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Patients' Perception and Satisfaction with the Quality of HIV Care Services and Its Associated Socio-demographic Determinants in a Tertiary Care Hospital

Anthony C. Iwu[1*], Chukwuma B. Duru[2], Kenechi A. Uwakwe[2], Kevin C. Diwe[2], Irene A. Merenu[2], Henry N. Chineke[3], Ugochukwu C. Madubueze[4], Chukwuyem Abejegah[5], Emmanuel U. Ndukwu[1] and Ikechi Ohale[1]

[1]Department of Community Medicine, Imo State University Teaching Hospital, Orlu, Imo State, Nigeria.
[2]Department of Community Medicine, Imo State University, Owerri, Imo State, Nigeria.
[3]Department of Family Medicine, Imo State University Teaching Hospital, Orlu, Imo State, Nigeria.
[4]Department of Community Medicine, Federal Teaching Hospital Abakaliki, Ebonyi State, Nigeria.
[5]Department of Community Medicine, Irrua Specialist Teaching Hospital, Irrua, Edo State, Nigeria.

Authors' contributions

This work was carried out in collaboration between all authors. Authors ACI, CBD, KAU and KCD were involved in the study design, study implementation, data analysis and interpretation of results, manuscript write-up and editing. All other authors were involved in the study design, implementation and editing final draft of manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Background: HIV/AIDS is a chronic disease on long term treatment and as such it is important that the quality of care meets the patient's expectations and satisfaction which will consequently encourage treatment adherence that is associated with better HIV management, care and outcomes.

**Corresponding author: E-mail: iwuchinedu@yahoo.com;*

Objective: To determine the levels of patients' perception and satisfaction of the quality of HIV care services and the sociodemographic determinants associated with the level of satisfaction.
Methods: This is a descriptive cross sectional study and respondents were selected using a simple random sampling technique. Data was collected using a pretested semi structured questionnaire. Descriptive analyses were done with frequencies and summary statistics. Chi square statistics were computed to determine significant associations and multiple logistic regression to determine predictors of satisfaction. P value was set at 0.05 significant level.
Results: The results revealed that the majority of the respondents (65.6%) perceived that the quality of service rendered was good and were satisfied overall (79.5%) with the services rendered in the HIV clinic of the hospital. It further revealed that the patients overall satisfaction were significantly associated with the following socio-demographic characteristics; religion ($p<0.000$), marital status ($p<0.000$), educational level ($p<0.000$), occupation ($p<0.000$), centre of HIV diagnosis and treatment ($p<0.000$), place of residence ($p<0.000$), number of children ($p<0.000$), number of people per household ($p<0.000$), living-in arrangements ($p<0.000$), and transport cost per visit ($p=0.001$).
Conclusion: Certain HIV care service areas need improvement in spite of the good level of patients' perception and overall satisfaction with the quality of HIV care services offered in the tertiary health institution, as this will further enhance the overall patients' experience and satisfaction thereby increasing the certainty of better treatment adherence and retention in medical care.

Keywords: Perception; satisfaction; HIV care; tertiary hospital; Nigeria.

1. INTRODUCTION

Human immunodeficiency virus/Acquired immunodeficiency syndrome (HIV/AIDS) is a long term manageable disease when early diagnosis and simultaneous treatment and care are initiated and maintained and as such, it is important that the quality of care meets the patient's expectations in order to encourage treatment adherence that is associated with better HIV management, care and outcomes.

Globally, about 35 million people were estimated to be infected with HIV/AIDS in 2013 with sub-Saharan Africa accounting for about 70% and 73% of new infections and AIDS related deaths respectively [1]. Nigeria, which is the most populated country in sub-Saharan Africa has the second highest HIV/AIDS burden in the World, with the absolute numbers of HIV infected persons increasing despite the fact that, the national median prevalence of HIV appeared to be decreasing. This probably, is partly due to inadequate provision of accessible and acceptable HIV counselling, testing (HCT) and treatment services resulting in about 80% of the people infected with HIV/AIDS not having access to treatment [1-3].

In developing countries, this low coverage of HIV/AIDS treatment and care services provides the environment for poor quality of care which is associated with increased morbidity and mortality [1]. Though mortality has declined generally due to the recent universal scale up of HIV/AIDS care and services, it still appears that there is a significant gap in the quality of care and patient's satisfaction [4]. In Nigeria, the retention in care of people living with HIV/AIDS has been a major challenge and could partly be attributed to the level of satisfaction which influences retention and continuity in care [5,6].

The quality of health care in Nigeria is at a sub-optimal level and it varies according to the provider of care i.e. public or private sector and also the region of the country where the health care service is established. Generally, the quality of the health care system is hinged on the provision of patient centred care and as such, if the patients' experiences of the care provided is below their expectation, then satisfaction will not be achieved and this will reflect in their perceived quality of care [7-9].

Patients' views are an important component in the evaluation of health care service quality and therefore a crucial source of information about the effectiveness of the health care system, with their opinions being critical to compliance, adherence and continuity of care [10-13].

Quality of care, an important indicator of access and performance of the health care system, is a subjective experience which is intangible and difficult to measure directly but a lot of research examining quality have used semi structured interviews primarily in assessing it [14]. As a

result, the assessment of the quality of care is dependent on indirect measurements that are elicited from the patients' perceptions, experiences and expectations which are influenced by their knowledge, attitudes and beliefs [15,16]. These measurements are a practical, positive, rapid and inexpensive approach to the evaluation of health care quality which utilizes patient centred questionnaire interviews that are necessary tools in measuring the experiences and expectations of patients by determining their perceptions and levels of satisfaction in the quality of health care services [17-19].

Patients' satisfaction and perceptions of quality of care are related concepts which are often evaluated using surveys in areas of low care services; as patient satisfaction can generally be seen as a more global perception of the adequacy of care services [20]. But there still remains no consensus as to the ideal conceptual relationship between patients' satisfaction and perception due to the superficial view of 'patient satisfaction' with respect to the quality of care [21].

Nevertheless, the quality of care is a social construct that is multidimensional with the individual experience being personalized as observed by the influence of age, gender and social circumstances [22,23]. Service quality according to Parasuraman et al. [24], is the extent to which the user's perception of service exceeds their expectations and this is better evaluated by patient satisfaction which can be said to be the level of congruence between patients' expectations and their perceptions concerning care [25]. As such, patients satisfaction is also considered a measurable multidimensional construct as several dimensions of patients satisfaction have been identified and classified according to the different aspects of care delivery by different authors which includes; general satisfaction, interpersonal, technical quality of care, communication, finance, accessibility, availability and convenience [26].

So determining the levels of patients' perception and satisfaction with respect to HIV care services will result in the identification of service delivery gaps and therefore the development of effective strategies that close these gaps and consequently influence HIV care retention, HAART adherence and improved clinical outcomes.

2. METHODOLOGY

2.1 Study Area

The study was conducted at the adult HIV clinic of Imo State University Teaching Hospital (IMSUTH) situated in Orlu Local Government Area (LGA) within the Orlu zone of Imo State in South Eastern Nigeria. Imo State covers an area of about 5100 sq. km with a population density varying from 230-1400 persons per sq. km. The study centre is a tertiary health care facility with a HIV clinic that has a total enrolment of 4,800 patients and offers comprehensive outpatient HIV care services to about 900 patients' monthly [27].

2.2 Study Population

The study population comprised adult HIV infected patients accessing HAART from the HIV clinic of Imo State University Teaching Hospital. The study design was a hospital based cross sectional descriptive Survey. The inclusion criteria for enrolment into the survey was; all clinically stable adult HIV patients attending the HIV clinic. Exclusion criteria; HIV patients with tuberculosis comorbidity.

2.3 Sample Size Estimation

The minimum sample size was calculated using the Cochrane formula [28].

$$n = \frac{Z^2pq}{d^2}$$

When n= minimum sample size, Z= Standard normal deviate corresponding to 5 % significant level, p = proportion of a target population estimated to have a certain level of perception and satisfaction was set at 50%, q=1-p, d= tolerable error of margin set at 0.05. Z=1.96, p=0.50, q=1-0.50, n=384.

The sample size used for the survey including non- response rate was 425.

2.4 Sampling Technique

A simple random sampling technique was used to select the HIV patients receiving treatment from the IMSUTH HIV clinic within a 6 week-period of 17 clinic days. From the registry of patients for clinic appointments for each clinic day, 25 patients were randomly selected by balloting and interviewed using a questionnaire.

2.5 Data Collection and Analysis

Data was collected with a pretested, semi structured, self and interviewer administered questionnaire. This questionnaire used was developed from the patient satisfaction questionnaire PSQ III that was originally developed by Ware et al. in 1976 [29]. The questionnaire was adapted in order to optimize the content validity, so as to reflect closely the patients' opinions of the quality of care and its associated factors and the levels of satisfaction with the quality of care, taking into cognisance the local socio-cultural and local health care organizational realities. The questionnaire comprised three sections; section one: the socio-demographic characteristics, section two: the perception of the quality of HIV care services rendered, section three: the level of patient satisfaction. Medical students were trained in the data collection process and were recruited as research assistants. Data was collected from the literate respondents using self- administered questionnaires while the research assistants administered questionnaires for those that were illiterates.

The level of perception of the quality of HIV care services was determined by scoring 16 questions with 5 options i.e. excellent, very good, good, fair and poor with a score of 5 through to 1 allocated in that order. The total maximum score was 80. The aggregate score for each respondent was translated into a percentage and the level of perception was assessed against a scale of 0-50% as poor, 51-70% as fair and >70% good.

The overall level of patient satisfaction was determined by scoring 49 questions of which 24 questions were positively framed and 25 questions were negatively framed. In assessing the overall level of patient satisfaction, a Likert scale was used. For the positively framed questions, a response from strongly agree to strongly disagree, a score from 5 to 1 was allocated accordingly and for the negatively framed questions, a response from strongly disagree to strongly agree, a score from 5 to 1 was allocated accordingly. The aggregate score for each respondent was translated into a percentage and the overall level of patient satisfaction was assessed against a scale of 0-60% as dissatisfied and >60% as satisfied.

Data was cleaned and validated manually, and analysed using Software Package for Social Sciences (SPSS-IBM) version 22. Descriptive statistics (frequency tables and summary indices) were generated. Chi Square was used to test association between categorical variables and Multiple Logistic Regression was applied to the significant associations to determine the predictors of satisfaction with the quality of HIV care services. P value was set at 0.05 significant level.

3. RESULTS

Four hundred and twenty five questionnaires were distributed but four hundred and twenty two questionnaires were completely and correctly filled with a response rate of 99.3%.

3.1 Sociodemographic Characteristics of Respondents

The mean age of the respondents was 38.0±2.0 years old with more than half of the respondents being, female (62.8%), single, widowed or separated (61.7%) and just less than half belonging to the Catholic faith (41.2%). A majority of the respondents were either traders or artisans (53.3%) with either a primary or secondary level of education (66.1%) residing either in Orlu or Owerri zones of Imo State (70.1%) and were diagnosed HIV positive in Government owned health establishments (73.3%). More than half of the respondents lived with family members (52.4%) with an average household size of 6.0 ±2.0 members and did not have children (54%). The median monthly income of the respondents was N9769 ($20.0) and the average transportation cost per hospital visit was N629.0±31.3 ($1.3±0.1) (Table 1).

3.2 Perception of the Quality of HIV Care Services by Respondents

Though the majority of respondents (62.1%) felt the waiting time in the clinic to see the doctor was poor (long), a majority also felt that the waiting time to retrieve their case notes from records (92.4%), perform laboratory tests (83.9%) and to receive their medication from the pharmacy (78.0%) were good (short). More than 90% of the respondents felt that the access and general quality of care, doctors-patient relationship and care received from other health care staff were good. Similarly, more than 90% of the respondents felt that the general hospital sanitation, the clinic, laboratory and pharmacy environment were also good (Table 2).

The majority of the respondents (65.6%) had a good level of the perception of the quality of HIV services in the tertiary care hospital (Fig. 1).

Table 1. Sociodemographic characteristics

Variable	Category	Frequency (%) n=422
Age (years)	18-30	118(28.0)
Mean age (38.0 ±2.0)	31-40	156(37.0)
	41-50	77(18.2)
	>50	71(16.8)
Gender	Female	265(62.8)
	Male	157(37.2)
Religion	Catholic	174(41.2)
	Pentecostal	115(27.3)
	Orthodox	108(25.6)
	Others	25(5.9)
Marital status	Single	159(37.7)
	Married	131(31.0)
	Widowed/Separated	103(24.4)
	Cohabiting	29(6.9)
Educational level	Tertiary	85(20.1)
	Secondary	179(42.4)
	Primary	100(23.7)
	None	58(13.7)
Occupation	Traders	151(35.8)
	Artisan	74(17.5)
	Students	56(13.3)
	Civil servants	25(5.9)
	Teachers	22(5.2)
	Unemployed	53(12.6)
	Other activities	41(9.7)
Centre of HIV diagnosis	IMSUTH	173(41.0)
	Private lab/hospital	113(26.8)
	Public hospital	99(23.5)
	Health centre	37(8.8)
Place of residence	Orlu zone	163(38.6)
	Owerri zone	133(31.5)
	Okigwe zone	76(18.0)
	Outside Imo State	50(11.8)
Number of children	0	228(54.0)
	1-4	146(34.6)
	>4	48(11.4)
Number of people per household	1-5	216(51.2)
Mean= 6.0 ±2.0	6-10	147(34.8)
	>10	59(14.0)
Living-in with	Family members	221(52.4)
	Alone	107(25.4)
	Relatives	50(11.8)
	Other people	44(10.4)
Income per month	<N10,000	216(51.2)
Median= N9,768.5	N10,000-20,000	114(27.0)
($20.0)	N21,000-30,000	40(9.5)
	>30,000	52(12.3)
Transport cost per visit	N100-300	114(27.0)
Mean=N629.0±31.3	N301-600	107(25.4)
($1.3±0.1)	N601-900	62(14.7)
	>N900	139(32.9)

Table 2. Perception of quality of HIV care services

	Good (%)	Fair (%)	Poor (%)	Total (%)
Waiting time				
Clinic	26(6.2)	134(31.8)	262(62.1)	422(100)
Pharmacy	329(78.0)	53(12.6)	40(9.5)	422(100)
Laboratory	354(83.9)	40(9.5)	28(6.6)	422(100)
Records	390(92.4)	24(5.7)	8(1.9)	422(100)
Access to care	381(90.3)	37(8.8)	4(0.9)	422(100)
Doctors care	413(97.9)	9(2.1)	0(0.0)	422(100)
Patient- doctor relationship	419(99.3)	3(0.7)	0(0.0)	422(100)
Nurses care	385(91.2)	30(7.1)	7(1.7)	422(100)
Attendant staff care	394(93.4)	26(6.2)	2(0.5)	422(100)
Pharmacy staff care	396(93.8)	21(5.0)	5(1.2)	422(100)
Clinic environment	392(92.9)	30(7.1)	0(0.0)	422(100)
Laboratory environment	388(91.9)	29(6.9)	5(1.2)	422(100)
Pharmacy environment	394(93.4)	25(5.9)	3(0.7)	422(100)
General hospital sanitation	388(91.9)	30(7.1)	4(0.9)	422(100)
General quality of care	405(96.0)	14(3.3)	3(0.7)	422(100)

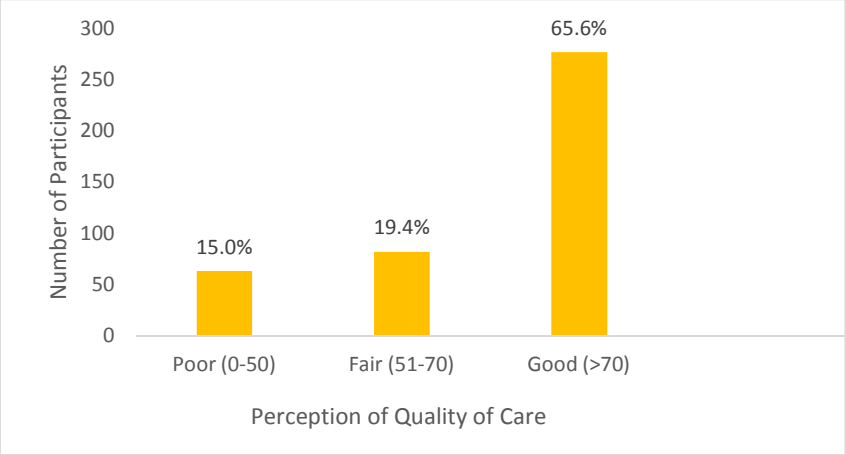

Fig. 1. Aggregate score of perception of quality of care

3.3 Levels of Satisfaction among the Respondents

While a majority of the respondents were satisfied with the general medical care they received (86.3%), the facilities available in the consulting rooms (73.2%) and the knowledge of the health care staff on the latest medical developments (88.9%); they were dissatisfied with the system that provided the medical care (69.0%) (Table 3).

Similarly, though the majority of respondents were satisfied with the doctors' treatment ability (92.9%), the advice given by doctors to prevent illnesses (89.3%) and the precautions taken by the doctors to prevent patients' exposure to risks (93.4%); they were dissatisfied with the thoroughness of the doctors' conduct in clinical examination and treatment (76.3%) (Table 3).

Only about half of the respondents (53.8%) were satisfied with the adequacy of the doctors' respect for them, but a majority were satisfied with the doctors' personal relationship (87.9%) and their genuine interest in their health (89.6%) and were dissatisfied with medical staff attention to their privacy (67.8%) (Table 3).

A majority of the respondents were satisfied with the attention paid by the doctors when eliciting the medical history (93.4%) and the adequacy of the explanations given for medical tests (83.4%) but were dissatisfied with the adequacy of the doctors' explanations of medical terms (81.8%).

While more than 90% of the respondents were satisfied with the affordability and fairness of cost for medical care, about 30% were dissatisfied with the fact that receiving medical care set them back financially (Table 3).

Though more than half of the respondents (59.5%) were dissatisfied with the adequacy of the time the doctor spent with them, a majority (81.5%) were satisfied with the patience exhibited by the medical staff when attending to them. Also, more than 70% of the respondents were satisfied with accessibility of hospital and doctor care when needed, the convenience of the medical care location and office hours and the adequacy of wait times for emergency treatment (Table 3).

The majority of respondents (79.5%) were satisfied overall with the quality of HIV care services received in the tertiary care hospital (Fig. 2).

Table 3. Levels of satisfaction according to the dimensions of care

Dimensions of care	Satisfied (%)	Dissatisfied (%)	Total (%)
General satisfaction			
General medical care I receive	364(86.3)	58(13.8)	422(100)
The system that provides medical care	131(31.1)	291(69.0)	422(100)
Technical quality			
Thoroughness of Doctors in examination and treatment	100(23.7)	322(76.3)	422(100)
Doctors ability to treat me	392(92.9)	30(7.1)	422(100)
Doctor's advice to avoid illness and stay healthy	377(89.3)	45(10.7)	422(100)
Precautions taken by doctors to prevent risk exposure to me	394(93.4)	28(6.6)	422(100)
Availability of facilities in Doctor's office	309(73.2)	113(26.8)	422(100)
Medical staff knowledge on latest medical developments	375(88.9)	47(11.1)	422(100)
Interpersonal aspect			
Doctor's personal relationship	371(87.9)	51(12.1)	422(100)
Medical staff attention to privacy	136(32.2)	286(67.8)	422(100)
Doctors genuine interest in me	378(89.6)	44(10.4)	422(100)
Adequacy of doctor's respect for me	227(53.8)	195(46.2)	422(100)
Communication			
Adequacy of doctor's explanations for medical tests	352(83.4)	70(16.6)	422(100)
Doctor's explanations of medical terms	77(18.3)	345(81.8)	422(100)
Doctor's attention to what I say	394(93.4)	28(6.6)	422(100)
Financial aspect			
Receipt of medical care without financial setback	302(71.6)	120(28.4)	422(100)
Affordability of medical care	397(94.1)	25(5.9)	422(100)
Fairness of cost for medical care	388(91.9)	34(8.1)	422(100)
Time spent with doctor			
Adequacy of time the doctor spend with me	171(40.5)	251(59.5)	422(100)
The patience of the staff when treating me	344(81.5)	78(18.5)	422(100)
Access/Availability/Convenience			
Access to hospital care when needed	323(76.5)	99(23.5)	422(100)
Adequacy of office opening hours for medical care	361(85.5)	61(14.5)	422(100)
Convenience of medical care location	359(85.1)	63(14.9)	422(100)
Convenience of office hours for medical care	365(86.5)	57(13.5)	422(100)
Adequacy of wait times for emergency treatment	299(70.9)	123(29.1)	422(100)
Accessibility to doctor to answer health related questions	366(86.7)	56(13.3)	422(100)

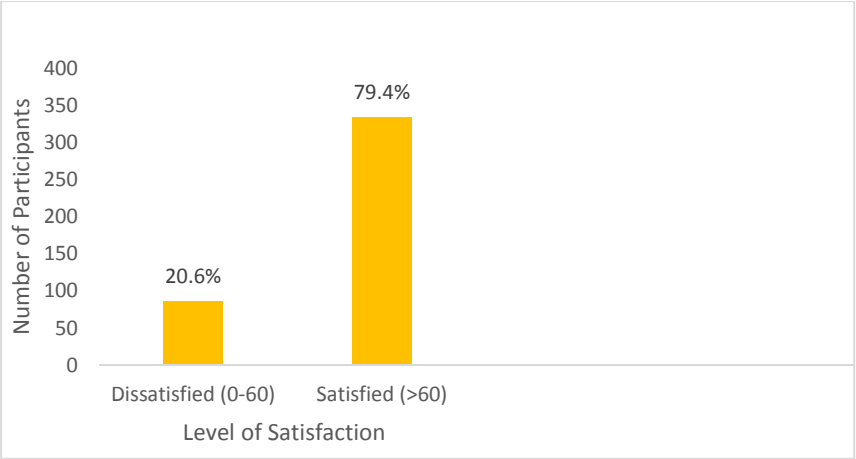

Fig. 2. Aggregate score of overall level of satisfaction

3.4 Levels of Overall Satisfaction and Socio-demographic Characteristics among the Respondents

The following socio-demographic characteristics were significantly associated with the level of overall satisfaction of the respondents; Religion (p<0.000), Marital Status (p<0.000), Educational level (p<0.000), Occupation (p<0.000), Centre of HIV diagnosis and treatment (p<0.000), Place of residence (p<0.000), Number of children (p<0.000), Number of people per household (p<0.000), Living in arrangements (p<0.000) and Transport cost per visit (p=0.001). While on the other hand; Age, Gender and Income per month were not significantly associated with the level of overall satisfaction (p>0.05) (Table 4).

Table 4. Levels of overall satisfaction and socio-demographic characteristics

Variable	Satisfied (%)	Dissatisfied (%)	Total (%)	χ^2	df	p-value
Age				4.292	3	0.232
18-30	95(80.5)	23(19.5)	118(100)			
31-40	116(74.4)	40(25.5)	156(100)			
41-50	64(83.1)	13(16,9)	77(100)			
>50	60(84.5)	11(15.5)	71(100)			
Total	**335(79.4)**	**87(20.6)**	**422(100)**			
Gender				2.727	1	0.099
Female	217(81.9)	48(18.1)	265(100)			
Male	118(75.2)	39(24.8)	157(100)			
Total	**335(79.4)**	**87(20.6)**	**422(100)**			
Religion				24.900	3	**0.000***
Catholic	145(83.3)	29(16.7)	174(100)			
Orthodox	97(89.8)	11(10.2)	108(100)			
Pentecostal	74(64.3)	41(35.7)	115(100)			
Others	19(76.0)	6(24.0)	25(100)			
Total	**335(79.4)**	**87(20.6)**	**422(100)**			
Marital status				26.334	3	**0.000***
Single	109(68.6)	50(31.4)	159(100)			
Married	120(91.6)	11(8.4)	131(100)			
Widowed/Separated	86(83.5)	17(16.5)	103(100)			
Cohabiting	20(69.0)	9(31.0)	29(100)			
Total	**335(79.4)**	**87(20.6)**	**422(100)**			
Educational level				70.123	3	**0.000***
Tertiary	40(47.1)	45(52.9)	85(100)			
Secondary	162(90.5)	17(9.5)	179(100)			

Variable	Satisfied (%)	Dissatisfied (%)	Total (%)	χ^2	df	p-value
Primary	85(85.5)	15(15.0)	100(100)			
None	48(82.8)	10(17.2)	58(100)			
Total	**335(79.4)**	**87(20.6)**	**422(100)**			
Occupation				52.304	6	**0.000***
Traders	145(96.0)	6(4.0)	151(100)			
Artisan	55(74.3)	19(25.7)	74(100)			
Students	40(71.4)	16(28.6)	56(100)			
Civil servants	19(76.0)	6(24.0)	25(100)			
Teachers	17(77.3)	5(22.7)	22(100)			
Unemployed	28(52.8)	25(47.2)	53(100)			
Other activities	31(75.6)	10(24.4)	41(100)			
Total	**335(79.4)**	**87(20.6)**	**422(100)**			
Centre of HIV diagnosis/treatment				37.754	3	**0.000***
IMSUTH	162(93.6)	11(6.4)	173(100)			
Private lab/hospital	82(72.6)	31(27.4)	113(100)			
Public hospital	67(67.7)	32(32.3)	99(100)			
Health centre	24(64.9)	13(35.1)	37(100)			
Total	**335(79.4)**	**87(20.6)**	**422(100)**			
Place of residence				39.665	3	**0.000***
Orlu zone	153(93.9)	10(6.1)	163(100)			
Owerri zone	101(75.9)	32(24.1)	133(100)			
Okigwe zone	50(67.8)	26(34.2)	76(100)			
Outside Imo State	31(62.0)	19(38.0)	50(100)			
Total	**335(79.4)**	**87(20.6)**	**422(100)**			
Number of children				27.538	2	**0.000***
0	161(70.6)	67(29.4)	228(100)			
1-4	135(92.5)	11(7.5)	146(100)			
>4	40(83.3)	8(16.7)	48(100)			
Total	**335(79.4)**	**87(20.6)**	**422(100)**			
Number of people per household				34.786	2	**0.000***
1-5	189(87.5)	27(12.5)	216(100)			
6-10	115(78.2)	32(21.8)	147(100)			
>10	31(52.5)	28(47.5)	59(100)			
Total	**335(79.4)**	**87(20.6)**	**422(100)**			
Living in with				28.470	3	**0.000***
Family members	194(87.8)	27(12.2)	221(100)			
Alone	72(67.3)	35(32.7)	107(100)			
Relatives	42(84.0)	8(16.0)	50(100)			
Other people	27(61.4)	17(38.6)	44(100)			
Total	**335(79.4)**	**87(20.6)**	**422(100)**			
Income per month				7.439	3	0.059
<N10,000	167(75.6)	54(24.4)	221(100)			
N10,000-20,000	86(78.9)	23(21.1)	109(100)			
N21,000-30,000	35(87.5)	5(12.5)	40(100)			
>30,000	47(90.4)	5(9.6)	52(100)			
Total	**335(79.4)**	**87(20.6)**	**422(100)**			
Transport cost per visit				16.525	3	**0.001***
N100-300	104(91.2)	10(8.8)	114(100)			
N301-600	84(78.5)	23(21.5)	107(100)			
N601-900	49(79.0)	13(21.0)	62(100)			
>N900	98(70.5)	41(29.5)	139(100)			
Total	**335(79.4)**	**87(20.6)**	**422(100)**			

**Statistically significant*

3.5 Predictors of Overall Satisfaction with the Quality of HIV Services among Respondents

The study respondents of the Pentecostal faith were significantly less likely to be satisfied with the quality of HIV care services when compared to those of the Catholic faith (OR: 0.36; p<0.000).

Similarly, the following respondents were also significantly less likely to be satisfied with the quality of HIV care services; those initially diagnosed of HIV and commenced treatment in a private lab/hospital, health centre or a non-tertiary public hospital when compared to IMSUTH a tertiary public hospital (OR: 0.13-0.18; p<0.000); those with a tertiary level of education when compared to those without an education (OR: 0.19; p<0.000); those that spend more than N300 ($0.6) when compared to those that spend N300 or less as transportation cost per HIV care visit (OR: 0.23-0.36; p≤0.022) and finally those with a household size of 6 people and above when compared to those with 5 or less people (OR: 0.16-0.51; p≤0.019) (Table 5).

On the contrary, the following respondents were significantly more likely to be satisfied with the quality of HIV care services; those that reside in Orlu zone within Imo State when compared to those residing outside Imo State (OR: 9.38; p<0.000); those that are married and widowed/separated respectively when compared to those that are single (OR: 5.00; p<0.000) and (OR: 2.32; p=0.007); those living with family members and relatives respectively when compared to those living alone (OR: 3.49; p<0.000) and (OR: 2.55; p=0.029) and those with up to 4 children when compared to those with no children (OR: 5.11; p<0.000). Similarly, the respondents that are traders, artisans, civil servants, teachers, engaged in other activities and students when compared to those that are unemployed (OR: 2.23-21.58; p≤0.05) were also significantly more likely to be satisfied with the quality of HIV care services (Table 5).

4. DISCUSSION

This study assessed the perception and satisfaction of HIV patients on the quality of HIV Care Services and its associated socio-demographic factors in a Tertiary Care Hospital and it revealed that the majority of the respondents had a good level of perception and were satisfied overall with the quality of HIV care services received in the tertiary care hospital. It further revealed that the patients overall satisfaction were significantly associated with the following socio-demographic characteristics; Religion, Marital Status, Educational level, Occupation, Centre of HIV diagnosis and treatment, Place of residence, Number of children, Number of people per household, Living-in arrangements and Transport cost per visit.

In the present study more than half of the respondents earned an income of less than N10, 000 ($20), had either a primary or secondary school education as the highest level of education and were either traders or artisans. These characteristics categorize them within the lower socioeconomic class and there is a tendency for this class of people to have a lower threshold zone of tolerance for the quality of services received because higher cost for them which is unaffordable is usually associated with higher quality of service. So they have a lower level of quality service expectation which is easier to satisfy, resulting in their higher level of perception with the minimum quality of care offered [30,31]. This may explain to some extent the good level of perception observed among the majority of the respondents in the present study which is consistent with a study done in Ethiopia [30]. But in another study done in Zambia [32], though the perceived quality of care was an important driver of patient satisfaction, the perception in most of the respondents in that study was not consistent.

In the present study, in spite of the good level of perception of the quality of HIV care services with respect to the general environment and wait times in retrieving case notes from the records, performing laboratory tests and receiving medication from the pharmacy, there was a poor perception of the wait times to see a doctor. This could be explained principally by the inadequate doctor patient ratio existing in these health institutions as other aspects such as access, doctors-patient relationships and care received from other health care staff were perceived as good by most of the respondents.

It was also observed that there was a good level of overall satisfaction similar to the level of perception among the majority of the respondents and as such, there could to be a relationship between perception and satisfaction of the respondents in the present study which is not unusual as both satisfaction and perception depend on preconceived ideas, expectations,

past experiences and achieved service performance [30,33,34]. A relationship between perception and satisfaction has been reported by other studies that have observed a strong

Table 5. Predictors of overall satisfaction with services among respondents

Variable	OR (estimate)	95(CI)	p-value
Religion			
Catholic	1.00	-	-
Orthodox	1.76	0.841-3.697	0.129
Pentecostal	0.36	0.208-0.627	**0.000***
Others	0.63	0.233-1.723	0.399
Marital status			
Single	1.00	-	-
Married	5.00	2.479-10.101	**0.000***
Widowed/Separated	2.32	1.250-4.308	**0.007***
Cohabiting	1.02	0.434-2.397	1.000
Educational level			
None	1.00	-	-
Tertiary	0.19	0.083-0.414	**0.000***
Secondary	1.99	0.853-4.621	0.107
Primary	1.18	0.492-2.832	0.708
Occupation			
Unemployed	1.00	-	-
Traders	21.58	8.110-57.411	**0.000***
Artisan	2.58	1.221-5.473	**0.012***
Students	2.23	1.011-4.927	**0.045***
Civil servants	2.83	0.975-8.198	**0.050***
Teachers	3.04	0.977-9.432	**0.049***
Other activities	2.77	1.132-6.766	**0.024***
Centre of HIV diagnosis/treatment			
IMSUTH	1.00	-	-
Private lab/hospital	0.18	0.086-0.376	**0.000***
Public hospital	0.14	0.068-0.299	**0.000***
Health centre	0.13	0.050-0.312	**0.000***
Place of Residence			
Outside Imo State	1.00	-	-
Orlu zone	9.38	3.978-22.106	**0.000***
Owerri zone	1.93	0.965-3.879	0.060
Okigwe zone	1.18	0.561-2.476	0.663
Number of children			
0	1.00	-	-
1-4	5.11	2.594-10.055	**0.000***
>4	2.08	0.925-4.681	0.070
Number of people per household			
1-5	1.00	-	-
6-10	0.51	0.293-0.901	**0.019***
>10	0.16	0.083-0.303	**0.000***
Living in with			
Alone	1.00	-	-
Family members	3.49	1.975-6.178	**0.000***
Relatives	2.55	1.083-6.014	**0.029***
Other people	0.77	0.373-1.600	0.488
Transport cost per visit			
N100-300	1.00	-	-
N301-600	0.35	0.158-0.779	**0.008***
N601-900	0.36	0.149-0.884	**0.022***
>N90	0.23	0.109-0.484	**0.000***

**Statistically significant*

association and an interwoven deterministic relationship between the levels of perception and overall satisfaction [30,35,36]. This level of overall satisfaction with the quality of HIV care services was similarly observed in another study in South east of Nigeria [37] despite the fact that a majority of the respondents in the present study were also dissatisfied with the system that provided the medical care, the thoroughness of the doctors' conduct in clinical examination and treatment, the medical staff attention to privacy and the adequacy of the doctors' explanations of medical terms. This observation further emphasizes the importance of health care provider's behaviour i.e. conduct and attention to the patient in improving patient satisfaction as a study by Dansereau et al. [32], showed that patients' ratings of health care provider behaviour were an especially strong predictor of satisfaction for HIV patients.

In the present study, it was observed that occupation, educational level, centre of HIV diagnosis and treatment, place of residence and living-in arrangements were significantly associated with the level of overall patient satisfaction with the quality of HIV care services and this was similarly observed in other studies; Bereket et al. [30], observed that patient satisfaction varied significantly across employment status, Assefa et al. [38], reported a significant association of patient satisfaction with the level of education, Osungbade et al. [39], observed that HIV patients receiving treatment in private health facility were significantly less satisfied than those attending public health facility, Dansereau et al. [32], also observed that satisfaction appeared higher at facilities that were situated in urban than in rural areas and Tran et al. [40], reported that living with spouses or partners was related to higher level of patient satisfaction.

The present study also observed that age, gender and income were not significantly associated with the level of overall satisfaction and this was inconsistent with other studies [6, 38,40,41] that reported age, gender and income being significantly related to patient satisfaction. Nevertheless other sociodemographic characteristics such as religion, marital status, number of children and number of people per household appeared to be significantly associated with patient satisfaction and as such, sociodemographic characteristics generally, should be taken in to cognisance when designing strategies that are geared towards improving patients' perception and satisfaction of HIV care services.

5. CONCLUSION

In spite of the good level of patients' perception and overall satisfaction with the quality of HIV care services offered in the tertiary health institution, certain service areas need improvements such as the wait times in the clinic to see a doctor by increasing the number of doctors, the attention to the privacy of the patients and the thoroughness of the doctors i.e. increased doctor-patient attention and communication. So improvement in these areas will further enhance the overall patients' experience and satisfaction thereby increasing the certainty of better treatment adherence and retention in medical care.

CONSENT

All authors declare that 'written informed consents were obtained from the patients before enrollment into the study.

ETHICAL CONSIDERATIONS

Ethical approval was obtained from the Ethics Committee of Imo State University Teaching Hospital Orlu and the Department of Community Medicine, IMSUTH before proceeding to do this study. All authors hereby declare that the study has therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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