Original Research Article

Outpatients' Satisfaction with Pharmacists Medication Counselling in a Nigerian Teaching Hospital

Abstract

Background: Pharmacists, through effective verbal and written communication, play significant roles in helping patients receive proper drug counseling, which improves patients' health outcomes. A critical evaluation of the literature showed that few studies have been done to assess patients' satisfaction with pharmacists' drug counseling in Nigerian hospitals.

Objective: The purpose of this study is to ascertain the degree of outpatients' satisfaction with pharmacist medication counseling in a teaching hospital in Nigeria.

Method: This was a cross-sectional study using a semi-structured questionnaire among outpatients visiting 5 clinics in the hospital. The questionnaire was interviewer administered. Descriptive statistical analyses were used to summarize the findings. Chi-square test was used to determine association between respondents' sociodemographic variables and their satisfaction towards pharmacists' medication counseling. The predictors of satisfaction towards pharmacists' medication counseling was determined using Logistic regression.

Result: A total of 353 outpatients participated in the study. More female respondents (58.6%) than male respondents (41.4%), mostly within the age range of 18-28 years (36.3) participated in this study. The bulk of the patients were educated up to tertiary education (71.4%) with primary education having the least (5.9%). Medical Outpatient clinic has the highest satisfaction (50.4%) and dermatology clinic the least (5.4%). There is no correlation between patients' sociodemographic characteristics and satisfaction. However, there is a significant association between the clinics visited and patient's satisfaction. Overall, about three-quarters of the patients (74.2%) were satisfied with pharmacists' medication counselling while a quarter were dissatisfied.

Conclusion: Patients typically exhibit a high level of satisfaction from the pharmacists' roles and medication counselling in University of Nigeria Teaching Hospital. The patients demonstrated high level of satisfaction with the clarity of instructions and drug labeling provided by pharmacists, pharmacists interests in their health, pharmacists' response to drug related questions, courtesy and respect, and care while dispensing medications.

Keywords: Outpatients, pharmacists, medication counselling, satisfaction, Nigeria, Teaching hospital.

INTRODUCTION

An essential component of pharmacists' professional activities is patient counseling **[1, 2, 3]**. It is an exchange of information about the patient's overall health and responsible drug usage between the pharmacist and the patient or caregiver **[4]**. Patients require both vocal and written information regarding side effects and lifestyle choices **[5]**. The delivery of the appropriate medication to the appropriate patient, assuring the necessary dosage and quantities, ensuring package that maintains the drugs' potency and quality for the allotted time, providing clear medicine information counselling, and providing the necessary follow-up are all part of medication dispensing practice **[6]**. Counselling is a practice that enhances the rate of recovery. By providing patients with effective drug counselling and therapy monitoring, pharmacists are a vital part of the healthcare system that greatly improves the outcomes of drug therapy **[7]**. The pharmacist has a role to play in the complex behaviour of medication adherence, which can be influenced by factors affecting patients, providers, and the healthcare system **[8]**.

The ability of a provider to successfully offer treatment that fulfils patients' expectations and needs is measured by patient satisfaction, which is the patient's "Personal evaluation of providers' ability of health care services."**[9]**. When evaluating the quality of services provided by various patient care services, systems, and programs, patient satisfaction is a key metric. These metrics are useful for enhancing healthcare and assuring increased compliance **[2]**. Proper medication counseling by pharmacists assists in recognizing and addressing potential drug therapy issues, side effects, and adverse drug reactions. In addition to being a treatment aim in and of itself, it has been observed that patient satisfaction improves other treatment outcomes **[1]**. Therefore, when the pharmacist or other healthcare provider appropriately counsels patients, the patient will

have the greatest level of pleasure [10]. Lack of effective medication counseling is one of the main causes of subpar therapeutic outcomes. Clinical and financial objectives will be incredibly challenging to achieve without patients receiving good pharmacological guidance.

The satisfaction of patients with the pharmacy services provided to them has been the subject of numerous studies undertaken worldwide [11]. Diverse conclusions have been reported from research that used a range of methodologies. In Brazil, a study was conducted to compare the client satisfaction of private community pharmacy services that offered pharmacological treatment to those that did not [12]. The levels of client satisfaction with the services of community and hospital pharmacies, respectively, were the subject of additional studies conducted in Qatar and Saudi Arabia [13, 14]. Another study conducted in Botswana found that customers were satisfied with the standard of a primary healthcare center that included pharmacy services as one of its components [15]. Patients' levels of satisfaction with the services in each environment were also examined in studies conducted in Spain that focused on outpatient and community pharmacies [16, 17]. Another study in Pakistan examined the satisfaction ratings of patients in the outpatient departments of a hospital in Islamabad and included a component that measured pharmacy services as well [18].

No study has examined the satisfaction of outpatients in Nigerian hospitals in its entirety as of the time of this investigation. Offor et al studied the patients satisfaction of pharmacist counselling in a psychiatric hospital in Nigeria shed little light but was insufficient [3]. In this study, outpatients' satisfaction with pharmacist medication counseling is examined, and the findings will assist policymakers in Nigeria in enhancing patient satisfaction in hospital settings.

METHODS

Study design

This was a cross-sectional survey with outpatients visiting the five major clinics in University of Nigeria teaching hospital.

Setting

The study was conducted in **University of Nigeria Teaching hospital**, **Ituku-Ozalla Enugu**. Five clinics were conveniently sampled from the hospital. The clinics include medical outpatient, general outpatient, surgical outpatients, ophthalmology clinic and dermatology clinic.

Sampling

The systematic sampling method was used. The average daily client flow to each of the pharmacy outpatient units was estimated to be about 78 and the number of clients to be interviewed in each outpatient unit per day during the 30 days of data collection was 12. By dividing the daily client flow to each of the pharmacy unit with the number of clients to be surveyed per day, every seventh client was approached for the interview. The first patient was selected daily through drawing a number from 1 up to 7 and continuing with every seventh number until the daily sample limit was reached.

Eligibility criteria

The study's inclusion criteria required that outpatients should have attained the age 18 and above, and should be visiting any of the aforementioned clinic either as first time visit or follow-up visit. Eligible respondents who did not provide informed consent were excluded from the study.

Sample size calculation

The study was to cover the entire five outpatient clinics in the hospital. A total sample size of 353 was considered to be representative of the population assuming a 5% error margin, 95% confidence interval. The sample size calculation was conducted using Slovins' formula **[3]** for Sample Size Calculation ($n = N/ (1 + N (e)^{2}$)

where n= sample size,

N= target population,

e = margin of error = 0.05.

The average target population (N = 3021) that visits the outpatient pharmacies in the hospital per month was obtained from the hospital's pharmacy data base. The sample size was

proportionately distributed among the participating clinics. A 100% response rate was realized, primarily because data collection was equally shared among the authors based on the clinics they operate and perhaps because patients were visited at the early hours of the day when they were relaxed and willing to answer questions.

Participant recruitment and data collection

Participants information sheets was taken alongside the questionnaires to all potential participants who visit the clinic. If interested, they signed the consent form for the study. Those who indicated interest were administered the questionnaire through interview. All data collection for this study was undertaken between May15 to June 20, 2022.

Instruments for data collection and outcomes

A pretested, reliable and validated instrument designed for the purpose of eliciting patients' satisfaction towards pharmacist's medication counseling was adopted from the study by **[19]** and **[2]**. The instrument consists of 2 parts with the first part seeking information on the patients' demographics and the second part with 26 items which assessed the satisfaction of the patients with the pharmacists' medication counseling. Each item has 5-point Likert scale responses (very low = 1, low = 2, moderate = 3, high = 4, very high = 5).

Data analysis

The data collected was coded and entered into Microsoft Excel 2010. The data was cleaned and checked for appropriateness. Descriptive statistics (frequency, percentage, and mean) was used to present respondents' sociodemographic characteristics. Chi-square test was used to determine association between respondents' sociodemographic variables and their satisfaction toward pharmacists' medication counseling. The predictors of satisfaction towards pharmacists' medication counseling was determined using logistic regression. P values ≤ 0.050 was considered statistically significant. All analyses were performed using IBM Statistical Product and Service Solution (SPSS) for Windows, version 21.0 (IBM Corp, version 21.0 and Armonk, NY, USA).

Ethical considerations

This study did not involve the use of human subjects, hence, an institutional review board exception was obtained from the Health Research and Ethics Committee of the University of Nigeria Teaching Hospital (Reference Number : NHREC/05/01/2008B-FWA00002458-1RB00002323). Nonetheless, confidentiality of the respondents' information was maintained during and after the study. No identifier information was obtained from them, as anonymity was ensured in the data collection and reports of findings

RESULTS

Demographic and clinic visits characteristics

A total of 353 outpatients participated in the study as shown in **table 1.** Participants' demographics and the clinic visits characteristics are shown in table 1. A total of 207 (58.6%) were females and the most recorded age range was within 18-28 years (36.3) while 62 years and above was the least (10.5%). A total of 182 (51.6%), were married and 252 (71.4%) obtained a tertiary education. Medical Outpatient with a total 178 (50.4%) recorded the highest number of visits within the period while dermatology recorded the least with a total of 19(5.4). The bulk of the participants were not insured (79%). Approximately 233(66%) of participants were follow-up visit.

Table 1: Sociodemographic Characteristics of patients visiting the outpatient clinics

CHARACTERISTICS		Frequency	Percentage (%)
Age (years)	18-28	128	36.3
	29-39	91	25.8
	40-50	55	15.6
	51-61	42	11.9
	62 and above	37	10.5
	TOTAL	353	100.0

Gender	Male	146	41.4
	Female	207	58.6
	TOTAL	353	100.0
Marital Status	Married	182	51.6
	Single	163	46.2
	Divorced	1	0.3
	Widowed	7	2.0
	TOTAL	353	100.0
Educational Level	Primary	21	5.9
	Secondary	80	22.7
	Tertiary	252	71.4
	TOTAL	353	100.0
Outpatient visited	Medical Outpatient	178	50.4
	General Outpatient	96	27.2
	Surgical Outpatient	24	6.8
	Ophthalmology Clinic	36	10.2
	Dermatology Clinic	19	5.4
	TOTAL	353	100.0
Occupational Status	Employed	167	47.3
	Unemployed	73	20.7
	Self Employed	113	32.0
	TOTAL	353	100.0
Monthly Income (Naira)	< 50,000	117	50.1
	50, 000-99, 000	87	24.6
	100, 000-199, 000	63	17.8
	200, 000-299, 000	12	3.4
	>300, 000	14	4.0
	TOTAL	353	100.0
Religion	Christianity	347	98.3
	Islam	2	0.6

	Traditionalist	2	0.6
	Others	2	0.6
	TOTAL	353	100.0
Health Insurance	Insured	74	21.0
	Not Insured	279	79.0
	TOTAL	353	100.0
Patronage	First-time Visit	120	34.0
	Follow-up Visit	233	66.0
	TOTAL	**353**	**100.0**

Outpatient Satisfaction with Pharmacists' Medication Counselling

Table 2 displays the results of the patients' satisfaction levels with various areas of pharmacists' medication counselling. Patients were pleased with pharmacists' interest in their health (66.3%), professionalism (60.9%), courtesy and respect (63.2%), care while dispensing the medication (62%), clarity of the pharmacists' instructions (68.3%), responses to questions about drugs (62.9%), perception of the medication's quality (68.8%), and cleanliness and comfort of the waiting area (62.3%). They expressed some level of discontent with the cost of the prescriptions they receive (68%), the accessibility of the medications (60.6%), and the length of time they had to wait before the pharmacists could attend to them (57%). Nearly the same amount of patients express identical levels of satisfaction and dissatisfaction with patient requests for re-counselling and adherence to previous prescriptions (49.6% and 50.4%, respectively).

Table 2: Outpatient Satisfaction with Pharmacists' Medication Counselling

Variable	**Response, N (%)**	
Satisfaction	**Satisfied**	**Not Satisfied**

Pharmacists' interest in your health	234 (66.3)	119 (33.7)
Pharmacists' professionalism	215 (60.9)	138 (39.1)
Pharmacists' courtesy and respect	223 (63.2)	130 (36.8)
Privacy of conversation	192 (54.4)	161 (45.6)
Pharmacists' explanation of side effects and interactions	191 (54.1)	162 (45.9)
Promptness of prescription medication services	171 (48.4)	182 (51.6)
Pharmacists' care while supplying medication	219 (62.0)	134 (38.0)
Fairness of the cost of medication	113 (32.0)	240 (68.0)
Time spent in pharmacy	151 (42.8)	202 (57.2)
Clarity of pharmacists' instruction	241 (68.3)	112 (31.7)
Pharmacists' information on medication storage	190 (53.8)	163 (46.2)
Answering of drug information questions	222 (62.9)	131 (37.1)
Information on expected outcomes of medications	187 (53.0)	166 (47.0)
Collaboration between pharmacist and physician	217 (61.5)	136 (38.5)
Time spent waiting for prescription filling	133 (37.7)	220 (62.3)
Medication availability	139 (39.4)	214 (60.6)
Clarity of label on medication	234 (66.3)	119 (33.7)
Feeling about quality of medication	243 (68.8)	110 (31.2)
Cleanliness and comfort of waiting area	220 (62.3)	133 (37.7)
Pharmacists' re-counselling on request	174 (49.3)	179 (50.7)
Pharmacy location relative to other service area	207 (58.6)	146 (41.4)
Pharmacists' effort to solve medication problem	200 (56.7)	153 (43.3)
Pharmacists' information on type of food to take	166 (47.0)	187 (53.0)
Pharmacists' information on sufficient treatment period	193 (54.7)	160 (45.3)
Pharmacists' enquiry on adherence of previous dispensed prescription	175 (49.6)	178 (50.4)
Pharmacists' willingness to counsel on request	144 (40.8)	209 (59.2)

Overall Outpatient Satisfaction with Pharmacist Medication Counselling in the Teaching Hospital

The percentage distribution for overall perception of the patient's satisfaction for medication counselling is shown in **Table 3.** One of the key findings of this study is that 74.2% of outpatients were satisfied with the current pharmacists' medication counselling in the Nigerian Teaching Hospital while only 25.8% were not satisfied with the pharmacists' medication counselling in the hospital

Table 3: FINAL OUTPATIENT SATISFACTION IN PHARMACIST MEDICATION COUNSELLING IN A NIGERIAN TEACHING HOSPITAL

	n (%)	
	Satified	**Not Satisfied**
	262 (74.2)	91 (25.8)
Total	353 (100)	

Correlation coefficient of satisfaction

Table 4 showed the correlation coefficient of the sociodemographic which determines whether or not there is an association with the satisfaction. P-value less than 0.05 is considered significant. It is evident from the table that there is a positive association between patronage and patients' satisfaction (p-value = 0.01) as well as between the number of outpatient visits and patients' contentment (p-value = 0.001). There is no significant relationship between other factors and patients' satisfaction.

Table 4: Correlation coefficient of satisfaction

		N (%)			χ^2	P-value
		SATISFIED	NOT SATISFIED	TOTAL		
Age (Years)	18-28	87 (24.6)	41 (11.6)	128 (36.3)	7.558[a]	0.109
	29-39	74 (21.0)	17 (4.8)	91(25.8)		
	40-50	44 (12.5)	11 (3.1)	55 (15.6)		
	51-61	28 (7.9)	14 (4.0)	42 (11.9)		
	>62	29 (8.2)	8 (2.3)	37 (10.5)		
Gender	Male	111 (31.4)	35 (9.9)	146 (41.4)	0.425[a]	0.515
	Female	151 (42.8)	56 (15.9)	207 (58.6)		
Marital Status	Married	141 (39.9)	41 (11.6)	182 (51.6)	3.399[a]	0.334
	Single	114 (32.3)	49 (13.9)	163 (46.2)		
	Divorced	0 (0.0)	1 (0.3)	1 (0.3)		
	Widowed	1 (0.3)	6 (1.7)	7 (2.0)		
Educational Level	Primary	17 (4.8)	4 (1.1)	21 (5.9)	2.650[a]	0.266
	Secondary	64 (18.1)	16 (4.5)	80 (22.7)		
	Tertiary	181 (51.3)	(71) 20.1	252 (71.4)		
Outpatient Visited	Medical Outpatient	144 (40.8)	34 (9.6)	178 (50.4)	19.620[a]	0.001**
	General Outpatient	56 (15.9)	40 (11.3)	96 (27.2)		
	Surgical Outpatient	17 (4.8)	7 (2.0)	24 (6.8)		
	Ophthalmology Clinic	31 (8.8)	5 (1.4)	36 (10.2)		
	Dermatology Clinic	14 (4.0)	5 (1.4)	19 (5.4)		
Occupational Status	Employed	125 (35.4)	41 (11.6)	166 (47.0)	1.098[a]	0.577
	Unemployed	57 (16.1)	17 (4.8)	74 (21.0)		
	Self Employed	80 (22.7)	33 (9.3)	113 (32.0)		
Monthly Income (Naira)	< 50,000	137 (38.8)	40 (11.3)	177 (50.1)		
	50, 000-99, 000	58 (22.1)	29 (8.2)	87 (24.6)		

	100, 000-199, 000	46 (13.0)	17 (4.8)	63 (17.8)	4.238[a]	0.375
	200, 000-299, 000	10 (2.8)	2 (0.6)	12 (3.4)		
	>300, 000	11 (3.1)	3 (0.8)	14 (4.0)		
Religion	Christianity	257 (72.8)	90 (25.5)	347 (98.3)		
	Islam	2 (0.6)	0 (0.0)	2 (0.6)	2.007[a]	0.571
	Traditionalist	1 (0.3)	1 (0.3)	2 (0.6)		
	Others	2 (0.6)	0 (0.0)	2 (0.6)		
Health Insurance	Insured	53 (15.0)	21 (5.9)	74 (21.0)	0.331[a]	0.565
	Not Insured	209 (59.2)	70 (19.8)	279 (79.0)		
Patronage	First-time Visit	79 (22.4)	41 (11.6)	120 (34.0)	6.685[a]	0.010**
	Follow-up Visit	**183 (51.8)**	**50 (14.2)**	**233 (66.0)**		

**p less than or equal to 0.01 shows significant correlation

Model summary for simple linear Regression

Table 5 shows the value of the adjusted R^2 = 0.013, hence when multiplied by 100%, the value of adjusted R^2 will be 1.3%. this percentage showed that 1.3% of the variation in satisfaction is due to the outpatient visited and the patronage. The remaining 98.7% of the variation in satisfaction is due to other predictors that are not included in the model or factors that are uncontrollable.

Table 5: Model summary for simple linear Regression

Model	R	R square (R^2)	Adjusted R^2	F	Sig
1	0.138[a]	0.019	0.013	3.389	0.035

a. Predictors: (Constant), PATRONAGE, OUTPATIENT_UNIT_VISITED

b. Dependent Variable: FINAL_SWPMC

Result of Binary Logistic Regression Analysis

It could be deduced from **table 6** that patronage (taking first time visit as the reference), the B value of -0.637 indicates that relative to patients who visited the hospital for the first time, the log-odd of satisfaction for patients who came for follow-up visit decreased by -0.637, but interpreting the log-odds would be meaningless, so its preferable to interpret the odds ratio (where OR= Exp (B)). Therefore, odds ratio for patients who came for follow up visits who will be satisfied is 0.5 times more likely than those for first time visits.

Table 6: Result of Binary Logistic Regression Analysis

		Unstandardized Coefficients		Standardized Coefficients	Wald	Df	Sig	95.0% Confidence Interval (Ci) For b	
		B	Std Error	Exp (B)				Lower Bound	Upper Bound
Step 1a	**Outpatient Unit Visited**	-0.015	0.102	0.985	0.022	1	0.881	0.806	1.203
	Patronage(1)	-0.637	0.252	1.891	6.403	1	0.011	1.154	3.098
	(Constant)	0.688	0.290	1.990	5.619	1	0.018		

a. Dependent Variable: Final outpatient satisfaction in pharmacist medication counselling in Nigerian teaching hospital

b. Variable(s) entered on step 1: Outpatient Unit Visited, Patronage

Discussion

The purpose of this study is to evaluate how satisfied outpatients are with the medication counseling provided by pharmacists at the University of Nigeria teaching hospital. The hospital's five clinics were used for the study, and patients were contacted for in-person interviews. To measure how satisfied outpatients were with the hospital's pharmacists' medication counseling, data was gathered and various metrics were employed. The study's

most important finding reveals that overall, 74.2% of patients were satisfied with the pharmacists' medication counseling, while just 25.8% of patients were not happy. According to the criteria used to gauge outpatients' satisfaction, the professionalism of pharmacists, their interest in patients' health, their ability to answer questions about medications, the clarity of their instructions and drug labeling, and the cleanliness of the waiting areas were the factors that generated the highest levels of satisfaction. On the other hand, some levels of dissatisfaction were noted with regard to the price of medications, the availability of medications, and the amount of time spent waiting to be attended to by the pharmacist. Only the clinics attended and the patronage, which included first-time visits and follow-up visits, were linked to patients' satisfaction, according to a correlation analysis. Medical outpatient provided the highest satisfaction level to the patients while dermatology clinic had least satisfaction. Patients who return for follow-up visits are likely to be 0.5 times more satisfied than those who attend for a first time, according to the odd ratio from the binary regression analysis. The results of this study are consistent with those of a study conducted in 2013 **[9]**, which assessed patients' satisfaction with pharmacists' roles in HIV clinics at Usman Danfodiyo Teaching Hospital and discovered that most patients were satisfied with pharmacists' medication counselling in these clinics. The results of this study can also be compared with those of a study by **[6, 20, 21]** which discovered that most patients were pleased with the pharmaceutical counseling given by the pharmacists. Also, the result is in consistent with the findings by **[22]** which discovered that generally, the majority (83%) of the patients were satisfied with the services received from Aminu Kano Teaching Hospital, while only few were dissatisfied This results, however, contrasts with that of a study by **[23]**, whose research revealed a low level of satisfaction (59%) with the outpatient pharmacy services offered by public hospitals in Dessie town. These findings were also contrasted with those of a survey carried out at Black lion Specialized Referral Hospital and in Brazilian Health Care, which revealed satisfaction scores of 58.4% and 51.6%, respectively **[24]**. Additionally, in contrast to a study by **[25]** in an outpatient pharmacy in Northwest Ethiopia that comprised 401 samples, they discovered that analysis had an overall mean score satisfaction of 30.6 out of a maximum of 100 scores. In contrast to the results of this study, earlier studies by **[1]** and **[26]** in outpatient pharmacies of several public hospitals showed a generally low satisfaction that varied across different sociodemographic categories. The same is true of a study

conducted in 2016 by [27] which assessed patients' satisfaction with medication counseling offered by community pharmacists. They discovered that just 34% of patients were pleased with the pharmacists' medication counseling. In contrast to the findings of this study, which found no relationship between patients' satisfaction and gender, a study by [28] in Malaysia found that female diabetic patients were more satisfied with pharmacists' medication counseling. This study contrasts with one by [29], which revealed that pharmacist worries about the patient's health state and pharmacist explanations of the anticipated adverse effects had the lowest satisfaction ratings.

Conclusion

This study achieved the set out objectives of assessing the satisfaction of patients with pharmacist counselling. The study's findings indicate that patients at the university of Nigeria teaching hospital generally express a high level of satisfaction with the responsibilities played by pharmacists and their medication counseling. The number of clinics a patient uses, as well as their patronage, are positively correlated with their satisfaction (first time visit and follow-up visit). However, there is no discernible relationship between the sociodemographic traits of patients, such as age, gender, marital status, employment status, and level of education, and their satisfaction. Patients expressed high levels of satisfaction with certain factors, such as the readability of instructions and drug labels, the pharmacist's concern for their health, the response to drug-related questions, the pharmacists' courtesy and respect, and the pharmacists' care when dispensing medications. However, they expressed dissatisfaction with the accessibility of medications, the cost of medications, the length of time patients had to wait to be attended to, and the pharmacists' willingness to offer advice when asked. By revealing information about outpatients' satisfaction with pharmacists' medication counseling in a Nigerian Teaching Hospital, this would contribute to the corpus of already available knowledge. The patterns of outpatients' satisfaction with pharmacist medication counseling would serve as a guide for health policy makers, pharmacists, patients, and the government in developing and putting into practice training programs, educational initiatives, and regulatory changes aimed at raising outpatients' satisfaction with pharmacist medication counselling in Nigeria.

Strength and limitations

This study is unique due to the scarcity of research on patients satisfaction with medication counselling by pharmacists in tertiary hospitals in Nigeria. Again, the questionnaire was interviewer administered, so respondent bias was greatly minimized. This study's limitations include but are not limited to the cross-sectional design, meaning causality cannot be implied. Finally, the sample size may not be an accurate representation of the sample population

List of Abbreviations

IBM: International Business Machine

SPSS: Statistical Package for Social Sciences

Ethics approval and consent to participate

This study did not involve the use of human subjects, so, an exception was sought and obtained from the Health Research and Ethics Committee of the University of Nigeria Teaching Hospital (Reference Number: NHREC/05/01/2008B-FWA00002458-1RB00002323).

However, informed consent was obtained from all the participants. Study participants were informed that participation in the study was voluntary and was at liberty to withdraw from the study anytime without any consequences. No identifier information was obtained from them, as confidentiality, privacy, and anonymity were upheld following the Nuremberg code and Helsinki declarations.

Consent for Publication:

Not Applicable

Availability of Data:

All data used and analyzed in the course of this study are included as supplementary file

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