



Patients' Opinion on Availability and Price of Drugs in the General Outpatient Department of a Teaching Hospital, Southeast Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. Author EON conceived the study, wrote the introduction and discussion sections of the manuscript. While author OHC wrote the results section and also helped in the analysis of the results. Author ETU wrote the material and methods section as well as the conclusion. Authors OHC and ETU jointly conducted the analysis of the results. All authors read and approved the final manuscript.

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ABSTRACT

Aim: Patients perception of health care delivery system can be expressed as an opinion. The aim of the study is to assess patients' opinion on availability and cost of drugs in the General Outpatient Department of a state teaching hospital in Nigeria.

Study Design: The study was of descriptive, cross-sectional design.

Place and Duration of Study: This study was conducted at the General Outpatient department, Enugu State University Teaching Hospital, Enugu state, Nigeria. It was conducted between August 1st and October 31st, 2017.

Methodology: Information was collected from 313 patients exiting the Pharmacy unit, using structured interviewer-administered questionnaire. Statistical Package for Social Sciences (SPSS)

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was used for analysis, and the results expressed as frequencies and percentages. Education, sex, and age patterns of the responses were looked at.

Results: A total of 313 patients responded, 131 (41.9%) males and 182 (58.1%) females. Out of these, 91 (29.0%) were of the opinion that drugs were reasonably or completely available, while 184(58.8%) reported that it was either few or completely unavailable; with 38(12.1%) having no opinion on availability. With respect to price; 198(63.3%) believed that price is affordable or very affordable, while 78(24.9%) thought it was exorbitant or very exorbitant; with 37(11.8%) being uncertain about the price of drugs.

Conclusions: In LMIC, inadequate stock of drugs in health facilities is a common occurrence. More than half of patients that presented in the study health facility were of the opinion that only few prescribed drugs, or completely none were available. However, most of them believed that the price of drugs was affordable or very affordable. It is crucial that governments and health care managers redouble their efforts towards provision of drugs, if meaningful progress will be made in the area of global Universal Health Coverage.

Keywords: Patient; opinion; availability; price; drug.

1. INTRODUCTION

Patients' perception of health care delivery system can be expressed as an opinion. This perception, in turn is an expression of the patient's satisfaction; which is accepted as indicating quality of health care [1]. Generally, an individual may see "satisfaction" as the level of congruency between his/her expectation of ideal care, and the perception of the care received [2]. The satisfaction of patient with services received from the hospital is thus a reflection of how far those services went, in meeting his/her expectations. As it relates to the availability and cost of drugs in a hospital, patients' opinion on availability and price of drugs will certainly give an insight into the acceptance of those aspects of pharmacy services provided by the hospital. High cost of medicines and limited availability are two barriers that can prevent access to desired treatment for diseases [3].

In the year 2004, it was documented that about 20 - 60% of money spent on health care delivery in developing countries, was spent on procurement of drugs [4], with as high as 90% of the people buying medicines through out-of-pocket payments [5]. About 33% of the world population lack meaningful access to needed medicines, with the situation being worse in the poorest countries of Africa and Asia, where up to 50% of the population do not have access to required medicines [6]. This contributed to the manifestation of as high as 90% of the global disease burden being found in Low and Middle Income countries, while these countries account for only 12% of global spending on health [7]. By the year 2004, in developing countries, medicines account for about 25–70% of overall

healthcare expenditure, while it is less than 10% in most high-income countries [4,6].

Patients being reasonably satisfied with the availability of drugs and unhappy with the cost; as demonstrated in a study in a tertiary hospital in rural India where 72% were happy with the availability while up to 43.3% were unhappy with the cost, could ultimately hamper access to essential medication [8]. Since the year 2013 when the WHO, World Health Report advocated for Universal Health Coverage (UHC) policy objective; low and middle income countries currently aspire for this. Universal Health Coverage is defined as "ensuring that all people can use the health promotion, preventive, curative, rehabilitative, and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship" [9]. To ensure affordability of drugs, WHO recommended that National policies, medicine pricing and procurement strategies are needed [6].

It was however noted by some researchers that health care managers in low income countries largely do not pay attention to perceptions about health care systems [10]. The resultant effect is that many of these health care facilities do not make enough efforts aimed at satisfying their patients. It was also documented that in any hospital, the Outpatient Department is looked at as the shop window of that health facility [11]. Thus conducting this research in the Outpatient department will reasonably give an idea of what might be happening in the other departments of that public hospital. Moreover, overwhelming opinion in Nigeria is that services provided at the

public health facilities are very poor [12]. Thus, findings from this research, which main objective is to assess patients opinion on availability and price of drugs in the general outpatient department of a teaching hospital, will provide vital information that could be used in planning better health care services that will enhance universal health coverage.

2. MATERIALS AND METHODS

2.1 Study Area

Enugu State is made up of seventeen Local Government Areas, and is one of the thirty six states in Nigeria [13]. The state has four hundred and thirty six public health facilities, with four of them being tertiary health care facilities. One of those tertiary health facilities is owned by the Enugu state government, and it was our study site [14]. This facility is located in the heart of the largest urban city in the state, and the study was conducted in the General Outpatient Department (GOPD).

2.2 Study Design

The study was of descriptive, cross-sectional design. A cross section of patients that presented for care at the GOPD was interviewed.

2.3 Study Population

Patients that present for treatment at the GOPD of the Enugu State University Teaching hospital, between the months of August and October, 2017. Patients who were very ill were excluded from this study, and only patients who were 18 years and above were allowed to come to the GOPD for treatment.

2.4 Sampling Instrument

Structured interviewer-administered questionnaire was used for the study. The questionnaire sought to find out the respondents' opinion on the availability of prescribed drugs in terms of "completely unavailable", "Few available", "Uncertain", "Reasonably available" and "Completely available". Respondents were also asked to rate the price of the drugs in terms of "Very exorbitant", "Exorbitant", "Uncertain", "Affordable", and "Very affordable".

2.5 Sample Selection and Data Collection

The authors first agreed that sample size of randomly selected three hundred (300) respondents would be sufficient to provide reliable information on the opinion of the patients

that attend the GOPD of the Enugu State University Teaching Hospital. The next step was to recruit a research assistant that could comfortably interview thirteen patients in a day, as they just finished being attended to at the GOPD Pharmacy unit. This research assistant was only available for Tuesdays and Thursdays in a week. The sample size chosen was also based on the assumption that it would guarantee reasonable validity. Thirteen respondents were selected through systematic sampling method, and interviewed as they depart from the GOPD Pharmacy unit each Tuesday and Thursday. This process was continued until three hundred and thirteen (313) respondents were interviewed. Data collection lasted from August 1st, to October 31st, 2017.

2.6 Data Analysis

SPSS version 21.0 for windows was used for the analysis, and findings expressed in percentages of those with the suggested opinion items. Those that selected "reasonably available or completely available" were grouped as having positive opinion, while those that selected "completely unavailable or few available" were grouped as having negative opinion. Also in the case of cost of prescribed drugs, respondents that had the opinion that price of prescribed drugs were affordable or very affordable were considered as having positive opinion, while those with the opinion that the price was expensive or very expensive were considered as having negative opinion.

3. RESULTS

A total of 313 patients were interviewed, and analysis of their results revealed as follows:

3.1 Socio-Demographic Characteristics

The highest number of respondents were aged 30 to 39 years (27.8%), closely followed by those aged 20 to 29 years (26.5%). Only 19(6.1%) were aged 19 years and below, and 60 years and above respectively. Majority of the respondents were females (58.1%), Igbos by tribe (86.9%), married (66.8%), Christians by religion (93.6%). The highest educational level for most was tertiary (48.9%), while most of them also reported their occupation as businessmen/women (22.7%), closely followed by civil servants (21.7%). Businessman/woman was defined as self employed economic activity that does not belong to any classical profession, but

provides at least middle income group standard of living. Detailed information on the socio-demographic variables of the respondents are shown in Table 1.

Table 1. Socio-demographic characteristics

Variable	N (313)	% (100)
Age at last birthday		
19 years and above	19	6.1
20 - 29	83	26.5
30 - 39	87	27.8
40 - 49	62	19.8
50 - 59	43	13.7
60 - 69	14	4.5
70 and above	5	1.6
Sex		
Male	131	41.9
Female	182	58.1
Tribe		
Igbo	272	86.9
Yoruba	22	7.0
Hausa	7	2.2
Others	12	3.8
Marital Status		
Married	209	66.8
Single	84	26.8
Divorced/Separated	6	1.9
Widowed	14	4.5
Religion		
Christian	293	93.6
Muslim	13	4.2
Traditional religion	7	2.2
Educational Status		
No formal education	40	12.8
Primary level	21	6.7
Secondary level	63	20.1
Tertiary level	153	48.9
Postgraduate level	36	11.5
Occupation		
Unemployed/applicant	13	4.2
Farmer	25	8.0
Teacher	42	13.4
Businessman/woman	71	22.7
Petty trader	19	6.1
Civil servant	68	21.7
Retiree	13	4.2
Student	52	16.6
Health worker	7	2.2
Legal practitioner	1	0.3
Engineers	2	0.6

3.2 Opinion on Availability of Prescribed Drugs among Different Educational Level Groups

Overall, 29% of the respondents had a positive opinion on the availability of the prescribed drugs, while 58.8% had a negative opinion, with 51.1% stating that only few of the prescribed drugs were available. Few were uncertain about

expressing an opinion (12.1%). Highest percentage of positive opinion was recorded among those with tertiary level education (34%), while 82.5% of those with no formal education had negative opinion. Among those with negative opinion, about half of the respondents (51.1%) were of the opinion that only few drugs were available, while 7.7% of all respondents thought that the drugs were completely unavailable. Few respondents (10.5%) gave an opinion of prescribed drugs being completely available, with 18.5% believing that the drugs were reasonably available.

3.3 Opinion on Availability of Prescribed Drugs among Different Sexes

Slightly more females (29.7%) gave a positive opinion when compared to the males (28.2%). Equal percentage of males and females (58.8%) had negative opinion about availability of prescribed drugs. Slightly more males (13%) than females (11.5%) are however uncertain.

3.4 Opinion on Availability of Prescribed Drugs among Different Age Groups

Equal percentage of respondents that were 19 years and less (36.9%) were of positive and negative opinion about the availability of prescribed drugs. They expressed the highest positive opinion on the availability of drugs. They were followed by those that were 20 to 29 (36.2%), 30 to 39 (34.4%), 50 to 59 (21%), 40 to 49 (19.4%) and 60 to 69 (14.1% in that order. Almost all those that were 70 years and above [4 (80%)] out of the 5 respondents were of the opinion that only few drugs were available. Most respondents aged 60 to 69 years (78.5%) had negative opinion about the availability of drugs. They were followed by those 40 to 49 years (72.5%), 50 to 59 (65.1%), 30 to 39 years (54%), and 20 to 29 years (50.6%) in that order.

3.5 Opinion of Different Educational Level Groups on Price of Drugs Purchased after Being Seen by a Doctor

Overall, 63.3% of respondents were of the opinion that prices of drugs were “Affordable” or “Very affordable”, while 24.9% were of the opinion that prices were “Exorbitant” or “Very Exorbitant”; 11.8% were uncertain on how to rate prices of drugs purchased. Highest percentage of positive opinion with respect to the prices of the drugs being affordable was recorded among

those with no formal education (72%), while those with primary education had highest negative opinion (28.6%). Only 2.6% of all respondents were of the opinion that the prices of the drugs were very affordable, while 3.8% had the opinion that the prices were very exorbitant.

3.6 Opinion of Different Sexes on Prices of Drugs Purchased after Being Seen by a Doctor

More percentage of female respondents (67.0%) were of the positive opinion that prices of drugs were "Affordable" (63.2%) or "Very affordable" (3.8%), while 58.1% of male respondents were of the same positive opinion (Affordable = 57.3%, and Very affordable = 0.8%). On the other hand, more percentage of male respondents (27.4%) expressed the negative opinion that prices were "Exorbitant" (22.1%) or "Very Exorbitant" (5.3%). Only 23.1% of female respondents had the negative opinion of prices of drugs being "Exorbitant" (20.4%) or "Very Exorbitant" (2.7%).

3.7 Opinion of Different Age Groups on Prices of Drugs Purchased after Being Seen by a Doctor

The highest percentage of respondents that had a positive opinion that the prices of the drugs were affordable belong to 60 – 69 years age group (78.6%), while those with highest percentage of negative opinion that the prices were exorbitant belong to 70 years and above age group (40.0%). With 72.1% (Affordable = 67.4%, and Very Affordable = 4.7%) positive opinion score, respondents aged 50 – 59 years were next to those aged 60 – 69 years in considering the prices of drugs good; while with 30.1% (Exorbitant = 24.1%, and Very Exorbitant = 6.0%), those aged 20 – 29 years were next to the 70 years and above group in considering prices of drugs not good.

3.8 Opinion of Different Social Age Groups on Prices of Drugs Purchased after Being Seen by a Doctor

Respondents aged 29 years and below ranked highest among those that were of the opinion that prices of drugs prescribed were very expensive or expensive (29.4%), while 23.0%, and 21.1% of those aged 30 to 59 years, and 60 years and above respectively had the same opinion.

4. DISCUSSION

Opinion of patients that seek medical services in any health facility, on any aspect of the services provided by the facility; could imply their level of satisfaction with those services. Rating the opinion in ways that demonstrate the strength of the opinion expressed, further sheds light on the degree of satisfaction of the respondent. This concept was primarily the approach used in this study.

In some low and middle income countries, purchase of medicines could account for up to 60% of the spending on health care, and as high as 90% of the population buy medicines through out-of-pocket expenditure [15]. Availability and affordability of medicine are said to be essential aspects of five dimensions of access to medicines in health systems. The other three dimensions are geographical accessibility, acceptability and quality [16]. It is estimated that about 2 billion people in the world do not have access to essential medicines [17]. This lack of access is mainly as a result of poor availability, and inability of patients to afford the prices of these essential drugs.

Since it has been found that satisfaction of patients with health services is influenced by availability of medicines [18]; the low percentage of respondents with positive opinion (29%) on the availability of prescribed drugs in this study could imply that most of them were largely not satisfied with the health services (Table 2). The very negative opinion on availability of prescribed medication in this facility is indeed worrisome when compared to findings in another study in the same country, (90%) [19], and India (72%) [8]. Findings in this study, revealed that respondents with tertiary education qualification ranked highest among those that had positive opinion on availability of drugs, while those with no formal education ranked lowest (Table 2). This suggests that level of education could influence perception of availability of drugs in a health facility. Higher level of education could improve one's capacity to correctly rate availability of drugs in a health facility. This thinking however requires further research work. Gender however appeared not to have been a factor in the respondents rating of availability of drugs. Both male and female gender had similar opinion on availability of prescribed drugs (Table 3). Respondents aged 39 years and below, expressing more positive opinion on the availability of prescribed drugs could be as

result of the type, and class of drugs usually prescribed for them (Table 4). This in turn is a reflection of the type of disease conditions that usually afflict different age groups. Non-Communicable Diseases and certain chronic conditions such as cardiovascular diseases, diabetes mellitus, malignancies, etc are found predominantly among the older age group [20]. The drugs used for these disease conditions are probably more scarce than the “over the counter” drugs routinely prescribed for febrile illnesses and injuries found among the younger age group.

It is a common knowledge that prices of drugs significantly affect access [21]. In this study, majority of the respondents (63.3%) having the opinion that prescribed drugs were affordable or very affordable, implied that at least more than half of patients that use the outpatient department of the study health facility had financial access to the prescribed drugs that were available (Table 5). This is a lot better than the finding in a similar study in this same country, where as high as 78% of respondents consider the prices of prescribed drugs expensive [19], while only 24.9% of respondents in this study shared the same opinion. There was no clear pattern that suggested that educational level of respondents had any influence on the opinion expressed as to the affordability of prescribed drugs (Table 5). While those without formal education (72%) predominantly make up respondents that believe that prices are affordable or very affordable, those with only primary education recorded the highest in the response that prices are exorbitant. Persons without formal education leading in having the opinion that the prices of the drugs are affordable and very affordable is a bit curious, because that implies that they have higher purchasing power.

However, education is commonly said to be an investment in human capital, and generally those with higher educational attainment earn more than those with lower educational attainment [22]. With respect to the gender distribution of respondents on the issue of drug prices, there were no marked differences in the opinions expressed. Slightly more of the females (67%), than the males (58.1%) responded that the prices were affordable or very affordable; while slightly more males (27.4%) believed that the prices were expensive, or very expensive, as against 23.1% of females that shared the same opinion (Table 6). Irrespective of gender, adults within the same social class probably shared similar opinion with respect to financial access to prescribed medication. Further research work is required to throw more light into this line of thought. Respondents who were 29 years and below, were probably made up of students and the unemployed. It is therefore not surprising that the highest percentage negative opinion on the price of drugs came from them (29.4%), followed by the predominantly working class (30 to 59 years) who recorded 23.0%, and finally those that belong to the retirement age (60 years and above), with a negative response of 21.1%. Those that were above the retirement age of 60 years, having the highest percentage score with respect to the prices being affordable or very affordable (73.7%) implied that they had higher financial resources that they could spend on drugs. At that age, people usually could be under the care of their children, who would commonly give them enough money for their medication (Table 8). Students or the unemployed, who usually are dependent on their parents or guardians for sustenance, would usually be more sensitive to drug price increase. Again, this assertion requires further research work.

Table 2. Opinion on availability of prescribed drugs among different educational level groups

Educational Status	Completely Unavailable	Few Available	Uncertain	Reasonably Available	Completely Available	Total
No formal education	7 (17.5%)	26 (65.0%)	3 (7.5%)	3 (7.5%)	1 (2.5%)	40 (100%)
Primary level	2 (9.5%)	14 (66.7%)	1 (4.8%)	4 (19.0%)	0 (0.0%)	21 (100%)
Secondary level	6 (9.5%)	31 (49.2%)	8 (12.7%)	12 (19.0%)	6 (9.5%)	63 (100%)
Tertiary level	8 (5.2%)	73 (47.7%)	20 (13.1%)	30 (19.6%)	22 (14.4%)	153 (100%)
Postgraduate level	1 (2.8%)	16 (44.4%)	6 (16.7%)	9 (25.0%)	4 (11.1%)	36 (100%)
Total	24 (7.7%)	160 (51.1%)	38 (12.1%)	58 (18.5%)	33 (10.5%)	313 (100%)

Table 3. Opinion on availability of prescribed drugs among different sexes

Sex	Completely unavailable	Few available	Uncertain	Reasonably available	Completely available	Total
Male	12 (9.2%)	65 (49.6%)	17 (13.0%)	26 (19.8%)	11 (8.4%)	131 (100%)
Female	12 (6.6%)	95 (52.2%)	21 (11.5%)	32 (17.6%)	22 (12.1%)	182 (100%)
Total	24 (7.7%)	160 (51.1%)	38 (12.1%)	58 (18.5%)	33 (10.5%)	313 (100%)

Table 4. Opinion on availability of prescribed drugs among different age groups

Age at last birthday	Completely Unavailable	Few Available	Uncertain	Reasonably Available	Completely Available	Total
19 and less	1 (5.3%)	6 (31.6%)	5 (26.3%)	6 (31.6%)	1 (5.3%)	19 (100%)
20 - 29	5 (6.0%)	37 (44.6%)	11 (13.3%)	17 (20.5%)	13 (15.7%)	83 (100%)
30 - 39	7 (8.0%)	40 (46.0%)	10 (11.5%)	23 (26.4%)	7 (8.0%)	87 (100%)
40 - 49	3 (4.8%)	42 (67.7%)	5 (8.1%)	4 (6.5%)	8 (12.9%)	62 (100%)
50 - 59	7 (16.3%)	21 (48.8%)	6 (14.0%)	6 (14.0%)	3 (7.0%)	43 (100%)
60 - 69	1 (7.1%)	10 (71.4%)	1 (7.1%)	1 (7.1%)	1 (7.1%)	14 (100%)
70 and above	0 (0.0%)	4 (80.0%)	0 (0.0%)	1 (20.0%)	0 (0.0%)	5 (100%)
Total	24 (7.7%)	160 (51.1%)	38 (12.1%)	58 (18.5%)	33 (10.5%)	313 (100%)

Table 5. Opinion of different educational level groups on price of drugs purchased after being seen by a doctor

Educational Status	Very Expensive	Expensive	Uncertain	Affordable	Very affordable	Total
No formal education	1 (2.5%)	9 (22.5%)	1 (2.5%)	29 (72.5%)	0 (0.0%)	40 (100%)
Primary level	0 (0.0%)	6 (28.6%)	1 (2.5%)	14 (66.7%)	0 (0.0%)	21 (100%)
Secondary level	4 (6.3%)	8 (12.7%)	10 (15.9%)	37 (58.7%)	4 (6.3%)	63 (100%)
Tertiary level	6 (3.9%)	37 (24.2%)	19 (12.4%)	88 (57.5%)	3 (2.0%)	153 (100%)
Postgraduate level	1 (2.8%)	6 (16.7%)	6 (16.7%)	22 (61.1%)	1 (2.8%)	36 (100%)
Total	12 (3.8%)	66 (21.1%)	37 (11.8%)	190 (60.7%)	8 (2.6%)	313 (100%)

Table 6. Opinion of different sexes on prices of drugs purchased after being seen by a doctor

Sex	Very Expensive	Expensive	Uncertain	Affordable	Very affordable	Total
Male	7 (5.3%)	29 (22.1%)	19 (14.5%)	75 (57.3%)	1 (0.8%)	131 (100%)
Female	5 (2.7%)	37 (20.4%)	18 (9.9%)	115 (63.2%)	7 (3.8%)	182 (100%)
Total	12 (3.8%)	66 (21.1%)	37 (11.8%)	190 (60.7%)	8 (2.6%)	313 (100%)

Table 7. Opinion of different age groups on prices of drugs purchased after being seen by a doctor

Age at last birthday	Very Expensive	Expensive	Uncertain	Affordable	Very affordable	Total
< 19	2 (10.5%)	3 (15.8%)	5 (26.3%)	7 (36.8%)	2 (10.5%)	19 (100%)
20 - 29	5 (6.0%)	20 (24.1%)	13 (15.7%)	43 (51.8%)	2 (2.4%)	83 (100%)
30 - 39	2 (2.3%)	22 (25.3%)	6 (6.9%)	55 (63.2%)	2 (2.3%)	87 (100%)
40 - 49	3 (4.8%)	8 (12.9%)	9 (14.5%)	42 (67.7%)	0 (0.0%)	62 (100%)
50 - 59	0 (0.0%)	9 (20.9%)	3 (7.0%)	29 (67.4%)	2 (4.7%)	43 (100%)
60 - 69	0 (0.0%)	2 (14.3%)	1 (7.1%)	11 (78.6%)	0 (0.0%)	14 (100%)
70 and above	0 (0.0%)	2 (40.0%)	0 (0.0%)	3 (69.0%)	0 (0.0%)	5 (100%)
Total	12 (3.8%)	66 (21.1%)	37 (11.8%)	190 (60.7%)	8 (2.6%)	313 (100%)

Table 8. Opinion of different social age groups on prices of drugs purchased after being seen by a doctor

Age at last birthday	Very Expensive/Expensive	Uncertain	Affordable/Very Affordable	Total
29 and below	30(29.4%)	18(17.6%)	54(53.0%)	102 (100%)
30 – 59	44(23.0%)	18(9.4%)	130(68.0%)	192 (100%)
60 and above	4(21.1%)	1(5.3%)	14(73.7%)	19 (100%)
Total	12 (3.8%)	37 (11.8%)	190 (60.7%)	313 (100%)

5. CONCLUSION

Patients who access health services from the study health facility were mostly of the opinion that only few prescribed drugs were available; and respondents with tertiary level of education ranked highest among the few with positive opinion on availability of prescribed drugs. Older patients expressing more negative opinion on prescribed drugs availability, could be a pointer to the scarcity of drugs prescribed for the class of illness such as chronic Non-communicable diseases that afflict persons in that age group. Most of the patients having the opinion that prescribed drugs are affordable or very affordable implied that they had the financial power to access the drugs. Majority of those with this positive opinion had tertiary level of education, and also belonged to the older age group. It is crucial that governments and health care managers redouble their efforts towards provision of drugs, if meaning ful progress will be made in the area of global Universal Health Coverage.

CONSENT

Informed consent was obtained from all the participants prior to administering the questionnaire. Only patients that freely gave consent for participation in the study was interviewed

ETHICAL APPROVAL

Ethical clearance for this study was obtained from the Enugu State University Teaching Hospital Ethical Research committee.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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