

Prevalence, Feto-Maternal Outcome and Management of Eclampsia at Federal Tertiary Institution in North-Western Nigeria: A Five-Year Review

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ABSTRACT

Background: Eclampsia is one of the leading direct causes of maternal mortality and remains a serious obstetric disorder particularly in tropical obstetric practice. Provision of quality antenatal and maternity care services are essential in reducing the incidence of the disease and the complications associated with it.

Objective: To determine the prevalence, socio-demographic variables and feto-maternal outcome in patients with eclampsia.

Study Design: A 5-year retrospective study on Eclampsia at Federal Teaching Hospital (FTH) Katsina, from 1st January 2009 to 31st December 2013.

Results: There were 105 cases of eclampsia out of 11,734 deliveries during the study period, giving a prevalence of 0.89%. About 51.4% of the patients were adolescents, 64.28% were primigravidas and majority of them (82.9%) were unbooked. Caesarean section was the mode of delivery in 68.57% of cases. Thirty percent (30%) of the babies were of low birth weight. Maternal and Perinatal mortalities occurred in 21.42%, and 91.42% respectively.

Conclusion: Eclampsia is highly prevalent in our setting and is more among adolescent unbooked primigravidas and is associated low birth weight and significant maternal and perinatal mortalities.

Keywords

Eclampsia, Prevalence, Outcome, Review.

Introduction

Eclampsia is one of the most serious obstetric emergencies and a common cause of maternal mortality worldwide especially in the developing countries [1]. It is the occurrence of fits or seizure in a patient with signs and symptoms of preeclampsia in the absence of underlying neurologic disease [1-3]. It often present with few warning signs and might occur in patient with previously mild disease, thus, predicting its occurrence is as difficult as predicting the timing of its onset [1].

Eclampsia is a major health problem in developing countries and

account for about 50,000 maternal deaths worldwide annually, most of which occur in the developing countries [4]. It was the leading cause of maternal mortality in Sokoto, Jos, and Kano (46.3%) and the major cause of maternal mortality in Northern Nigeria (40-43%) [4,5].

The incidence of Eclampsia varies worldwide. It is 1 in 2000 deliveries and 1 in 100-1700 deliveries in developed and developing countries, respectively [5]. The incidence was 1.66%, 4.4% and 2.5% in Lagos, Sokoto and Benin respectively [6-8].

Eclampsia can occur either antepartum, intrapartum, or postpartum. The aetiology of Eclampsia is unknown as in pre-eclampsia [1-3]. However, the Pathophysiology of Eclampsia is thought to involve

cerebral vasospasm leading to ischaemia, disruption of the blood brain barrier and cerebral oedema [1-3,9]. The Glomeruli are enlarged, cellular and the capillary end-arterial cells are swollen. Tubular necrosis is widespread and acute cortical necrosis may be present [1-3,9]. The liver show subcapsular haemorrhage and haemorrhagic infarcts. Periportal haemorrhage and necrosis may also be noted. The lungs shows evidence of congestion. Haemorrhagic areas are often found in the heart and adrenal glands [1-3].

The risk factors for eclampsia include maternal age, nulliparity, low socioeconomic status and pre-pregnancy obesity. Pre-existing medical conditions considered as risk factors include chronic hypertension, renal disease, gestational diabetes, connective tissue diseases, and thrombophilias [2,4,8,9].

Overt symptoms that might be present prior to convulsive fits includes headache, epigastric pain, visual disturbance, hyperreflexia and clonus. Clinical findings include those of preeclampsia (hypertension and significant proteinuria) [1-3].

Management of eclampsia involves resuscitation, control of convulsions, control of hypertension, fluid and electrolyte balance and delivery of foetus via the fastest and safest route [1-4].

Aims

To review all the cases of eclampsia managed at Federal Teaching Hospital, Katsina, during the study period

Specific Objectives

1. To determine the prevalence of eclampsia in Federal Teaching Hospital katsina.
2. To determine the socio demographic variables of the eclamptic patients
3. To determine fetomaternal outcome among eclamptic patients during the study period

Materials and Methods

A 5-year retrospective study that reviewed all the eclamptic patients managed at Federal Teaching Hospital Katsina between 1st January 2009 to 31st December 2013. Medical records of the Eclamptic patients, labour ward as well as Theatre records were retrieved and analyzed. Records of maternal age, parity, booking status, diagnosis, type of eclampsia, mode of delivery, complications as well as maternal and foetal outcomes were extracted and entered into personal computer and analyzed using SPSS software version 19.0. Ethical Clearance for the study was obtained from Ethics and Research Committee (FMCNHREC.REG.N003/082012)

Results

There were 105 cases of Eclampsia out of 11,734 deliveries during the study period with prevalence rate of 0.89%.

Ninety-Seven (97) out of the 105 folders of the eclamptic patients were retrieved and analyzed (91%).

Eclampsia was commonest among adolescent age group (51.4%). The mean age of the patients was 24.3±3.2 with the modal age being 19yrs (Table 1).

Table 1: Age distribution of patients.

Age(yrs)	No	Percentage
11-19yrs	50	51.4%
20-29yrs	37	38.6%
30-39yrs	10	10%
Total	97	100%

Most cases of eclampsia (62.28%) occurred among primigravidas with mean parity of 3.2±4.1 (Table 2).

Table 2: Parity distribution of the patients.

Parity	No	Percentage
0	62	64.28%
1-4	26	27.14%
5 and above	8	8.57%
Total	97	100%

Majority of the patients (82.85%) were unbooked (Table 3).

Table 3: Booking status of the patients.

Status	No	Percentage
Booked	17	17.14%
Unbooked	80	82.85%
Total	97	100%

Most of the patients present with antepartum eclampsia (50.0%) while intrapartum and postpartum eclampsia accounted for 35.7% and 14.2% of cases, respectively (Table 4).

Table 4: Diagnosis.

Diagnosis	No	Percentage
APE	49	50.0%
IPE	34	35.7%
PPE	14	14.28%
Total	97	100%

APE: Antepartum eclampsia, IPE: Intrapartum Eclampsia and PPE: Postpartum Eclampsia.

Most of the patients were delivered via caesarean section (68.5%), with spontaneous vaginal delivery and Vacuum extraction contributing to 22.85% and 8.57% of deliveries, respectively (Table 5).

Table 5: Mode of delivery.

Delivery	No	Percentage
C/S	67	68.57%
SVD	22	22.85%
Vacuum	8	8.57%
Total	97	100%

Majority of the babies were of average birth weight (68.57%) while 30.0% of the babies weighed less than 2.5 kg and 1.42%

were macrosomic (Table 6).

Table 6: Birth weight of Babies.

Weight	No	Percentage
1100-2500	29	30.0%
2501-3999	66	68.57%
4000-4499	2	1.42%
Total	97	100%

Maternal and perinatal mortality occurred in 4.2% and 21.4% respectively. Other maternal complications include abruptio placenta (2.5%) and pulmonary oedema (1.42%) (Table 7).

Table 7: Maternal outcome.

Complications	No	Percentage
Abruptio placenta	3	2.85%
Pulmonary oedema	1	1.42%
Death	4	4.20%
None	89	91.42%
Total	97	100%

Live birth occurred in 78.6% of the babies with however Early Neonatal Death (ENND) and Intrauterine death (IUFD) accounting for 7.14 and 14.28% of cases respectively (Table 8).

Table 8: Perinatal outcome.

Outcome	No	Percentage
Alive	76	78.57%
ENND	7	7.14%
IUFD	14	14.28%
Total	97	100%

Discussion

The prevalence of eclampsia in this study was found to be 0.89%. This is lower than values reported in Lagos, Sokoto, Benin and Kano but higher than 0.66% reported from Ilorin [6-8,10,12]. This low prevalence may be attributed to effective antenatal care services that favor early detection and prompt treatment of preeclampsia, as well as the presence of other Secondary health care facilities within the city. The incidence was however found to be increasing in Nigeria [5,10].

Eclampsia was found to be higher among adolescent primigravidas (51.4%). This is in keeping with similar findings from related studies [9-11]. Most (82.8%) of the patient were unbooked. This is in keeping with similar study by Tukur et al. (87%) but higher than that reported by Yakasai et al. (51.5%) and Abdulfattah et al. (43%) all from Kano [9,12,13]. Unbooked status has been found as a contributory factor to severe pre-eclampsia and onset of eclampsia. Poor utilization of available maternity services, inaccessible services as well low socioeconomic status of the women have been reported as contributory factors to both occurrence of, and complications associated with, preeclampsia/eclampsia [5,6,11-13].

About 50.0% of patients presented with antepartum eclampsia.

This was similar to that reported from Kano but in variance with that reported from Ibadan [11,12].

About 68.57% of cases were delivered by caesarean section which is higher than that reported from Kano and Benin and lower than that reported in Ilorin (71.1%) [9,11-13]. Majority of patients presented with antepartum eclampsia and unfavourable cervix, making operative deliveries the fastest mode of delivery.

Maternal mortality of 4.2% is in keeping with 3.3% reported from Ilorin but much lower than 42.2%, 31.3% and 28.57% reported from Sokoto, Kano (AKTH) and Kano (MMSH), respectively [1,9,12,13]. The perinatal mortality of 21.4% is keeping with 24.7% and 38.3% reported from Sokoto and Benin respectively but higher than that 6.3% reported from Ilorin [10,12,13]. The relatively low maternal and Perinatal mortality rates are at the expense of higher caesarean section rates, performed mainly by senior obstetric, paediatric and anaesthetic team and subsequent continued care at high dependency or intensive care units until they become stable [10].

Conclusion

Eclampsia remain a serious obstetric disorder. It is more among young unbooked primigravidas and associated with high operative interventions and significant maternal and Perinatal mortalities.

Recommendations

Provision of quality and accessible antenatal care services, while improving the emergency capability and intensive care services of most Hospitals for the care of eclamptic patients, are essential in reducing the incidence and associated foeto-maternal morbidities and mortality associated with it.

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