received antenatal check up.[9] Ghimire S. documented 97% women who developed eclampsia had not received antenatal 47 check up.[8] Duhan L. et al found 96% of cases were unbooked.[7] Lack of antenatal care is a serious concern and appropriate steps are to be taken by the government to tackle with the menace of eclampsia. Routine screening methods during antenatal check up helps to identify potential eclamptic women but eclampsia may not always be predictable and preventable.[13] Raji et al. also reported their booking status showed 100 (68.49%) cases were unbooked and the remaining 46 (31.51%) cases were booked. 100 (68.49%) cases had no preparation for upcoming event indicating lack of antenatal care indirectly.[10]

In this study showed that majority 58(58.0%) patients had gestational age <37 weeks. Begum et al. 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.[11] Haque and Thapa observed

28(60.87%) cases were presented at gestational age less than 37 week.[9] Raji et al. study it was observed that 44 (37.6%) cases presented at gestational age of 31-36 weeks, while 63 (53.85%) had gestational age of 37-40 weeks. Those who were at 24-30 weeks of gestation constituted 10 (8.55%).[10]

Regarding type of eclampsia 83(83.0%) patients had antepartum, 5(5.0%) had intrapartum and 12(12.0%) had postpartum. Lopez[14] conducted a similar study and reported that 97,4% of the patients with antepartum eclampsia. Ikechebelu[15] also noted intrapartum eclampsia in majority 82.4% of the cases. Haque and Thapa reported antepartum eclampsia was 42(91.3%) and postpartum 4(8.7%).[9] Ghimire S found in 83% of her 4 patients had antepartum eclampsia,[8] Chaudhary found it in 3 70% of cases. This finding suggests importance of antenatal screening during pregnancy.[16] Raji et al. observed among 146 cases, 113 (77.4%) cases were antepartum eclampsia, 4 (2.7%) were intrapartum eclampsia and 29 (19.9%) cases were postpartum eclampsia.[10]

Regarding mode of delivery, 39(39.0%) had normal vaginal delivery and 61(61.0%) had cesarean section. Begum et al.[11] about 38% of patients underwent vaginal and 62.5% caesarean delivery. Chen[17] observed that 8.1% patients required assisted vaginal deliveries and 12.9% had normal deliveries. Haque and Thapa reported half of the patients underwent Cesarean section for delivery and 4(8.7%) required assisted delivery.[9] The percentage of ceasarian section required in eclamptic women was reported 55.31% by Chaudhary et al. and 45% by Sunita et al.[16,18]

In this study observed that more than half (51.0%) patients had unconscious, 33(33.0%) had raised BP, 17(17.0%) had high temperature and 11(11.0%) had persistent proteinuria. Begum et al. reported about 57% of mothers were remained unconscious due to cerebral irritation, 39.6% had high temperature, and 70.8% had raised blood pressure and 27.1% persistent proteinuria.[11] Odum[19] reported 57% of the patients to be unconscious. Twenty seven 56.3% of patients delivered within 10 hours of first convulsion and 43.8% 10 hours of convulsion. About 38% of patients experienced vaginal delivery and 62.5% required caesarean. About 57% of patients were unconscious, 39.6% and high body temperature, 70.8% raised blood pressure and 27.1% persistent proteinuria.

In current study that majority 41(41.0%) patients had pulmonary oedema, 18(18.0%) had CVA, 7(14.0%) had HEELP syndrome and 5(5.0%) had acute renal failure. Mean hospital stay was 10.1±2.1 days. Majority 45(45.0%) patients had recovered and 5(5.0%) had died. Begum et al. reported 6.3% developed acute renal failure, 16.7% CVA, 14.6% HELLP syndrome, 39.6% pulmonary oedema. Mean hospital stay was 9.5 ± 3.3 days. Majority 93.8% of the patients recovered and 6.3% died due to pulmonary oedema, cerebrovascular accident.[11] Katz[20] reported that acute renal failure was 5-9%, pulmonary oedema 3-5%, DIC 3-5%, HELLP syndrome 10-1%, and death 0.5-2%. Haque and Thapa[9] study found that 1/3 of patients developed eclampsia related complications commonly being atonic postpartum heamorrahge in 15.21%, psychosis in 8.71% and acute renal failure in 4.35% etc. There were total two deaths (4.35%) due to eclampsia related complications. One patient died due to aspiration pneumonia and another due to cerebro vascular accident. Total maternal death during the study period was 8 and eclampsia contributed 25% in total maternal mortality during study period. Similar findings were reported in other studies done in Nepal and in India. Duhan et al.[13] reported maternal complications in 37% patients which were Abruptio placenta (6%), ARF (6%), pulmonary edema (4%), stroke (3%), HELLP syndrome (2%) and 7 DIC (1%). They reported 6% maternal mortality among 7 patients with eclampsia. Similar maternal outcome was 8 4 12 mentioned by Sunita T.H., Ghimre S. and Shakya et.al.[8,18,21] Raji et al. reported nine out of 146 cases were died. 35 (24%) cases developed complications like ARDS in 8 (5.47%), pulmonary oedema in 2 (1.36%), CVA 6 (4.1%), DIVC 1 (o.68%), renal failure 3 (2.05%), abruptio placenta 6 (4.10%), HELLP syndrome 5 (3.42%), ARF with DIVC 1 (0.68%), HELLP with IVH 1 (0.68%) and HELLP syndrome with acute kidney injury 2 (1.36%).[10]

In this study observed that majority 67(67.0%) patients were male. Alive babies were found 77(77.0%) and still birth 23(23.0%). Mean weight of baby was 2.3±0.4 kg. Referred to NICU was found 56(56.0%). Begum et al.[11] reported 25% stillborn due to intrauterine asphyxia. The mean weight of baby was 2.2 ± 0.3 kg. Twenty six 54.2% neonate were referred to neonatal intensive care unit. Begum8 observed that 32 babies 62.7% with birth weight 2.02±45 kg were born alive. Six of them 18.75% weighing between 1.0 and 1.5 kg a birth were referred to the intensive care unit, and 1 3.13% weighing at 1 kg died within 5 minutes after birth. Raji et al.[10] reported fetal outcome is concerned, alive born babies were 110 (75.64%) and 36 (24.66%) were dead born. The observations regarding birth weight of newborn babies were recorded. 66 (60%) babies had <2.5kg, 33 (30%) had birth weight between 2.5-3kg, 11(10%) had weight >3kg. Perinatal mortality rate was 44.52%. Haque and Thapa study observed, it was found that 28(60.86%) newborn were preterm and 26(56.52%) were low birth weight. Three (6.5%) were still born and 2(4.35%) were macerated babies.[9]

In this study showed that prematurity was found 38(67.9%), feeding problem 34(60.7%), ventilator support 21(37.5%) and jaundice 4(7.1%). Begum et al. reported about 70.4% of baby referred for prematurity, followed by 63% for feeding problem, 44.4% for ventilator support and 7.4% for jaundice.[11]

In this study observed that majority 42(42.0%) patients had jaundice, 35(35.0%) had respiratory distress, 6(6.0%) had convulsion and 2(2.0%) had septicemia. Raji et al.[10] reported among live birth 29 babies died. 12 (41.38%) died due to prematurity and septicaemia, 9 (31.03%) babies died due to prematurity and respiratory distress syndrome, 4 (13.8%) died due to birth asphyxia and 4 (13.8%) died due to IUGR/meconium aspiration syndrome. Begum et al.[11] also reported 41.7% of babies had jaundice, 2.1% septicaemia, 6.3% convulsion, 33.3% respiratory distress. The man duration of stay in NICU was 4.7± 1.6 days. About two third 65% of babies recovered and 35% died. Cause of death was asphyxia and prematurity.

CONCLUSION

Eclampsia was commonly observed in lower economic status, primigravida and lacking of antenatal care. Unconscious and raised BP was common maternal morbidity. Maternal complications were pulmonary edema, CVA, HELLP syndrome and acute renal failure. More common fetal morbidity was jaundice, respiratory distress, convulsion and septicemia. Maternal and fetal complications in eclampsia are notably high requiring management at tertiary care centre. There is an urgent need for proper antenatal care, intensive monitoring of women with eclampsia and timely hospitalization to improve both the maternal and fetal outcome.

REFERENCE

1. Mahran A, Fares H, Elkhateeb, R, Ibrahim M, Bahaa H, Sanad A, et al. Risk factors and outcome of patients with eclampsia at a tertiary hospital in Egypt. BMC Pregnancy Childbirth, 2017; 435: 1-7.
2. Khalil N, Abbasi S, Parveen R, Ferdousey R. Fetomaternal Outcome of Eclamptic Patient in Secondary Health Care Level-3 years study. AKMMC J, 2020; 11(1): 11-15.
3. Nessa K, Khan S, Begum S, Sultana F & Akbar T. Incidence and Fetomaternal Outcome of Eclampsia in a Tertiary Medical College Hospital in Bangladesh. Global Journal of Medical Research, 2017; 17(2): 2249-4618.
4. Ronsmans C, Campbell O. Quantifying the fall in mortality associated with interventions related to hypertensive diseases of pregnancy. BMC public health, 2011; 11 Suppl 3: 8.
5. Rijal P, Agrawal A, Pokharel H, Pradhan T, Regmi MC. Maternal Mortality: A Review from Eastern Nepal. NJOG, 2014; 17(1): 33-36.
6. Shaheen B, Hassan L, Obaid M. Eclampsia-a major cause of maternal and perinatal mortality:a prospective analysis at a tertiary care hospital of Peshawar. J Pak Med Assoc, 2003; 53(8): 346-50.
7. Dutta DC. Hypertensive disorders in pregnancy. Konar H, editor. Text book of obstetrics, 7th edition, New Central Book Agency (P) Ltd: Kolkata, 2011; 219–40.
8. Ghimire S. Eclampsia: Feto-Maternal Outcomes in A Tertiary Care Centre in Eastern Nepal. J Nepal Med Assoc, 2016; 54(201): 24-8.
9. Haque H, Thapa K. Maternal and Fetal Outcome in Eclampsia: A Study From Tertiary Care Hospital. Journal of Nepalgunj Medical College, 2017; 15(2): 6-9
10. Raji C, Poovathi M, Nithya D. Prospective study of fetomaternal outcome in eclampsia in a tertiary care hospital. Int J Reprod Contracept Obstet Gynecol, 2016; 5: 4329-34.
11. Begum F, Sharmin B, Zakia UH, Dewan F, Asaduzzaman SM. Fetomaternal Outcome of Eclampsia. KYAMC Journal, 2018; 9(3): 120-124.
12. Gautam (Bhattarai) SK, Paudel K, Silwal K. Management and Outcome of Pre-eclampsia/Eclampsia among patient admitted in maternity ward in tertiary hospital. Journal of Institute of Medicine, August, 2013, 35: 2.
13. Duhan L, Nanda S, Dahiya P, Chaudhary S. Sociodemographic profiling and study of maternal and perinatal outcome in patients suffering from eclampsia. Int J Reprod Contracept Obstet Gynecol, 2016; 5(6): 1870-1873.
14. Lopez-Llera M. Main clinical types and sub-types of eclampsia. Am J Obstet and Gynaecol, 1992; 166: 4-9.
15. Ikechebelu JI, Okoli CC. Review of eclampsia at the Nnamdi Azikiwe University Teaching Hospital, Nnewi. J Obste Gynaecol, 2000; 22: 287-380.
16. Choudhary P. Eclampsia: A hospital based retrospective study. Kathmandu University Medical Journal, 2003; 1(4): 237-241.
17. Chen CY, Kwek K, Tan KH and Yeo GSH. Our experience with Eclampsia in Singapore. Singapore Med J, 2003; 44(2): 88-93.
18. Sunita T.H., Rathnamala M .Desai. Eclampsia in a Teaching Hospital: Incidence, clinical profile and response to Magnesium Sulphate by Zuspan's regimen. Journal of Dental and Medical Sciences, 2013; 4(2): 1-5.
19. Odum CU. Eclampsia: Analysis of 845 cases treated at the Lagos University Teaching Hospital, Nigeria over a 20 year period. J Obstet Gynaecol East Central Africa, 1991; 9: 16-19.
20. Katz VL, Farmer R, Kuller J. Pre-eclampsia into eclampsia: toward a new paradigm. Am J Obstet Gynaecol, 2000; 182: 1389-1396.
21. Shakya B, Vaidya A. Overview of eclampsia at a tertiary care hospital. NJOG, 2013; 8(2): 46-9.