

Severe Preeclampsia and Eclampsia: A 3-Year Review in Barau Dikko Teaching Hospital Kaduna, Northwest Nigeria

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ABSTRACT

Background: Preeclampsia and Eclampsia are one of the leading causes of maternal mortality in sub-Saharan Africa. It is associated with increased maternal and perinatal morbidity and mortality. **Objectives:** To determine the prevalence of severe preeclampsia and Eclampsia in Barau Dikko Teaching Hospital, (BDTH) Kaduna. **Methods:** This is a retrospective study. The case notes of patients with severe preeclampsia and Eclampsia that were managed in this facility from 1st January, 2016 to 31st December, 2018 were retrieved and analyzed. The age, parity, booking status, gestational age at delivery and mode of delivery were extracted using a pro forma. The data was analyzed using SPSS, version 20. **Results:** There were 7,411 total number of deliveries with the period, out of which 133 (1.79%) had preeclampsia and 35(0.47%) had Eclampsia. Preeclampsia was highest within the age group of 30-39 (51.88%), while Eclampsia was highest within age group of 20-29 (57.14%). Primigravidae with preeclampsia were 57 (42.86%), and Eclampsia 18 (51.45%). Majority of patient with preeclampsia and Eclampsia were booked 118(88.72%) and 27 (77.14%) respectively. The gestational ages at delivery for preeclampsia and Eclampsia were both 37 weeks and above 55 (41.35%) and 13 (37.14) respectively. most of the patients were delivered by Caesarean section, preeclampsia 52 (39.09%), Eclampsia 17 (48.57%). **Conclusion:** The prevalence of preeclampsia and eclampsia was low in the study. There is need to increase surveillance, continuous and proper data keeping.

Keywords: Preeclampsia, Eclampsia, BDTH, Kaduna

INTRODUCTION

Hypertensive disorders complicate 5-10% of all pregnancies^[1,2]. Globally, the hypertensive disorder of pregnancy especially preeclampsia and Eclampsia make up one of the top three leading causes of maternal and perinatal morbidity and mortality^[3,4]. Severe preeclampsia

and Eclampsia has grave consequences for both maternal and neonatal health, associated with 50,000-100,000 annual deaths globally, as well as serious neonatal and fetal morbidity and mortality^[5]. The neonatal and fetal morbidity and mortality have predominance in low and middle income

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countries [6,7]. This is probably due to poverty with limited neonatal intensive care. The risk that a woman in the developing country will die of preeclampsia and Eclampsia is about 300 times that of the developed countries [8]. The high maternal morbidity and mortality in the developing countries has been ascribed to late referral to tertiary hospital, delay in hospitalization, lack of transport, unbooked status of patients, high parity, multiples seizures prior to presentation [9]. Findings from a recent multicenter study in Nigeria showed that pre-eclampsia/eclampsia is a leading cause of significant maternal morbidity and mortality in Nigeria [10].

MATERIALS AND METHODS

Barau Dikko Teaching is one the teaching hospitals in Kaduna state. It the only teaching hospital owned by the state and is located within the centre of the state capital. It receives referral from all the secondary health facilities owned by the state and also from private hospitals within and outside the metropolitan and also neighbouring states of Niger, Nasarawa, and Kano states.

The case notes of patients with severe preeclampsia and Eclampsia that were managed in this facility from 1st January, 2016 to 31st December, 2018 were retrieved and analyzed. The age, parity, booking status, gestational age at delivery, mode of delivery. The data was analyzed using SPSS, version 20.

RESULTS

There were 7,411 total number of deliveries within the period, out of which 133 (1.79%) had preeclampsia and 35(0.47%) had Eclampsia. Preeclampsia was highest within the age group of 30-39 (51.88%), while Eclampsia was highest within age group of 20-29 (57.14%). Primigravidae with preeclampsia were 57 (42.86%), and Eclampsia 18 (51.45%). Majority of patient with preeclampsia and Eclampsia were booked 118(88.72%) and 27(77.14%) respectively. The gestational ages at delivery for preeclampsia and Eclampsia were both 37 weeks and above

55(41.35%) and 13(37.14) respectively. Most of the patients were delivered by Caesarean section, preeclampsia 52(39.09%), Eclampsia 17(48.57%). Table 1 shows Preeclampsia was highest within the age group of 30-39 (51.88%), while Eclampsia was highest within age group of 20-29 (57.14%)

Table 1: Age group distribution

Age	Eclampsia		Preeclampsia		Total	
	Freq	%	Freq	%	Freq	%
<20	7	20.00	8	6.01	15	8.93
20-29	20	57.14	42	31.58	62	36.90
30-39	8	22.86	69	51.88	77	45.83
40 and Above	0	0.00	14	10.53	14	8.33
Grand Total	35	100	133	100	168	100.00

Preeclampsia and Eclampsia were highest in primigravidae 57 (42.86%), and Eclampsia 18 (51.45%) respectively. As shown in table 2.

Table 2: Parity distribution

Parity	Eclampsia		Preeclampsia		Total	
	Freq	%	Freq	%	Freq	%
0	18	51.43	57	42.86	75	44.64
1-3	12	34.28	47	35.34	59	35.12
4 and Above	5	14.28	29	21.80	34	20.24
Grand Total	35	100	133	100	168	100

Majority of the patients with preeclampsia and Eclampsia were booked 118(88.72%) and 27(77.14%) respectively as seen in table 3

Table 3: Booking Status

Booking status	Eclampsia		Preeclampsia		Total	
	Freq	%	Freq	%	Freq	%
Unknown	3	8.57	2	1.50	5	2.98
Booked	27	77.14	118	88.72	145	86.31
Unbooked	5	14.29	13	9.78	18	10.71
Grand Total	35	20.83	133	100	168	100.00

The gestational ages at delivery for preeclampsia and Eclampsia were both 37 weeks and above 55(41.35%) and 13(37.14) respectively. Table 4

Table 4: Gestational age distribution

Gestation Age (Weeks)	Eclampsia		Preeclampsia		Total	
	Freq	%	Freq	%	Freq	%
Missing	5	14.29	3	2.25	8	4.76
30-31	3	8.57	16	12.03	19	11.31
32-34	7	20.00	25	18.80	32	19.05
35-36	7	20.00	34	25.56	41	24.40
37 and Above	13	37.14	55	41.35	68	40.48
Grand Total	35	100	133	100	168	100.00

Most of the patients were delivered by Caesarean section, preeclampsia 52(39.09%), Eclampsia 17(48.57%). As shown in table 5.

Table 5: Mode of Delivery

Delivery method	Eclampsia		Preeclampsia		Total	
	Freq	%	Freq	%	Freq	%
Missing	1	2.86	9	6.77	10	5.95
C/Section	17	48.57	52	39.09	69	41.07
Induced	4	11.43	37	27.82	41	24.40
Induced	0	0.00	1	0.75	1	0.60
Spontaneous	11	31.43	33	28.81	44	26.19
Undelivered	2	5.71	1	0.75	3	1.79
Grand Total	35	100	133	100	168	100.00

DISCUSSION

Preeclampsia and Eclampsia remain a threat to maternal and fetal health with the greatest burden borne by developing countries^[3]. A good number of eclamptic convulsions occur unexpectedly and cannot be foreseen^[9]. This problem is made worse by the mysterious nature of its etiology and strategies to prevent its occurrence^[11].

During the period of review, there were 7,411 deliveries, out of which 133 (1.79%) had preeclampsia and 35(0.47%) had Eclampsia. This was lower than 3.6% and 0.6% of preeclampsia and eclampsia respectively found in a federal teaching hospital in Abakaliki, Southeast Nigeria^[3]. While the prevalence of preeclampsia was higher than 0.99% and Eclampsia lower than the 0.6% found in a similar study earlier reported by Ajah in the same centre^[12]. This is probably there was no enough data in the formal study compared the later study. The prevalence Eclampsia was also lower than 4.4% found in a tertiary centre in northern Nigeria^[13] and lower than 5.66% found in Maiduguri teaching hospital in northern Nigeria^[14]. The prevalence was also lower than 5.0% found in Kano, also in the northern Nigeria^[15]. The prevalence of preeclampsia in our study was higher than 0.8% but the prevalence of Eclampsia with lower than 1.6% found in a study in a rural hospital in Western Tanzania^[16]. The low prevalence in our study might likely be due to the that fact that we were a new teaching hospital probably some of the data were missing before the recent introduction of electronic medical records.

Preeclampsia was highest within the age group of

30-39 (51.88%), while Eclampsia was highest within age group of 20-29 (57.14%). This was similar to 20-34years found in the study in Abakaliki, Southern Nigeria^[3]. Eclampsia was also higher in the age group of 20-29years (60.9%) in a study in university of Abuja teaching hospital^[9]. This was also similar to in india where the majority were between 20-25years^[17].

Majority of the patients with Preeclampsia and Eclampsia were primigravidae 57 (42.86%), and Eclampsia 18 (51.45%) respectively. This was similar to 59.4% reported by Ajah^[12], while 49.3% reported in Enugu^[18]. Nulliparity as a separate risk factor for severe preeclampsia has been reported in a study by Saxena et al in india^[19]. This is not surprising because preeclampsia is theorized to be a disease of primigravidae^[3].

Majority of the patients with preeclampsia and Eclampsia were booked 118(88.72%) and 27(77.14%) respectively. This is similar to study reported in india were 78% of patient were booked^[2]. This is probably due to wide antenatal coverage and screening for these disorders. This is in contrast with other studies where majority of the patients were unbooked^[13,20,21].

The mean gestational age at delivery for both preeclampsia and Eclampsia were 37 weeks and above 68 (40.48%). This is consistent with other studies^[2,20,21,22]. This is in contrast to other studies where most of the patients were delivered preterm 68.18%^[23], 62.85%^[24] and 60.2% in Abakaliki^[3].

Most of the patients were delivered by Caesarean section, preeclampsia 52(39.09%), Eclampsia 17(48.57%). This was similar to 84.8% of eclamptics delivered by caesarean section in Gwagwalada^[9]. Similar to findings from Sagamu and Enugu were majority of patients were also delivered by caesarean section^[25,26]. There has been recommendation on the liberal use of misoprostol for induction of labour in eclamptics with unfavourable cervix in the events of delay at caesarean section^[27]. Severe preeclamptic and eclamptic should be delivered in a timely fashion

^[28]. Once patient is stabilized, the method of delivery should depend, in part on factors such as gestational age, fetal presentation and condition, presence of obstetrics indication for caesarean section and the findings on cervical examination ^[28,29].

CONCLUSION

The prevalence of preeclampsia and eclampsia was low compared to other studies. This is probably because we are a new Teaching Hospital. Data collection is still ongoing. Since pregnant women in developing countries are amongst the most vulnerable population in the world, community health care workers should be trained properly to provide timely care to women with hypertensive disorders of pregnancy. Preventive strategies should be applied to every pregnant woman since we cannot predict who will develop preeclampsia given the limitation in resources.

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