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Patients' satisfaction with services in HIV clinic at a public tertiary health institution in Ogun State, Nigeria: Patients-providers perspectives

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Abstract
Objective: This study assessed HIV patients´ satisfaction, factors associated with patients´ satisfaction and gaps in the quality of health care service delivery in a virology clinic in Ogun State, Nigeria.
Methodology: A cross-sectional study design using mixed methods was used for the study. Three hundred and fifty adult HIV patients on HAART for uninterrupted six months were selected by multistage sampling technique. The Chi-square test was used to assess associations between categorical variables. The p-value used was 0.05. The key informants that were interviewed were the clinic manager, the clinic consultant, the adherence counsellor and the clinic pharmacist. Thematic analysis was done on the key informant interviews.
Results: The mean satisfaction scores were high for confidentiality (4.24±0.97), overall care (4.17±0.56) and accessibility of care (4.09±0.82). Waiting time (mean of 3.35±0.42 minutes) and hospital environment (mean of 3.97±0.74) had the lowest mean satisfaction scores. Factors associated with satisfaction were patients' income (p = 0.001), occupation (p = 0.001) and gender (p = 0.007). The key informants identified long waiting times in the clinic, shortage of manpower, inadequate financial support for patients and inadequate technical support for clinic activities as aspects of care for improvement.
Conclusion: In this study, patients expressed a high level of satisfaction with the quality of care and the key informants identified challenges that affect optimal care in the clinic. Healthcare quality is a core dimension of health system performance. Continuous patient satisfaction and quality of care evaluations are needed for optimal health system performance.

Keywords: Patients, Satisfaction, HIV, Public, Providers

Plain English Summary
This study assessed patients' satisfaction with services that are provided in an HIV clinic at a public tertiary hospital in Sagamu, Ogun State, Nigeria. Patient satisfaction means the extent to which patients believe their needs and expectations are met by the services that are provided in a particular facility. Three hundred and fifty adult HIV patients were selected for the study. The patients rated confidentiality, overall care and

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accessibility of care very highly. The clinic manager, clinic consultant, adherence counsellor and clinic pharmacist were also interviewed to identify challenges affecting services and quality of care.

Introduction
Human Immunodeficiency Virus Infection/Acquired Immune Deficiency Syndrome (HIV/AIDS) is a major global public health issue. It has claimed 40.4 million lives globally. An estimated 39 million people were living with HIV at the end of 2022 with two-thirds of them in the WHO African region. In 2022 alone, 630,000 people died of HIV-related causes (1). Worthy of note is goal 3 of the Sustainable Development Goals (SDG) whose aim is to ensure healthy lives and promote well-being for all at all ages. The SDGs aim to end the epidemics of HIV/AIDS by 2030 (2). The prevalence of HIV in Nigeria is 1.4%. According to the National Agency for the Control of AIDS (NACA), Nigeria has an estimated no of 103, 404 people with new HIV infections, annual death of 44,830 and an estimated 1.8 million people living with HIV (3). There is no cure for HIV infection, although access to effective HIV treatment and care makes the infection a manageable chronic health condition which allows the infected population to live long and healthy lives (1). Patient satisfaction is a multidimensional concept. Patient satisfaction can be defined as patient's value judgements and subsequent reactions to the services that they received in a particular health facility. It is the difference or gap between patients´ expectations and their experiences concerning the services that they have received in a particular facility. It is an indicator of the quality of care (4). It plays a significant role in the utilization of care, adherence to medication, patient´s clinical outcome, keeping of appointments and prevention of resistance to antiretroviral drugs (5). According to the HIV National guidelines, 95% adherence in HIV care is needed for clinical, immunologic, and virology suppression (6). Although reports on HIV/AIDS in Nigeria have shown that there is a decline in the incidence of the infection, the absolute numbers of infected persons place a huge mortality burden on Nigeria´s resources. Poor quality of care is a barrier to engagement in HIV care and treatment in low- and middle-income countries. Dissatisfaction with the quality of services in HIV care results in poor medication adherence and treatment failures (4). This could defeat the goal of ending the HIV/AIDS epidemic by 2030. It is therefore imperative that detailed attention should be given to the improvement of patient satisfaction in HIV clinics due to its huge role in quality of care improvement, retention of patients in care and prevention of resistance to HIV

drugs (7, 8, 9). Extensive studies have focused on HIV patients' satisfaction with healthcare services in HIV clinics but few have been published on how the healthcare providers understand and assess quality of care in routine day-to-day practice (7). Patients' and healthcare providers' perspectives substantially influence the effective provision of quality health services. The objective of this study was to assess HIV patients´ satisfaction and quality of care from the patients and providers perspectives in HIV clinic in a tertiary health institution in Ogun State, Nigeria.

Methodology
This descriptive cross-sectional study was carried out in the virology clinic at Olabisi Onabanjo University Teaching Hospital, Sagamu, Ogun State, Nigeria. There are three tertiary health institutions offering ART services in Ogun State: Federal Medical Center Idi Aba Abeokuta, Olabisi Onabanjo University Teaching Hospital, Sagamu and Babcock University Teaching Hospital Ilishan-Remo. Olabisi Onabanjo University Teaching Hospital is a tertiary health facility that provides training of high and middle-level manpower for the health industry. The hospital is situated in Sagamu Local Government, South Western Nigeria. The services offered in the hospital include emergency clinical services, medical, surgical, obstetrics and gynaecology, laboratory and physiotherapy services. The virology clinic in Olabisi Onabanjo University Teaching Hospital commenced activities in 2008. It is a multi-disciplinary clinic involving doctors from different departments in the hospital. The clinic collaborates with the DOTS clinic on Tuberculosis treatment and co-infections.
The study population was adult HIV patients on Highly Active Antiretroviral Therapy (HAART) in the HIV clinic at Olabisi Onabanjo University Teaching Hospital, Sagamu. The study is a descriptive cross-sectional study using mixed methods. Questionnaires were administered to patients and key informant interviews were also conducted. The key informants were the clinic manager, clinic consultant, the adherence counsellor and the clinic pharmacist.
The sample size was determined using Cochran's formula. The standard normal deviate was set at 95% confidence level, the prevalence of patients´ satisfaction among HIV patients was 18.5% (10) and the allowable margin of error was 5%. The calculated minimum sample size was 206, considering non- non-response factor of 10% of the

sample size, the estimated sample size was 227. This was increased to 350. A multistage sampling method was used in the study. Olabisi Onabanjo University Teaching Hospital, Sagamu was selected by balloting. The institution was selected out of the three tertiary health institutions offering ART services in Ogun State. A systematic sampling technique was used to recruit the patients. The total number of adult HIV patients in care in OOUTH was 5120. The sampling interval was calculated by dividing the number of patients attending each virology clinic in a month by the required sample size. In OOUTH, the average clinic attendance in a month was 850. Sampling interval=$850 \div 350$=2.4. In OOUTH every 2nd patient registered to see the doctor each day was recruited for the study. Three hundred and fifty adult HIV patients who fulfilled the inclusion criteria were recruited daily from 9 am to 4 pm till the required sample size of 350 was reached (over 8 weeks). Adult HIV patients on Highly Active Antiretroviral Therapy (HAART) for at least uninterrupted 6 months were included in the study while adult HIV patients who were not ambulatory or who were not willing to take part in the study were excluded from the study.

The questionnaire developed and validated by the Clinical Quality Services Branch of the Bureau of Primary Health Care (BPHC) was adapted and used for this study (10). It covers the standard domains adapted from surveys by Donabedian (10). The questionnaire seeks to find out among others the factors influencing patient satisfaction in HIV care at Olabisi Onabanjo University Teaching Hospital.

It consists of 3 sections: Section A contains questions on demographic characteristics and personal data. Section B assesses travel time, user fees and waiting care in accessing care. Section C assesses the patient's satisfaction with care. It consists of 5-point Linkert scale items: 5-very satisfied; 4-satisfied; 3-not sure; 2-not satisfied; 1-very dissatisfied. The score for each domain was calculated by adding the answers to all the items in each domain and the average for each domain was calculated. The satisfaction domains that were assessed include the following: access to care, waiting time, doctors´ care, nurses´ care, care of laboratory staff, pharmacy staff, adherence counsellor, record staff, hospital environment, confidentiality and overall care.

The questionnaire was pre-tested among 10% of the sample size in the HIV clinic at Babcock University Teaching Hospital Ilishan-Remo, Ogun State.

Data was collected using a structured questionnaire and the method of collection of data was interviewer-based. Four trained research assistants were used to administer the questionnaires. They were trained for a week on questionnaire administration, objectives of the study and how to conduct key informant interviews. The questionnaires were administered to the patients in a private area as soon as they finished consultation with the doctor. Each interview of key informant interview lasted for 45minuites and each session had a moderator and a note-taker. A draft of the interview topic guide based on the study objective was self-developed. The contents of the study guide were key informants' opinions on the quality of care in the HIV clinic, waiting time, cost of care, staff attitude, staff strength and availability of HIV drugs. The study guide was pre-tested (among the clinic manager and clinic consultant, adherence counsellor, and pharmacist) in the virology clinic at Babcock University Teaching Hospital and was subsequently modified.

Data analysis was done using the Statistical Package for Social Sciences (SPSS) version 25. The chi-square test was used to determine the statistical significance of categorical variables and a p-value of equal or less than 0.05 was considered statistically significant. Logistic regression was used to determine the predictors of satisfaction

All interviews were recorded and transcribed in addition to the notes taken during the sessions. Thematic analysis of the transcribed documents and notes for all interviews were conducted

Results

In this study, the total number of patients investigated was three hundred and fifty (350). The mean age (±SD) of the patients was 43.8±11.0 years. The majority of the patients were female (241, 68.9%), married (259, 74.0%), gainfully employed (287, 82%), traders (208, 59.4%) and of the Yoruba tribe (270, 77%). About 41% (142) of the patients completed primary school education and also earned below 20,000 Naira monthly. (Table 1)

Table 1: Socio-demographic characteristics of HIV patients attending HIV clinic

Variable	frequency (n)	percentage (%)
Age group (years)	(Mean =43.8 ±11.0)	
<20	2	0.6
21-40	137	39.1
41-60	188	53.1
61 and above	23	6.6
Sex		
Male	109	31.1
Female	241	68.9
Marital status		
Single	46	13.1
Married	259	74
Divorced	24	6.9
Separated	21	6
Educational status		
Non-formal	38	10.9
Primary	142	40.6
Secondary	138	39.4
Tertiary	32	9.1
Employment status		
Employed	287	82
Unemployed	63	18
Occupation		
Student	23	6.6
Trading	208	59.4
Civil service	22	6.3
Artisan	97	27.7
Income (in Naira)		
Below 20,000	142	40.6
20,000-49,000	125	35.7
50,000-100,000	76	21.7
More than 100,000	7	2
Ethnicity		
Yoruba	270	77.1
Igbo	45	12.9
Hausa	8	2.3
Others	27	7.7
When diagnosed with HIV		
Less than 1 year	57	16.3
1-2years	84	24
3-4years	87	24.9
More than 4years	122	34.9
Duration on HAART		
6months -less than 1year	90	25.7
1-2 years	95	27.1
Above 4 years	103	29.4

Table 2: Respondents Timing and Costing Factor in Accessing Care

Variable	Frequencies (n=350)	Percentages (%)
Waiting time (in minutes)		
Below 30	188	53.7
30-60	122	34.9
Above 60	40	11.4
Mean=31.67±4.66		
Cost of transportation (naira)		
Below 200	158	45.1
200-390	86	24.6
400-590	58	16.6
600 and above	48	13.7
Mean=311.15±3.56		
Cost of the non-HIV tests (other tests in naira)		
Below 5,000	285	81.4
5,000-10,000	8	2.3
11,000-20,000	43	12.3
Above 20,000	14	4
Mean=5,945±4.45		
Cost of non-ARV drugs (other drugs in naira)		
Below 5,000	290	82.9
5,000-10,000	3	0.9
11,000-20,000	41	11.7
Above 20,000	16	4.6
Mean=5,417±2.58		

Table 2 reveals that the majority of the patients spent less than five thousand naira on non-HIV tests (285, 81.4%) and non-ARV drugs (290, 82.9%) while half of the patients spent less than thirty minutes in accessing care (188, 53.7%). Patients showed different levels of satisfaction with different components of care. One hundred and forty patients (40.0%) were very satisfied with access to care, 41% (145) were very satisfied with confidentiality, and 43% (151) were very satisfied with overall care. About 21% (74) were not satisfied with waiting time and 9% (30) were not satisfied with nurses' care (Table 3). The mean satisfaction scores were high for confidentiality (4.24±0.97), overall care (4.17±0.56) and accessibility of care (4.09±0.82). Waiting time (mean of 3.35±0.42) and hospital environment (mean of 3.97±0.74) had the lowest mean satisfaction scores (Table 4).

Table 3: Satisfaction of patients with health care services at HIV clinic

Variables	Frequency (%)				
	Very satisfied	Satisfied	Not sure	Not Satisfied	Very dissatisfied
Satisfaction with Access to Care	140(40.0)	113(32.3)	87(24.9)	10(2.9)	0(0.0)
Satisfaction with Waiting time	78(22.3)	88(25.1)	86(24.6)	74(21.1)	24(6.9)
Satisfaction with Doctor's care	125(35.7)	123(35.1)	97(27.7)	4(1.1)	1(0.3)
Satisfaction with Nurse's care	123(35.1)	106(30.3)	91(26.0)	30(8.6)	0(0.0)
Satisfaction with care from Laboratory staff	124(35.4)	120(34.3)	99(28.3)	6(1.7)	1(0.3)
Satisfaction with care from Pharmacy staff	136(38.9)	106(30.3)	88(25.1)	16(4.6)	4(1.1)
Satisfaction with care from the Adherence Counselor	129(36.9)	113(32.3)	95(27.1)	13(3.7)	0(0.0)
Satisfaction with care from Records staff	124(35.4)	110(31.4)	98(28.0)	16(4.6)	2(0.6)
Satisfaction with the Hospital environment	117(33.4)	136(38.9)	70(20.0)	25(7.1)	2(0.6)
Confidentiality	145(41.4)	146(41.7)	56(16.0)	3(0.9)	0(0.0)
Overall Care	151(43.1)	115(32.9)	78(22.3)	6(1.7)	0(0.0)

Table 4: Mean satisfaction scores

Variables	Mean satisfaction score
Satisfaction with Access to Care	4.09±0.82
Satisfaction with Waiting time	3.35±0.42
Satisfaction with Doctor's care	4.04±0.77
Satisfaction with Nurse's care	3.92±0.67
Satisfaction with care from Laboratory staff	3.69±0.71
Satisfaction with care from Pharmacy staff	4.01±0.77
Satisfaction with care from the Adherence Counselor	4.02±0.75
Satisfaction with care from Records staff	3.97±0.75
Satisfaction with the Hospital environment	3.97±0.74
Confidentiality	4.24±0.97
Overall Care	4.17±0.56

Table 5 shows that demographic variables such as patient's income (p = 0.001), occupation (p = 0.001) and gender (p = 0.007) were significantly associated with patients´ satisfaction while age group (p = 0.93), marital status (p = 0.084) and educational status (p = 0.59) were not significantly associated with patients´ satisfaction.

Table 5: Factors associated with patients' satisfaction

		Satisfaction Grade			
	Variables	**Not satisfied**	**Satisfied**	X^2-value	p-value
Age group in years	< 20	0 (0.0%)	2(0.8%)	0.71	0.93
	21 – 40	40(29.2%)	97(70.8%)		
	41 – 60	51(27.1%)	137(72.9%)		
	> 60	7(30.4%)	16(69.6)		
Gender	Male	41(37.6%)	68(62.4%)	7.26	0.007*
	Female	57(23.7%)	184(61.3%)		
Marital Status	Single	18(39.1%)	28(60.1%)	5.28	0.084
	Married	69(26.6.4%)	190(73.4%)		
	Divorced	8 (33%)	16(66%)		
	Separated	3(14.3%)	18(85.7%)		
Educational Status	No formal education	11(28.9%)	27(71.1%)	1.928	0.59
	Primary	40(28.1.%)	102(71.8%)		
	Secondary	35(24.5%)	103(74.5%)		
	Tertiary	12(37.5%)	20(62.5%)		
Occupation	Schooling	12(52.1%)	11(34.4%)	16.68	0.001*
	Trading	46(22.1%)	162(77.9%)		
	Civil service	3(13.6%)	19(86.4%)		
	Artisan	37(38.1%)	60(61.9%)		
Income (Naira)	< 20,000	24(28.2%)	118(83.1%)	17.553	0.001*
	20 – 49,000	42(33.6%)	83(66.4%)		
	50 – 100,000	31(31.6%)	45(59.2)		
	>100,000	1(14.3%)	6(85.7%)		

*Statistically significant

Results of Key informant interviews
Four key informant interviews were conducted. The key informants were the clinic manager, clinic consultant, clinic pharmacist and adherence counsellor.

Quality of care
All the key informants explained that the quality of care in the clinic was high. The clinic manager stated "*Our quality of care is very good and patients are satisfied. We address them properly and we treat them with a good approach. Our doctors are always available though we have only two permanent NYSC doctors. Other doctors from the hospital are always around. Our supply of drugs is always enough for our patients. We don't have delays in our laboratory results and our waiting time is not long˝.* The pharmacist stated "*The quality of*

service in the clinic is excellent. Patients often come to the clinic in late clinical stages but they improve drastically over at least 6 months. Patients on treatment get married and have HIV-negative babies. The cost of care is cheap, and tests and HIV drugs are free and are always available, so patients are happy". The adherence counsellor explained "*Staff put in their best and patient satisfaction is very good. Patient load is high but this does not affect the quality of service. The workers go the extra mile to satisfy the patients and the workload is telling on the staff. Our patient load is high, so our patients often sleep on chairs in the waiting room so we need a television to occupy their time. Patients are often dumped in the hospital with no financial or social support due to the stigma associated with the disease. These are areas that need to be addressed".*

Attitudes of health workers
All the key informants stated that the attitudes of the health workers are very good. The clinic manager stated "*The staff are courteous, friendly, kind and have good communication skills".* The adherence counsellor also confirmed this stating "*The attitude of the workers in the clinic is good, the stigma associated with HIV was very high in the past but such has reduced drastically".*

Drug availability
The clinic consultant, clinic manager and pharmacist explained that drugs are always available in the clinic and the patients are happy. The pharmacist also explained "*the clinic has enough drugs to cater for the patients and that they don't run out of drugs supply".*

Waiting time in the clinic
The pharmacist stated "*Patients complained about waiting time in the clinic, especially those that want to see the doctors. This is because there are only 2 permanent NYSC doctors in the clinic, other doctors come to the clinic after their ward round".* The clinic consultant also affirmed this statement.

Technical quality and staff strength
The clinic consultant, clinic pharmacist and adherence counsellor complained that they don't have enough quality tools to provide optimal care for patients in the clinic. The clinic manager complained about the waiting area and the consulting rooms. "*The waiting area is small and we have only two rooms for consultation, so at times we have about four doctors on the ground but no office to use for consultation".* The clinic consultant also complained about not having enough staff and tools for patient diagnosis. She explained "*We have only 2 examination couches and there are no diagnostic sets in the clinic".* The pharmacist stated "*Pharmacy staff are over-worked; most work is done normally and electronic systems are not available though there is also the challenge of epileptic power supply".* He went further to say that laboratory reagents & staff strength are inadequate. The adherence counsellor complained about the acute shortage of manpower in the clinic.

Discussion
In this study, more than half of the patients were in the age range of 41-60 years with a mean age of 43±11 years. Majority of the respondents were female (241, 68.9%), married (259, 74%) and gainfully employed (287, 82%). This is similar to findings from other studies (4, 11, 12).
In this study, more than half of the patients (188, 53.7%) spent less than 30 minutes in the waiting area before accessing care. The waiting time in a virology clinic in Ibadan was more than 30 minutes which is almost the same as the median waiting time spent in a virology clinic in Central Nigeria (12). Several studies reported long waiting times in HIV clinics (7, 12, 13). The reason for this delay is possibly the large number of HIV patients attending such clinics with few doctors employed to provide clinical services.
In this study, patients showed a high level of satisfaction with services rendered in Olabisi Onabanjo University Teaching Hospital (mean of 4.17). The patients were most satisfied with confidentiality (mean of 4.24), then overall care (mean of 4.17) and accessibility of care (mean of 4.09). These three domains of satisfaction are very important for good adherence, retention of patients in care and virology suppression. They were least satisfied with waiting time (mean of 3.35) and hospital environment (mean of 3.97). The key informants rated the quality of service in the HIV clinic as very high. This possibly accounts for the high level of satisfaction among the patients. High levels of satisfaction were reported with health worker's attitude, interpersonal communication, availability of drugs, availability and accessibility of service, and timeliness of laboratory results but there were complaints about the waiting time in the clinic, inadequate manpower, small size of the waiting area, inadequate consultation rooms, inadequate examination couches, lack of social and financial support for patients, non-availability of electronic systems for data management and epileptic power supply.

In a study done in Zambia, the average satisfaction score ranged from 3.7 to 9.7 for HIV services. The best-perceived aspect of care was cost of care (96%) while the lowest-rated domains of care were accessibility of care and adequacy of resources (8). Many studies showed high patients' satisfaction with services in HIV clinics (9, 11, 12, 14, 15, 16). The most frequently identified issues in HIV clinics were long waiting times before consultation, long waiting times in the pharmacy, lack of privacy in the pharmacy section, lack of waiting area, lack of adequate drugs and supplies, and poor communication between patients and staff (17).

In this study, factors associated with patient satisfaction were patient's income (p = 0.001), occupation (p = 0.001) and gender (p = 0.007) and they were statistically significant. Predictors of satisfaction identified in previous studies include ethnicity, health personnel practices and conduct, place of residence (8), attitude of health workers, good retention in care (11), friendly attitude and satisfactory communication of staff with patients (15). Though patients are satisfied with the quality of care in this facility, the issues highlighted by the healthcare providers that are affecting the quality of services need to be addressed by the hospital management. About 46% (162) of the patients have to wait for more than 30 minutes before accessing care. This is not unexpected with a high patient load of 5120 and a shortage of doctors. For optimal patient care, the patient's and provider's evaluation of care are both important. The limitation of this study was that focus group discussion was not done. Focus group discussion would have highlighted and shed more light on the variables influencing patients' satisfaction. Further research can be done in this area.

Conclusion
The high levels of satisfaction shown by patients in this study should encourage and motivate healthcare providers to keep offering top-notch services. Also, the concerns raised by the health care providers on quality of care should be addressed for optimal patient care.

List of Abbreviations
AIDS: Acquired Immunodeficiency Syndrome
ART: Antiretroviral Therapy
HAART: Highly Active Antiretroviral Therapy
HIV: Human Immunodeficiency Virus
OOUTH: Olabisi Onabanjo University Teaching Hospital
SDG: Sustainable Development goals
WHO: World Health Organization

Declarations
Ethical approval and consent to participate
Ethical clearance was obtained from Olabisi Onabanjo University Teaching Hospital Health Research Ethics Committee with approval number **OOUTH/HREC/187/2018AP**. Ethical standards and procedures were strictly adhered to and anonymity of the patients was ensured. Written consent was obtained from respondents and strict confidentiality of all information and findings was maintained throughout the study.

Consent for Publication
All the authors gave their consent for the publication of the work under the Creative Commons Attribution Non-Commercial 4.0 license. Otherwise, all copyright ownership including all rights incidental thereto is conveyed to the journal when published.

Availability of data and materials
The study data is available upon reasonable request to the corresponding author.

Competing interests
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Authors´ contributions
OAO conceived the research idea and wrote the first draft. All authors drafted the manuscript and approved the final submission

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