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Sociodemographic Characteristics and Clinical Presentation of Patient with Pre-Eclampsia and Eclampsia in Federal Teaching Hospital Katsina-A Four-Year Retrospective Study

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Abstract

Introduction: The prevalence of hypertensive disorders of pregnancy has remain high in Sub-Saharan Africa especially in Nigeria where it also doubled as the leading cause of maternal mortality. Preclampsia and Eclampsia (PE/E) are also one of the commonest obstetric emergencies seen in West-African sub-region. Despite the several interventions put in place to reduce the burden of the disease, patients still present late with little or no care thereby making all the interventions less effective. Clinical features of preeclampsia/Eclampsia are the basic features that have been demonstrated to aid easy identification and management of preeclamptic/eclamptic patients, which can help to reduce the complications of the disease.

Objectives: To determine the prevalence, the associated clinical presentation and the socio-demographic features of seen in patients diagnosed with Preeclampsia/Eclampsia in our facility

Methods: This was a retrospective study of patient with preeclampsia and eclampsia managed in FTH Katsina between 1st January 2020 and 31st December 2023. Medical records of all women managed for preeclampsia and eclmapsia during the study period were retrieved. Variables related to their socio-demographic characteristics, and clinical presentations were extracted using a proforma. Additionally, the total number of deliveries occurring during the period was obtained. The information obtained was analysed using SPSS version 21. Tables and figures were used to display the results.

Results: A total of 9320 deliveries were recorded during the study period, of which 220 were women managed for PE/E giving a prevalence of 2.4%. Preeclampsia was diagnosed in 79 cases (0.9%) and eclampsia in 141(1.5%). Patients mostly affected were between the ages of 20 to 40 years. Largest populations of the patients were unbooked (53.2%), Primigravida (59.5%) and had no formal education (48.7%). Also, majority of the patients were Muslims (92.7%) living in rural areas (62.3%). About 59.5% of them present at gestational age between 28 to 36 weeks (59.5%). Headache was the commonest presenting complaints (46.4%) while 11.8% of the patients with eclampsia presented with loss of unconsciousness. Majority (42.3%) of the patient presented with severe form of hypertension. Patients with pre-eclampsia were mostly booked for antenatal compared to eclamptic patient that were unbooked (P <0.001). Also, majority of patient with eclampsia are from rural areas as against large proportion of the pre-eclamptic patient that resides in urban region.

Conclusion: The prevalence of preeclampsia/eclampsia in this study was lower than reported data within the the country, there is also association between pramigravidity, lack of antenatal care and PE/E. Patient with Eclampsia were mostly from the rural area and with no formal education.

Keywords: preeclampsia; eclampsia; socio-demographic factor; clinical features

Introduction

Hypertensive disorders of pregnancy (HDP) are estimated to complicate about 2-10% of pregnancies with increasing incidence globally, it is one of the top three leading causes of maternal and perinatal mortality [1,2]. They are also the leading cause of maternal mortality in Nigeria [3]. They accounted for about 18% of all maternal deaths worldwide, with about 62,000 –77,000 maternal deaths per year. Hypertensive disorders of pregnancy are divided into four categories which are chronic (pre-existing) hypertension, gestational hypertension or pregnancy induced hypertension (PIH), pre-eclampsia/eclampsia and chronic hypertension with super-imposed preeclampsia [4]. Pre-eclampsia is the occurrence of hypertension and significant proteinuria after 20 weeks of gestation, it is a progressive disease that progresses to eclampsia without intervention [5]. Eclampsia is one of the commonest obstetric emergencies seen in West-African sub-region. It is defined as the occurrence of convulsions or fits in a woman with signs and symptoms of preeclampsia in the absence of underlying neurologic disease [6].

The incidence of preeclampsia and eclampsia (PE/E) varies from one part of the world to another. There are also regional differences in the prevalence and mortality of PE/E. The incidence however remains high in the developing countries like Nigeria, because of poor antenatal care attendance especially in the rural areas [6,7]. Women in low-resource countries are at a higher risk of developing preeclampsia compared with those in high-resource countries [8]. Recent studies in sub-Saharan Africa identified risk factors for pre-eclampsia to include primiparity and multiple parity (more than 4), low plasma vitamin C, low levels of vitamin D, chronic hypertension, family history of hypertension, as well as low levels of formal education [9]. The most prevalent antecedent signs and symptoms, of preeclampsia and eclampsia in some proportions of women were found in a systematic review of several researches that included over 21,000 eclamptic women from 26 different countries. The signs/symptoms include consistent frontal or occipital headaches (66%), hypertension (75%), visual abnormalities (27%), right upper quadrant or epigastric discomfort (25%), and about 25% of the patients were asymptomatic [10].

Objectives

- To determine the prevalence of Preeclampsia/Eclampsia in our facility.
- To ascertain the socio-demographic characteristics of the patients presenting with Preeclampsia / Eclampsia.
- To determine the clinical presentation among these patients.

Materials and Methods

This was a four-year retrospective study on the socio-demographic characteristics and clinical presentation of patient with preeclampsia and eclampsia managed in FTH Katsina between 1st January 2020 and 31st December 2023. The study populations were women that were managed for preeclampsia and eclampsia at FTH Katsina during the study period. Medical records of all women managed for PE/E during the study period were retrieved. Variables related to their socio-demographic characteristics, and clinical presentations were extracted using a proforma. All pregnant women presenting to the Obstetrics and Gynaecology unit of the FTH Katsina during the study period and managed for Preeclampsia and eclampsia were included into the study. Women with an incomplete data were excluded from the study. Those with atypical presentation were also not included. The information obtained was analysed using SPSS version 21. Tables and figures were used to display the results. Chi square test was used to test the associations. Ethical approval was obtained from the FTH Katsina Health Research and Ethics Committee.

Results

During the 4-year period of the study, FTH Katsina recorded a total of 9320 deliveries of which 220 were women managed for PE/E thereby giving a total prevalence of 2.4%. Preeclampsia was diagnosed in 79 of cases (0.9%) while eclampsia was the diagnosis in 141(1.5%). The socio-demographic characteristics of the patients, is shown in table1. The age range of 20 to 40 years represent majority of the cases of PE/E (55%). Primigravida have the highest number (59.5%), majority of them were unbooked (53.2%) with no formal education (48.7%). Majority of the patients were Muslims (92.7%) living in rural areas (62.3%). About 59.5% of them present at gestational age between 28 to 36 weeks (59.5%). Headache was the commonest presenting complaints among these patients (46.4%), while few of them presented with epigastric pain and visual symptoms. About 11.8% of the patients especially eclamptic had loss of consciousness. Majority of the patient presented with severe form of hypertension. The comparison between pre-eclampsia and eclampsia in table 4 shows that majority of the patient with PE are booked, with formal education and residing in the urban region of the state. While the eclmapsiawere majorly unbooked, with no formal education and residing in rural regions.

Table 1: Socio-demographic characteristics

Variable	Frequency	Percentage (%)
Age group		
< 20	91	41.4
20 to 40	121	55
> 40	8	3.6
Total	220	100
Level of education		

No formal education	107	48.6
Primary	48	21.8
Secondary	47	21.4
Tertiary	18	8.2
Total	220	100
Residential address		
Urban	83	37.7
Rural	137	62.3
Total	220	100
Religion		
Islam	204	92.7
Christian	16	7.3
Total	220	100

Table 2: Clinical characteristics

Variables	Frequency	Percentages
Booking status		
Booked	103	46.8
Unbooked	117	53.2
Total	220	100
Parity		
0	131	59.5
01-Apr	63	28.6
≥5	26	11.8
Total	220	100
Gestational age		
<28Weeks	20	9.1
28-36Weeks	131	59.5
≥37Weeks	69	31.4
Total	220	100
Clinical Features		
Headache	102	46.4
Epigastric Pain	41	18.6
Blurring of Vision	34	15
Altered sensorium	26	11.6
Blood pressure		
Mild	46	20.9
Moderate	81	36.8
Severe	93	42.3
Total	220	100

Table 3: comparison of socio demographic characteristics between pre-eclampsia and eclampsia

Variables	Pre-eclampsia(n=79)	Eclampsia(n=141)	Test	P-value
Booking status	freq (%)	freq (%)		
Booked	56(70.9)	47(33.3)	$\chi 2 = 47.6$	< 0.001
Unbooked	23(29.1)	94(66.7)		
Level of education				
No formal education	21(26.6)	86 (61.0)		
Primary	13(16.4)	35(24.8)		
Secondary	29(36.7)	18(12.8)		
Tertiary	16(20.3)	2(1.4)		
Residential address				
Urban	57(72.2)	26(18.4)	$\chi 2 = 15.0$	<0.001
Rural	22(27.8)	115(81.6)		

Table 4: clinical comparison between pre-eclampsia and eclampsia

Variable	Pre-eclampsia		Eclampsia	
Blood pressure	frequency	percentage	frequency	percentage
Mild	4	8.7	42	91.3
Moderate	24	29.6	57	70.3
Severe	51	54.8	42	45.2
Headache	44	43.1	28	56.9
Epigastric pain	29	70.7	12	29.3
Altered sensorium	1	3.8	25	96.2

Discussion

The combine prevalence of Preeclampsia/Eclampsia observed in this study was 2.4%. While the prevalence of Preeclampsia was 0.9%, that of Eclampsia was 1.5%. This combine prevalence was lower than prevalence of 3.6% seen a study done in Abuja North-Central part part of the country [11] and 4.0% seen in Abakaliki South-Eastern part of the country [1]. The prevalence of Preeclampsia seen in this study was lower than 1.67% in Sokoto in the same region of the country [3], this prevalence is however comparable to the finding of 0.74% by Thapa and Jha in Nepal, South Asia [12]. The prevalence of Eclampsia in our study was 1.5% which comparable to 1.6% seen in a study carried out in Lagos [13]. However, it was higher than 0.97% finding in another study carried out sagamu southwest Nigeria [14]. Overall, however, these figures are higher than figures from the developed world where there is higher attendance of antenatal clinics and where special management protocols have been employed [15]. The lack of ANC attendance in developing countries like ours is clearly reflected in this study where 53.2% of patients were unbooked. The distributions of the patients by age revealed that more than half of the patients (55%) were in the age range 20-39 years, many women are having their first pregnancies in this age group and may suggest that the various campaigns against early marriage and advocating for girl child education and empowerment by various nongovernmental organization have started yielding fruits. which similar to a study in Nnewi [10]. Primigravidity and lack of antenatal care form the majority of the patients with PE/E in this study, though this was in contrast with the report by Birhanu Jikamo et-al [16] that shows higher incidence of the disease in multigravida, many other studies however showed that PE/E is higher among primigravida [3,17,18]. It is believed that immune maladaptation of the primigravidae is responsible for the higher incidence of PE/E in this group [19,20]. Most of the patients are from the rural areas with no formal education, this might be due to low socioeconomic status of the residents of the rural areas, and poor health seeking behavior, more than half of the patients presented in third trimester, this comparable with the findings from Nnewi [10], Sokoto [3] and Abakaliki [1]. it is also consistent with the pathophysiology and the timing of clinical manifestation of the disease. In this study, the most typical clinical manifestations seen were hypertension, headaches, blurred vision, and altered sensorium. This is consistent with the findings that showed headaches, which are most usually described as the most common symptom in about 60% to 70% of women [21]. These are the prodromal signs of impending eclampsia that are most frequently reported before convulsions start. This calls for additional assessment and management and suggests that regularly monitoring pregnant women with these symptoms may provide an early signal for eclampsia [14]. In this study, all women had elevated blood pressure ranging from mild to severe systolic or diastolic blood pressure. However, previous studies had shown that approximately 16% and 38% of eclamptic patients were normotensive in the United Kingdom and the United States, respectively.

Conclusion

The prevalence of preeclampsia/eclampsia in this study was lower than reported data within the the country. This study also demonstrated association between pramigravidity, lack of antenatal care and PE/E. Patient with Eclampsia are more likely to be from a rural settlement with no formal education.

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