

# Patients' Satisfaction with Quality of Anti-Retroviral Services in Central Nigeria: Implications for Strengthening Private Health Services

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**Abstract** Private health sector has the potential to ease the increasing burden on public health resources brought about by scaling-up of HIV treatment and care services. However, quality concerns have limited its role. A cross-sectional study comparing patients' satisfaction with quality of anti-retroviral services between public and private health-care facilities was carried out. Using an adapted Patient Satisfaction Questionnaire III, exit interviews were conducted for 809 consecutive adult HIV positive patients. Patients spent significantly less time visiting public health facility compared to private health facility. Median time spent waiting to see a doctor in public health facility was half of the time spent in private health facility. Patients on anti-retroviral drugs in public health facility spent significantly less time to collect drugs compared to patients in private health facility. Mean satisfaction scores of patients who attended public health facility were higher than scores of patients who attended private health facility in general satisfaction, technical quality of services provided, interpersonal manner, communication and time spent with doctor domains. Dissatisfaction with antiretroviral services in private health facilities could threaten attainment of anti-retroviral treatment objectives. Private health sector integration into HIV treatment services might improve service delivery and promote good clinical practice.

**Keywords:** patients' satisfaction, anti-retroviral treatment, quality of care, strengthening private health services, nigeria

## 1. Introduction

Empirical studies on patients' satisfaction have become a veritable tool in assessing the quality of health care services. This is so for a number of reasons. First, patients' satisfaction survey provides an avenue where users of health care services are able to express their perceptions on all aspects of service provision. Second, the information obtained thereof is crucial to service providers and policy makers in addressing identified gaps. Third, addressing such gaps promotes sustenance of service delivery and thereby helps service providers to remain focus in meeting objectives.

In 2004, expanding access to treatment through free antiretroviral therapy (ART) was adopted as one of the measures which could extend and improve the quality of lives of people living with Human Immuno-deficiency Virus (HIV) especially in low- and middle-income countries. As a result of these efforts, the number of people receiving therapy has grown by 13-fold since 2004.

As at the end of 2009, about 5.2 million (36%) of the estimated 15 million people living with HIV and requiring antiretroviral therapy in low- and middle-income countries were receiving treatment. Furthermore, AIDS-related deaths have declined while about 14.4 million life-years have been gained [1].

Similarly in Nigeria, the efforts had resulted in increasing access and uptake of treatment for eligible people living with HIV over the years. Using the new ART guidelines, coverage increased steadily by about three folds from 108,572 in 2006 to 359,181 eligible adults and children in 2010. In addition, the number of sites providing ART increased from 20 to 446 during the period [2]. Though, these reports seem impressive quantitatively; however, there is dearth of information on the quality of antiretroviral (ARV) provision.

Nonetheless, it has been observed that scaling up access to ART provision in developing countries had put additional stress on an already overburdened public health sector [3]. Despite this challenge, concerns about quality and affordability of ARV provision seem to have limited the role the private sector currently plays in HIV care and

treatment [3]. Such quality concerns include provider training, prescribing standards, regular testing and monitoring of HIV patients, adequate counseling on prevention, and appropriate management of opportunistic infections, among other things [4]. Furthermore, private health sector is often overlooked in health systems strengthening initiatives; this is in spite of its potential to ease the increasing burden on public health resources and consequently strengthen the health sector in developing countries [3].

Literature has reported several domains used by researchers in different settings to assess patients' satisfaction or dissatisfaction with clinical services, including ART provision. Such domains include state of infrastructure, attitude and cadre of staff, long waiting time or lack of timeliness of services and clinical communication [5-11]. Other domains are clients' perceived technical competence of service provider, accessibility, convenience, incurred cost during each visit and availability of services and prescribed drugs [10,12].

Evidence abounds on how these domains have influenced patients' satisfaction as a measure of perceived quality of services which they received. For example, long waiting time at ART sites in South Africa was found as the most important predictor of discontent among HIV patients [5]. Other researchers also reported similar findings where between 43 and 82.5% of patients' were dissatisfied with ART services because of long waiting time or lack of timeliness of services [6,7,10].

In Ethiopia, 84.8% of ART patients were reportedly satisfied with the information exchange process during their encounter with clinicians while the mean score of clinical communication they received was rated as 77.1% [8]. Other researchers in India reported lower mean satisfaction score of 58.8% on information, access and guidance domain [13]. In this same study, other domains which were assessed and scored as user's satisfaction level and perspective about quality of ART services were interaction with service providers (92.96%); physical facilities (70.85%); and confidentiality, discrimination and grievance redressal (70.31%) [13].

Poor quality of care is one of the most common reasons why clients would not choose to use available health services. For example, Iyaniwura and Yussuf [14] found that perceived quality of service was the most important factor which influenced the choice of a facility to receive care. Similarly, a perceived lack of quality of care was associated with a late visit to a health care provider in Kenya [15]. From the foregoing, the importance of providing quality ART services which would yield a high general satisfaction level by users and for which they will find most domains of service provision satisfactory cannot be underscored. This is imperative not only to increase the role of private sector in HIV care and treatment and hence the success of ART scaling up activities, but also to consolidate the gains of other key components of HIV and AIDS prevention and control programmes. In view of this, we conducted a patients' satisfaction survey in two main ART clinics of a district located in central part of Nigeria and suggested measures which could be used by service providers, health planners and policy makers to improve the overall quality of ART services.

## 2. Methods

A descriptive cross-sectional study of patients' satisfaction with services received in two main ART clinics of a district located in central zone of Nigeria was conducted; the zone recorded the highest HIV prevalence of 7.5% of the six zones of the country in the last national sero-prevalence survey. Though the two surveyed ART clinics are about 90 kilometres apart, they have similar characteristics in terms of duration of ART programmes, availability of trained personnel, provision of treatment and support services, free ART policy and urban location. However, one is a public health facility while the other is a private (faith-based) health facility.

The public health facility is headed by a Medical Director and consisted of seven clinical departments, namely: General Out-patient, Family Medicine, Surgery, Internal Medicine, Paediatrics, Pathology, and Obstetrics and Gynaecology. The ART clinic had an enrolment of 11,250 patients, who were jointly being managed by staff in the departments of Family Medicine and Internal Medicine. The ART clinical team members were trained and comprised 18 medical doctors, seven nurses, five clinic attendants, two community health extension workers, 11 counselors, three pharmacists, one pharmacist assistant, two pharmacist attendants and eight records officers. The clinical team is supported by an eight-member data management team.

The private (faith-based) health facility is headed by a Medical Superintendent with five clinical departments, namely: Surgery, Internal Medicine, Paediatrics, General Out-patient, and Obstetrics and Gynaecology. The ART clinic had an enrolment of 2,520 patients, who were being managed by staff in the department of General Out-Patient. The ART clinical team members were also trained and comprised four medical doctors, two nurses, one pharmacist, four counselors, two clinic attendants, three medical records officers, two community health extension workers, three pharmacy attendants; these were being supported by a two-person data management team.

Prior to data collection, Institutional Review Board/Ethical Committee of each of the health facilities granted approval for the study. A sample size of 388 per health facility was estimated. Study participants were HIV positive patients on highly active antiretroviral treatment (HAART) drugs, who were 18 years and above and have received treatment and care in the ART clinics for at least two months. Using an adapted and pre-tested Patient Satisfaction Questionnaire III [PSQ-III] [16,17,18], exit interviews were conducted (following a written consent) for all consecutive patients who met these criteria and received treatment services during the three months of study.

The questionnaire consisted of two sections: Section A obtained information on socio-demographic characteristics, clinical characteristics and clinical services' experience while section B obtained information on patients' satisfaction with services received. Using the 50-item instrument, patients' satisfaction was assessed on seven dimensions of care as follows: (1) general satisfaction – 6 items (2) technical quality – 10 items (3) interpersonal manner - 7 items (4) communication – 5 items (5) financial aspects – 8 items (6) time spent with doctor – 2 items and (7) access/availability/convenience of care – 12

items. A careful balance between negatively and positively framed questions was made in order to control for the effects of acquiescent response set (ARS) and opposition response set (ORS) on scores. In addition, items of a particular domain did not follow a sequential order, but scattered to avoid a biased pattern of responses. Items on each domain were assessed on a 5-point Likert scale of “strongly agree = 5”, “agree = 4”, “don’t know = 3”, “disagree = 2” or “strongly disagree = 1”; each study participant responded to these options by ticking the most appropriate one.

## 2.1. Data Handling and Analysis

Data analysis was done with SPSS version 16.0. Satisfaction scores obtained by each participant in the different domains were computed and expressed as proportions. In addition, means of their scores obtained in each domain were calculated. Median and range values were presented when appropriate. Comparison of mean satisfaction scores was done using Students’ t-test while Mann Whitney-U test was used to compare median values. Socio-demographic characteristics, variables related to care and satisfaction with different aspects of care were compared between respondents from the private and public hospital using the Chi-square test. The satisfaction domains which were significantly different between the respondents in the two hospitals were the ones regressed on hospital type to adjust for socio-demographic and clinical variables in a multiple logistic regression.

With satisfaction with care as the dependent variable, those domains which were significantly different between respondents in the private and public facilities (communication, time spent with doctor and access) were regressed on facility type and those variables significantly different at 10% level between the two hospitals. In the multiple logistic regression models, duration since testing positive and duration on HAART were dropped from the model though they were significantly different between respondents from public and private hospitals. This was due to a strong correlation with time spent in HIV care which was included in the model ( $r > 0.8$ ). Occupation and income were also strongly correlated ( $r = 0.71$ ) and income was dropped from the multiple logistic regression. Level of significance for all tests was at 5%.

## 3. Results

### 3.1. Socio-Demographic Characteristics

A total of 809 participants, 409 and 400 in public and private health facilities respectively, were interviewed (Table 1). They comprised 590 (72.9%) female and 219 (27.1%) male. About a third, 272 (33.6%) were aged between 30 and 39 years old. Their overall mean age was  $36.1 \pm 9.9$  years. Participants in the public health facility were slightly of younger age,  $35.7 \pm 9.4$  years than those in the private health facility,  $36.4 \pm 10.3$  years ( $p = 0.30$ ); but this difference was not significant.

**Table 1. Socio-demographic characteristics of participants**

Socio-demographic characteristics	Public health facility N = 409	Private health facility N = 400	Total N = 809	Test statistic	p-value
	n (%)	n (%)	N (%)		
Age (years)				$\chi^2 = 3.629$	0.30
<30					
30-39	113 (48.7)	119 (51.3)	232 (28.7)		
40-49	148 (54.4)	124 (45.6)	272 (33.6)		
$\geq 50$	103 (50.7)	100 (49.3)	203 (25.1)		
Mean age $\pm$ SD (years)	35.7 $\pm$ 9.4	36.4 $\pm$ 10.3	36.1 $\pm$ 9.9	t-test = -1.038	0.30
Sex				$\chi^2 = 0.185$	0.667
Male	108 (49.3)	111 (50.7)	219 (27.1)		
Female	301 (51.0)	289 (49.0)	590 (72.9)		
Level of education				$\chi^2 = 17.21$	0.001
No formal education	71 (46.4)	82 (53.6)	153 (19.0)		
Primary	86 (44.8)	106 (55.2)	192 (23.7)		
Secondary	147 (48.7)	155 (51.3)	302 (37.3)		
Post secondary	105 (64.8)	57 (35.2)	162 (20.0)		
Marital status				$\chi^2 = 6.865$	0.076
Single	47 (60.3)	31 (39.7)	78 (9.6)		
Married	210 (52.6)	189 (47.4)	399 (49.3)		
Widowed	95 (46.8)	108 (53.2)	203 (25.1)		
Others*	57 (44.2)	72 (55.8)	129 (16.0)		
Employment status				$\chi^2 = 14.842$	<0.001
Currently employed	357 (48.4)	380 (51.6)	737 (91.1)		
Currently unemployed	52 (72.2)	20 (27.8)	72 (8.9)		
Median number of children (range)	2 (0-26)	3 (0-16)	3 (0-26)	Mann-Whitney U = 72788.0	0.006

Others\* = cohabiting, separated, divorced

Majority of the participants, 656 (81.1%) had at least primary education while 153 (19%) had no formal education (Table 1). Slightly more than a third, 302 (37.3%) had a secondary education. Overall, about half of the participants, 399 (49.3%) were married; however, widows and widowers were more frequently seen in private health facility than in public health facility [108 (53.2%) versus 95 (46.8%)]. Of the 809 participants, 737 (91.1%) were currently employed; out of the 72 who were

not in any employment at the time of the study, 52 (72.2%) attended the public health facility compared to 20 (27.8%) who attended the private health facility ( $p < 0.001$ ). Overall median number of children of participants was 3 children (range 0 to 26 children). Participants at the private health facility had a significantly higher median number of children (3; range = 0 - 16) compared to 2 children (range = 0 - 26) reported among public health facility participants ( $p = 0.006$ ).

### 3.2. Clinical Characteristics

Overall, the median number of months of HIV diagnosis was 13 months (range = 3 – 132 months) (Table 2). Participants at the public health facility had been diagnosed HIV positive for a longer period than those in private health facility; median number of months of HIV diagnosis was significantly higher among participants in public health facility (22 months; range = 3 – 108 months) than those in the private health facility (10 months; range = 3 – 132 months) ( $p < 0.001$ ). The overall median number of months of enrolment into the ARV treatment was 11 months (range = 3 – 120 months). Participants at the public health facility had enrolled in HIV treatment for a longer period than those in private health facility; median number of months of enrolment into the ARV treatment was significantly higher among participants in public health facility (20 months; range = 3 – 108 months) than those in the private health facility (8 months; range = 3 – 120 months); ( $p < 0.001$ ). The overall median number of months of commencement on HAART drugs was 8 months (range = 2 - 108 months). Participants at the public health facility had commenced on HAART drugs for a longer period than those in private health facility; median number of months of commencement on HAART drugs was significantly higher among participants in

public health facility (15 months; range = 2 - 107 months) than those in the private health facility (6 months; range = 2 - 108 months) ( $p < 0.001$ ).

### 3.3. Experiences with Waiting Times

Overall, the median time spent in ARV clinic from arrival to exit of patients was 300 minutes (Table 2). Patients spent significantly less time visiting a public health facility (median time = 240 minutes) compared to a private health facility (median time = 360 minutes;  $p < 0.001$ ). The overall median time spent waiting to see a doctor was 40 minutes; the corresponding median time spent in a public health facility was half of the time spent in a private health facility (30 minutes versus 60 minutes); this difference was statistically significant.

The overall median time spent in consultation with a doctor was 10 minutes; ARV patients in private health facility spent significantly more time in consultation with a doctor (median time = 15 minutes) compared to ARV patients in public health facility (median time = 10 minutes;  $p < 0.001$ ). The overall median time spent to collect drugs was 30 minutes; ARV patients in public health facility spent significantly less time to collect drugs (median time = 20 minutes) compared to the time spent to collect drugs in private health facility (median time = 40 minutes;  $p < 0.001$ ).

**Table 2. Clinical characteristics and waiting time experiences of participants**

Clinical characteristics	Public health facility N = 409	Private health facility N = 400	Total N = 809	Mann-Whitney U-test	p-value
	Median (range)	Median (range)	Median (range)		
Duration of HIV diagnosis (months)	22 (3-108)	10 (3-132)	13 (3-132)	39016.5	<0.001
Duration of enrolment into ARV treatment (months)	20 (3-108)	8 (3-120)	11 (3-120)	31500.5	<0.001
Duration on HAART (months)	15 (2-107)	6 (2-108)	8 (2-108)	33739.5	<0.001
Experiences with waiting times (minutes)					
Total time spent in ARV clinic	240 (15-720)	360 (5-720)	300 (5-720)	55375.0	<0.001
Time spent waiting for doctor	30 (2-420)	60 (2-420)	40 (2-420)	56348.5	<0.001
Time spent with doctor	10 (1-60)	15 (2-420)	10 (1-420)	43964.0	<0.001
Time spent to collect drugs	20 (2-420)	40 (1-420)	30 (1-420)	52954.5	<0.001

### 3.4. Satisfaction with Clinical Services

Of the seven domains of satisfaction explored in this study, the mean satisfaction scores of patients who attended a public health facility were higher than scores of patients who attended a private health facility in general satisfaction, technical quality of services provided, interpersonal manner, communication and time spent with doctor domains (Table 3). Specifically, the mean general satisfaction score of public health facility patients was  $3.4 \pm 0.5$  compared to  $3.3 \pm 0.4$  of private health facility patients; this difference was statistically different ( $p < 0.001$ ; Confidence Interval [CI] = 3.3691 - 3.4331). Concerning technical quality of services domain, the mean satisfaction score of public health facility patients was  $3.9 \pm 0.5$  compared to  $3.8 \pm 0.4$  of private health facility patients; this difference was statistically different ( $p = 0.002$ ; CI = 3.8191 - 3.8820).

Similarly in communication domain, the mean satisfaction score of public health facility patients was  $3.9 \pm 0.6$  compared to  $3.8 \pm 0.5$  of private health facility patients; this difference was statistically different ( $p = 0.01$ ; CI = 3.8123-3.8888). Though, the mean satisfaction scores of public health facility patients on interpersonal manner and time spent with the doctor were higher than scores obtained by private health facility patients, this difference was not statistically different. Whereas in two domains i.e. financial aspects of care and accessibility/availability/convenience to reach health facility, the mean satisfaction scores of patients who attended a private health facility were higher than scores of patients who attended a public health facility. However, these differences were not statistically significant.

There was a significantly higher proportion of participants who reported that they were satisfied with communication ( $p = 0.046$ ) and access/availability/convenience ( $p < 0.001$ ) domains in private than public health facility

while a significantly higher proportion of participants in public than private health facility was satisfied with time spent with the doctor (Table 4). There were no significant differences in satisfaction concerning other aspects of care. The odds ratios and 95% confidence intervals from multiple logistic regression analyses of the communication, time spent with doctor and access domains on facility type and other variables differed significantly between the participants at the two types of facility (Table 5). After adjusting for

socio-demographic and clinical variables, participants in the public health facility were significantly more likely than those in the private health facility to be satisfied with time spent with the doctor (OR = 1.96, 95% CI = 1.37 – 2.81) and less likely to be satisfied with communication (OR = 0.49, 95% CI = 0.26 – 0.90) and access/availability/convenience (OR = 0.69, 95% = 0.48 – 0.99).

**Table 3. Mean satisfaction scores with clinical services**

Satisfaction domains	Public health facility N = 409	Private health facility N = 400	t-test	p- value
	Mean ±SD	Mean ±SD		
General satisfaction	3.4 ±0.5	3.3 ±0.4	6.274	<0.001
Technical quality	3.9 ±0.5	3.8 ±0.4	3.137	0.002
Interpersonal manner	3.46 ±0.52	3.43 ±0.48	0.852	0.39
Communication	3.9 ±0.6	3.8 ±0.5	2.572	0.01
Financial aspects of care	2.99 ±0.75	3.09 ±0.79	-1.847	0.07
Time spent with doctor	3.11 ±1.26	2.99 ±0.96	1.521	0.13
Access/Availability/ Convenience	3.16 ±0.51	3.22 ±0.46	-1.756	0.08

**Table 4. Differences in participants' satisfaction with different aspects of care between clients at the public and private health facilities**

Satisfaction domains	Facility type		Chi-square	P-value
	Public (N = 409) No. (% satisfied)	Private (N = 400) No. (% satisfied)		
General satisfaction	276 (67.5)	257 (64.3)	0.940	0.332
Technical quality	388 (94.9)	385 (96.3)	0.912	0.340
Interpersonal manner	318 (77.8)	311 (77.8)	0.001	0.999
Communication	369 (90.2)	376 (94.0)	3.966	0.046
Financial aspects	187 (45.7)	196 (49.0)	0.872	0.350
Time spent with doctor	188 (46.0)	126 (31.5)	17.819	<0.001
Access/availability/ Convenience	233 (57.0)	282 (70.5)	16.006	<0.001

**Table 5. Multiple logistic regression of three satisfaction domains on type of facility adjusting for other variables**

Variable	Communication		Time spent with doctor		Access	
	Odds ratio (OR)	95% CI OR	Odds ratio (OR)	95% CI OR	Odds ratio (OR)	95% CI OR
Facility type Public Private (ref)	0.49	0.26-0.90	1.96 1	1.37-2.81	0.69 1	0.48 – 0.99
Educational level None Primary Secondary Post-secondary						
	0.96	0.34-2.71	1.76	0.98-3.17	1.18	0.66-2.12
	1.01	0.39-2.63	1.86	1.09-3.17	1.12	0.67-1.90
	1.04	0.42-2.27	1.75	1.09-2.80	1.46	0.92-2.32
Occupation Civil servants Traders/artisans Farmers Unemployed						
	0.81	0.44-1.51	0.94	0.51-1.71	0.27	0.06 – 1.25
	0.63	0.34-1.17	0.56	0.31-1.03	0.31	0.07-1.45
	1.02	0.54-1.93	0.65	0.35-1.21	0.38	0.08-1.79
Marital status Single Married Widowed Others						
	1.75	0.51-6.06	0.83	0.44-1.56	0.99	0.53-1.86
	1.16	0.56-2.43	1.01	0.66-1.53	0.96	0.63-1.48
	1.04	0.46-2.36	0.95	0.60-1.53	1.12	0.69-1.81
Duration in care at facility (months) < 12 12-23 ≥ 24						
	0.52	0.23-1.17	1.13	0.74-1.72	1.45	0.95 – 2.21
	0.30	0.14-0.65	0.86	0.56-1.33	0.92	0.60-1.42

## 4. Discussion

Scaling up access to antiretroviral treatment is not only desirable for individual patients with HIV and AIDS but also for consolidating the successes of prevention and control programmes in developing countries.

Consequently, expanding access to treatment has the potential to assist countries in achieving Millennium Development Goal (MDG) 6. This potential could be accentuated by providing quality antiretroviral treatment services in all health facilities.

The involvement of private sector in providing synergy for scaling up access to treatment, care and support has since been recognized; thus, the complimentary

significance of private sector engagement in ART provision cannot be underscored. This prospect has been explicitly demonstrated through collaboration between national governments and international development partners such as Global Fund to Fight AIDS, Tuberculosis and Malaria and Society for Family Health (SFH), to mention a few; such efforts have produced a substantial increased access to HIV testing and counseling services in developing countries [19]. This is rewarding because counseling and testing is known to serve as an important entry point to HIV/AIDS prevention and care; in addition, people who know their HIV status are better able to enter treatment early, access care and support - thereby increasing their chances of better health outcomes.

In the light of the above, it is equally important to accord significance to private sectors' involvement in scaling up provision of ART for several reasons. Firstly, this is because private medicine outlets contribute significantly towards making essential medicines available in many developing countries; for example, WHO (2008) reported that the availability of essential medicines in the public sector was only one third (i.e. 34.9%), while private sector availability was about two thirds (i.e. 58%) [20]. Secondly, private facilities have the potential to alleviate patient load on public facilities, provide services at shorter wait times, reduce stigmatization, and provide more flexible scheduling [3]. Thirdly, some patients perceive private facilities as having more respect for confidentiality and sensitivity toward patient needs [21]. Fourthly, it is thought that when patients are geographically closer to a private provider, it enables them to access services closer to their homes or work [3]. Fifthly, it has been documented that approximately 21 percent of patients receiving antiretroviral therapy (ART) in six African nations (Botswana, Kenya, Namibia, Nigeria, South Africa, and Uganda) were receiving treatment in the private sector [22]. Thus, supporting these facilities in providing quality services is highly desirable.

In this study, ARV patients who received treatment in the private health facility were significantly less satisfied with services in most of the surveyed domains of patient satisfaction than ARV patients who attended the public health facility irrespective of their socio-demographic and clinical characteristics. Furthermore, public health facility patients spent significantly less time visiting the facility, waiting to see a doctor and waiting to collect ARV drugs than private health facility patients. However, these findings should be interpreted within the context of certain limitations which could have influenced satisfaction of users of ARV services. Such limitations include disease stage of each participant, investigations carried at the time of visit, organization of health services, staff adequacy, drug availability and psychological well being of participants - none of which was put into consideration in the design of this study. Nonetheless, despite these limitations, the quality of ARV services provided at the private health facility could still be perceived as being poor from the patients' perspectives and this could undermine ART objectives.

Though there is paucity of data on satisfaction with ART services provided at private health facilities in sub-Saharan African countries, studies from similar settings in India have reported findings which were suggestive of less satisfaction among patients on ARV in private health

facilities than those who received treatment in public health facilities [23,24]. For example,  $\geq 95\%$  adherence with ARV drugs was reported in more participants among public and public-private groups compared to private participants (public 97%; private 88%; public-private 93%,  $p < 0.05$ ). Likewise, treatment interruptions were lowest among public participants (1%, 10%, 5% respectively,  $p < 0.001$ ) while adherence barriers were highest among private (31%) compared with public (10%) and public-private (17%,  $p < 0.001$ ) participants [24].

From the foregoing, our findings seem to pose certain constraints to the achievement of ART objectives. First, discontent and dissatisfaction with ART services provided in the surveyed private health facility threaten the attainment of an adherence rate of  $\geq 95\%$ ; this rate is very crucial for a successful clinical treatment outcome. Second, near-perfect i.e. ( $> 95\%$ ) adherence in most patients, is necessary to achieve full and durable viral suppression [25,26,27]; hence, the resultant virologic failure from non-adherence might diminish the potential for long-term clinical success. Third, antiretroviral adherence is known as the second strongest predictor of progression to AIDS and death, after CD4 count [28,29,30]; thus, reducing HIV-related morbidity and mortality and achieving MDG 6 seems not realistic in the present circumstance of ART provision in the surveyed private health facility.

In order to address the above concerns, we suggest that similar concerted and sustained efforts accorded to private sector's involvement in scaling up counseling and testing services should be extended to the provision of ART services in private health facilities. In view of this, it is imperative that specific interventions targeting the domains in which study participants in private health facility were reportedly less satisfied than their public health facility counterparts are identified and prioritized for implementation; this is expected to promote good clinical practice and consequently improved patients' satisfaction. In addition, existing models of private health sector integration into HIV service delivery in developing countries which have been found successful in addressing quality and affordability concerns should be adopted [3,22]. Furthermore, some authors had suggested that health systems strengthening initiatives can be used to engage the private sector in expanding access to quality care to underserved populations and creating linkages between the public and private sectors to build an integrated, sustainable health system [3].

Successful implementation of the specific interventions requires skills and competence in priority setting processes. This is particularly important as the provision of ART services using best practices may be a challenge in resource-poor setting of most developing countries like Nigeria where decision-makers often struggle with determining how limited resources should be used to provide high quality patient care services in a sustainable way [31]. Though, there is no single tool that can provide guidance on priority setting [32], we suggest that decision makers in resource-poor countries should consider economic and ethical principles, either singly or in combination, as they may be found useful in making difficult resource decisions [33,34,35].

Furthermore, learning from national and international descriptions of priority setting activities might empower

them with necessary skills and competence [36,37,38,39]. A more recent conceptual framework approach to a successful priority setting, which may be found useful was developed by Sibbald et al [40]. The framework is informed by multi-stakeholder perspectives of decision/policy-makers, scholars and patients, and provided key elements of process and outcomes [40].

## 5. Conclusion

Private health sector participation in the provision of ART services in developing countries has potential to scale-up access to treatment and improve the quality of lives of people living with HIV. However, dissatisfaction with services in private health facilities could threaten attainment of anti-retroviral treatment objectives. Promoting good clinical practice through specific interventions targeting the domains in which study participants were reportedly less satisfied might improve service delivery and clients' satisfaction. However, it is noteworthy that promoting good clinical practice is not a one-off effort; it requires that health systems are periodically reviewed in terms of tasks or procedures involved in patients' management; such reviews usually draw on lessons derived from the management and suggest how the procedures can be improved for the benefit of future patients. Thus, it is recommended that the prioritized interventions are subjected to periodic clinical auditing as this would ensure that standards for quality of care are maintained at all times.

## Statement of Competing Interests

The data were part of postgraduate fellowship study program of one of the authors. Though, the author was an employee in the public health facility, the study was neither commissioned nor funded by any of the participating health facilities.

## List of Acronyms

AIDS Syndrome	Acquired Immuno Deficiency
ARV	Anti-Retroviral
ART	Anti-Retroviral Treatment
CD4	A measure of the number of helper T cells per cubic millimeter of blood, used to analyze the prognosis of patients infected with HIV.
HIV	Human Immuno-deficiency Virus
HAART Treatment	Highly Active Anti-Retroviral
MDG	Millennium Development Goal

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