Satisfaction with HIV Care: Comparative Assessment between HIV Clients in Community Pharmacies and Specialty Clinics in Rivers State Nigeria

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Abstract

Background: Decentralization is a major HIV care strategy that was implemented in 2016 with the aim of improving the availability and accessibility of HIV care by devolving HIV care services from tertiary health facilities to peripheral centres such as HIV community pharmacies (CP). **Aim:** This study assessed and compared the satisfaction of stable HIV clients receiving services at community pharmacy and specialist HIV clinic. **Patients, Materials and Methods:** Comparative cross-sectional study design involving 174 clients in CP and 174 clients in specialty clinics (SCs) in Rivers State, Nigeria was used. Clients' satisfaction was measured using patient satisfaction questionnaire and dichotomized into satisfied and not satisfied. Chi-square test was used for the analysis of "strongly agree" and "agree" responses while Mann–Whitney U test was used to compare client's satisfaction between facilities. **Results:** Clients attending CP showed higher mean ranks compared to SCs in the general satisfaction ($P < 0.001$) and financial aspect ($P < 0.001$) domains while the SCs clients demonstrated higher mean in the interpersonal manners ($P = 0.012$) and time spent with providers ($P < 0.001$). Overall, 65.5% and 72.3% of participants were satisfied with HIV care in SCs and CP respectively with a gap of 6.8% in favour of CP ($P = 0.117$). **Conclusion:** The study found a higher level of overall client satisfaction for HIV care services received at CP compared to the SCs. These findings emphasize the need for confirmation of this hypothesis using analytic design to inform further decentralization to the remaining Local Government Areas in Rivers State.

Keywords: Clients' satisfaction, HIV clients, Nigeria, specialty clinics and community pharmacies

INTRODUCTION

Decentralization is a major HIV care strategy that was implemented in Nigeria in 2016 and aimed to improve the availability and accessibility of HIV care by devolving HIV care services from tertiary health facilities to peripheral centres.[1-3] HIV treatment services have become more accessible as a result of decentralization, especially with increase in the number of facilities providing care to people living with HIV/AIDS (PLHIV).[1] In Rivers State, the emphasis on HIV care has also shifted from tertiary hospital antiretroviral (specialty) clinics to secondary and primary care hospitals, and then to private clinics, laboratories and community pharmacies (CP). Decentralization to CP has brought HIV care closer to where clients live and work and improved coverage.[1,2] Despite these gains and five years after decentralization to CP, there is a paucity of studies on most outcome variables, especially

those comparing HIV clients' satisfaction with health care in the CP and some already existing facilities such as the tertiary hospital specialty clinics (SC).

Furthermore, PLHIV/AIDS do not all have the same need for health care because some have no complications, while others have multiple complications and comorbidities, including high viral loads and low CD4+ cell counts. In recognition of this, differentiated care examines the diversity of health-care needs of PLHIV and groups them into four broad categories for the

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delivery of the minimum package of HIV/AIDS care and support,[4-6] the fourth of which includes stable patients who require fewer clinic visits, antiretroviral therapy (ART) refills and treatment maintenance. This fourth category are the one that qualify for community ART delivery in a decentralized HIV service delivery setting, which is the focus of this study.[4]

Furthermore, as HIV transitions from an acutely fatal disease to a chronic life-long disease, PLHIV, especially stable HIV clients are living longer and requiring a complementary lifelong relationship with HIV treatment service providers. Thus, dissatisfaction with the quality of care provided to PLHIV may affect this relationship and lead to poor adherence to ART, low retention in care, poor viral load suppression, and affect the overall patient well-being.[7] Devolving HIV treatment services away from the SCs would mean that levels such as CP will have to contend with similar causes of dissatisfaction such as humaneness of provider, communicativeness, overall quality, competence of provider, administrative procedures, access, waiting time, time spent with provider and cost.[8]

It is impossible to define the quality of health care for HIV patients receiving care at the tertiary hospital SCs or the CP without integrating the personal beliefs of the user of health services and the existing scientific knowledge, which will help achieve legitimate medical and nonmedical needs,[9] underscoring the needs for clients' satisfaction study. This is supported by the Institute of Medicine and agrees with the view of Yakob and Ncama that, in looking at quality of care, consideration should be made on whether health-care services improve the desired health outcomes of individuals and population and its fit with current professional knowledge.[9]

This study aims to compare the quality of HIV care of stable HIV clients in the fourth category of differentiated care in tertiary hospital SCs and CP. Before the incorporation of community pharmacy into HIV care in 2016, the initial study focused on treatment retention and access to care rather than client satisfaction between CP and other levels of HIV care.[1] Client satisfaction has been compared between tertiary and secondary health facilities,[10] tertiary hospitals and primary health facilities,[11] and public health facilities and private clinics,[12,13] but there are limited data on studies comparing client satisfaction between tertiary hospital SCs and CP.

A study in southeast Nigeria compared clients' satisfaction among HIV clients in tertiary and secondary facilities and found high clients' satisfaction with care in both levels of care with clients in tertiary facilities having higher satisfaction with access ($P < 0.021$).[10] However, another study which compared clients' satisfaction with HIV care between public and private health facilities in Anambra State found higher satisfaction with HIV care in public hospitals ($\chi^2 = 116.85$, $P < 0.001$).[12] This agreed with an earlier study carried out to assess the difference in satisfaction with care between public and private health facility which found higher mean satisfactions among clients in the public health facilities.[13] Knowing that quality concerns can limit the role of an HIV care facility[13] and the

paucity of literature comparatively assessing the difference in clients' satisfaction between CP and the tertiary health facility SCs, it has become imperative to carry out this study.

PATIENTS, MATERIALS AND METHODS

Study design
This was a comparative cross-sectional study.

Study setting
The study was carried out in Rivers State. Rivers State is one of the six states in the South-South geopolitical zones of Nigeria. It is bounded in the north by Imo and Abia States, in the east by Akwa Ibom State, in the south by the Atlantic Ocean, and in the west by Bayelsa State. According to the National Bureau of Statistics, the projected population of Rivers State in 2019 was 7,034,973.[14] Rivers State is administratively structured into 23 Local Government Areas (LGAs). Rivers State has an HIV prevalence of 3.8%, the 2nd highest prevalence in the South-South geopolitical region of Nigeria after Akwa Ibom State and the 3rd highest in Nigeria after Akwa Ibom and Benue States.[15] There are only 2 tertiary hospital SCs and 76 HIV CP in Rivers State spread across 5 out of the 23 LGAs.

Sample size
The sample size was calculated using a formula based on an estimation of the difference between two population proportions.[16] Proportions from a local study comparing client satisfaction between public (general) hospitals and private clinics were chosen,[12] due to paucity of study comparing satisfaction of HIV between patients in CP and SCs. This compared client satisfaction at two levels of the hub and spoke model, studied private clinics that are at the same level of decentralization as CP, and used the patient satisfaction questionnaire-18 (PSQ-18) tool. Adjusting for a design effect of 2 and a nonresponse rate of 10%, a sample size of 174 was determined for each group.

Eligibility criteria
Clients who met the criteria for devolution and had been on treatment for at least a year were included in the study, while clients with tuberculosis and other chronic conditions were excluded.

Sampling technique
In order to recruit participants for the CP group, a two-stage sampling (stratified random sampling and then systematic random sampling) technique was utilized, whereas systematic random sampling technique was used for the SCs group.

Because HIV CP are only operational in 5 of Rivers State's 23 LGAs, only the 5 participating LGAs were included in the study and each considered a stratum. In the five LGA strata, there are 76 HIV CP, 12 of which were chosen from the LGAs using a simple random sampling technique following proportional allocation. Because no two CP have the same number of clients, the number of clients selected from each participating CP was determined by proportional allocation.

The proportional allocation of participants for each CP was calculated as follows: ([number of clients registered to CP ÷ total numbers of clients in the 12 CP] × total sample size), with four participants allocated to the smallest CP and 34 allocated to the largest. Using a systematic sampling technique, the first client was randomly selected from each of the CP, followed by every 6th client until an allocated sample size was achieved for each HIV community pharmacy. Since Rivers State has only two SCs (the University of Port Harcourt Teaching Hospital and the Rivers State University Teaching Hospital anti-retrovirus clinics), both were included in the study. The proportional allocation of participants for each SC was calculated thus: ([number of clients registered to SC ÷ total numbers of clients in the 2 SC) × total sample size)]), with the University of Port Harcourt Teaching Hospital allocated 102 and 72 to the Rivers State University Teaching Hospital. The study participants were then chosen through systematic random sampling. Simple random sampling was used to select the first participant from each SC, and then every third client was chosen until the number allotted to each SC was reached. For both groups, participants who declined to participate in the study or who did not meet the eligibility criteria were dropped, and the next eligible client was chosen as a replacement.

Data collection

Data were collected over a 3-month period (from November 2020 to January 2021) using semi-structured questionnaires through telephone with an average call duration of 24.78 min. The call duration ranged from 15 min to 46 min and took place within 48 h of HIV clients' contact with facility. A phone interview was chosen over face-to-face method of questionnaire administration based nature of the study sites. While SCs operated rigid clinic opening times usually from 8 am to 4 pm, CPs have flexible access times that can run late into the night including weekends. Furthermore, feasibility studies carried out indicated that some clients' preference for devolution may be to keep their access to HIV care confidential which may be less possible in the large centres where they may be exposed to different health workers as well as acquaintances. These reasons which necessitated phone interviews for this study agree with other studies employing telephone interviews.[17-19] All participants responded to questions on their background characteristics and satisfaction with services.

Variables

Self-report was used to collect measures for this study. Patients' satisfaction was measured using PSQ-18. The PSQ has 18 items under 7 domains namely: interpersonal manner, general satisfaction, technical quality, accessibility and convenience, time spent during consultation, communication, and financial aspect.[11,20] The PSQ-18 domains, have 2–4 items with responses along 5-point Likert scale (1 being the least satisfied and 5 the most satisfied). To ensure that the patient does not follow a pattern in responding to questions, the tool contained both positively and negatively worded questions.

Statistical analysis

Data were analyzed using IBM SPSS Statistics for Windows, Version 25.0. (Armonk, New York). The scores of negatively worded questions were reversed to follow similar order as the positively worded questions on the 5-point Likert scale. The average scores were determined for each domain by adding the scores of all the items that make up the subscale and dividing it by the number of items. The overall patient satisfaction score was determined by adding the mean score for all subscales and dividing by 7. Based on the maximum score for each subscale and the overall score, respondents who score at least 80% were classified as satisfied, while those who score <80% were categorized as dissatisfied.[12] Categorical data were summarized as frequencies and displayed in tables, whereas quantitative data were summarized using appropriate mean and standard deviation. Chi-square test was used to compare the difference in respondents' background characteristic in the two groups of facilities. Considering the clients' satisfaction domains, box plots were used to display spread while the Mann–Whitney U test was used to compare the difference in overall satisfaction and the satisfaction domains between the two groups with alpha set at $P < 0.05$. The Chi-square test was also used to compare the difference in satisfaction between the two groups with alpha set at $P < 0.05$.

RESULTS

A total of 348 HIV clients were involved in this study, 165 in the SCs group and 166 in the CP group. On the basic descriptive characteristics of respondents [Table 1], there were 226 (65%) females and 122 (35%) males. Their ages ranged from 18 to 72 years, with a median age of 40 years in SCs group and 23–72 years with a median age of 42 years in the CP group. The age group of 30–60 years constituted the highest proportion of patients in both groups. A greater proportion of SCs clients lived with partner compared to the CP group ($P = 0.001$). Majority of CP clients live in the urban area ($P = 0. 044$) and currently employed ($P < 0.001$). Furthermore, CP clients have on the average been on treatment longer than the SCs clients ($P < 0.001$).

As shown in Table 2, categorical responses in practice attributes between CP and SCs were compared. Clients who attended CP were significantly more satisfied with care received ($P < 0.001$), waiting time ($P = 0.05$), ease of getting appointment ($P = 0.024$), affordability of care ($P < 0.001$), and ability of provider ($P < 0.001$). Meanwhile, clients in SCs were significantly more satisfied with the friendliness of provider ($P < 0.001$), time spent with provider ($P < 0.001$), attention from provider (<0.001), checks received before treatment ($P < 0.001$), and ease of accessing medical care ($P < 0.001$).

Box plots were used in comparing the level of satisfaction with various aspects of HIV care between the CP and the SCs [Figure 1]. Each box plot shows the 25th (lower quartile),

Table 1: Basic descriptive characteristics of respondents

Variable	SC (*n*=165) frequency, *n* (%)	CP (*n*=166) frequency, *n* (%)	χ^2	*P*
Age (years)				
Young (≤30)	22 (78.6)	6 (21.4)	12.557	0.014**
Middle (>30– <60)	133 (47.0)	150 (53.0)		
Elderly (≥60)	10 (50.0)	10 (50.0)		
Gender				
Male	45 (42.9)	60 (57.1)	3.007	0.83
Female	120 (53.1)	106 (46.9)		
Living				
Alone	39 (36.1)	69 (63.9)	13.339	0.001**
With spouse/partner	89 (54.3)	75 (45.7)		
Others	37 (62.7)	22 (37.3)		
Residence				
Urban	84 (45.4)	101 (54.6)	3.313	0.044**
Rural	81 (55.5)	65 (44.5)		
Employment status				
Currently employed	105 (43.6)	136 (56.4)	13.985	<0.001**
Currently unemployed	60 (66.7)	30 (33.3)		
Mean duration of illness	4.8±3.6	6.2±3.5	*t*=3.468	<0.001**
Mean duration of treatment	4.7±3.5	6.0±3.1	*t*=3.668	<0.001**

**P*=Significant at 5%. *t*: Student *t*-test. SC: Specialty clinic, CP: Community pharmacies
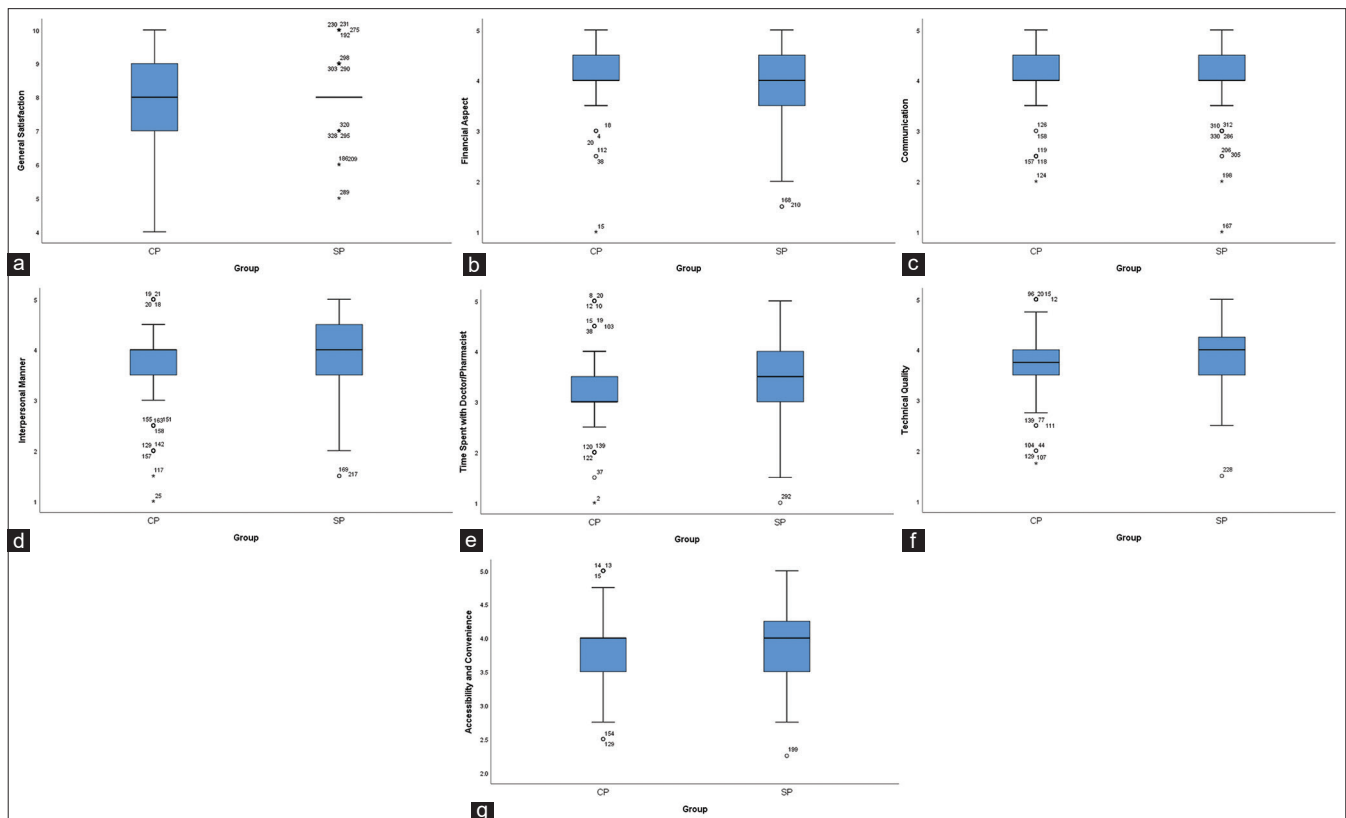

Figure 1: (a-g) Boxplots comparing domains in CP and SC. (a) Boxplot comparing general satisfaction with HIV care in CP and SP. (b) Boxplot comparing financial aspect with HIV care in CP and SP. (c) Boxplot comparing Effective communication with HIV care in CP and SP. (d) Boxplot comparing interpersonal manners with HIV care in CP and SP. (e) Boxplot comparing time spent with HIV care in CP and SP. (f) Boxplot comparing technical quality with HIV care in CP and SP. (g) Boxplot comparing accessibility and convenience with HIV care in CP and SP. CP: Community pharmacies, SC: Specialty clinic

50th (median), 75th percentile (upper quartile), minimum, maximum score, and outliers in the distribution.

The level of satisfaction in the various domains as well as the overall satisfaction between the CP and SCs were compared and

findings presented in Table 3. Clients that received HIV care from CP reported significantly higher levels of satisfaction in the general satisfaction domain (Mann–Whitney $U = 9,740.50$; $P < 0.001$) and financial aspect domain (Mann–Whitney $U = 11,643$; $P < 0.001$) while clients in SCs reported significantly higher levels of satisfaction in the interpersonal manners domain (Mann–Whitney $U = 11,931$; $P = 0.012$) and time spent with providers domain (Mann–Whitney $U = 11,321$; $P < 0.001$). Concerning the level of overall satisfaction, clients that received HIV care from CP reported higher levels of overall satisfaction, though this was not statistically significant (Mann–Whitney $U = 12520$; $P = 0.177$).

In overall satisfaction, a difference of 6.8% was recorded between CP and SCs, with CP having higher overall satisfaction compared to SCs [Figure 2].

DISCUSSION

The gap in clients' satisfaction levels between CP and SCs is large, with CP clients being more satisfied with the quality of care

Table 2: Categorical responses among clients of community pharmacies and specialty clinics

PSQ 18 items#	Strongly agree/agree, frequency (%)		χ^2	P
	SC	CP		
Medical care received about perfect (Q3)	163 (98.8)	162 (97.6)	26.063	<0.001*
Satisfied with medical care received (Q17)	98 (59.4)	155 (93.4)	73.456	<0.001*
Not financially set back by medical care (Q5)	142 (86.1)	151 (90.9)	3.596	0.459
Can afford medical care received (Q7)	132 (80)	153 (92.2)	45.018	<0.001*
Provider good at explaining results (Q1)	155 (94)	147 (88.5)	6.831	0.12
Provider do not ignore what I tell them (Q13)	137 (83)	142 (85.6)	27.73	<0.001*
Providers do not act impersonal to me (Q10)	131 (79.4)	121 (72.9)	11.811	0.017*
Providers are friendly and courteous (Q11)	140 (84.8)	114 (68.7)	20.973	<0.001*
Provider pays attention to me (Q12)	119 (72.1)	117 (70.5)	27.825	<0.001*
Adequacy of time spent with provider (Q15)	86 (52.2)	42 (25.3)	29.486	<0.001*
Provider has all needed for medical care (Q2)	142 (86)	137 (82.6)	5.549	0.21
Proper check before treating me (Q6)	143 (86.7)	107 (64.5)	26.728	<0.001*
Uncertain about provider diagnosis (Q4)	108 (65.4)	121 (72.9)	10.072	0.037*
Doubts about ability of provider (Q14)	130 (78.7)	131 (79)	19.297	<0.001*
Easy access to the medical specialist (Q8)	141 (85.4)	142 (85.6)	3.436	0.336
Ease of accessing medical care (Q18)	159 (96.4)	133 (80.1)	35.059	<0.001*
No long wait for emergency treatment (Q9)	99 (60)	118 (71)	9.385	0.05*
Easy getting appointment (Q16)	128 (77.6)	137 (82.6)	11.045	0.024*

*$P \leq 0.05$, #Negatively worded questions (4, 7, 9, 10, 12, 13, 14, 16 and 17) were reversed. SC: Specialty clinic, CP: Community pharmacies, PSQ 18: Patient satisfaction questionnaire

Table 3: Comparing levels of satisfaction on overall satisfaction and various domains of HIV care between the specialty clinics and community pharmacies

Domains	Facilities	n (331)	Mean rank	Sum of ranks	Mann-Whitney U	P
General satisfaction	SC	165	142.03	23,435.5	9740.50	0.001**
	CP	166	189.82	31,510.5		
Financial aspect	SC	165	153.56	25,338	11,643.00	0.001**
	CP	166	178.36	29,608		
Effective communication	SC	165	167.09	27,570.5	13,514.50	0.756
	CP	166	164.91	27,375.5		
Interpersonal manners	SC	165	176.69	29,154	11,931.00	0.012**
	CP	166	155.37	25,792		
Time spent with provider	SC	165	180.39	29,764	11,321.00	0.001**
	CP	166	151.7	25,182		
Technical quality	SC	165	172.76	28,505	12,580.00	0.139
	CP	166	159.28	26,441		
Accessibility	SC	165	167.73	27,675.5	13,409.50	0.704
	CP	166	164.28	27,270.5		
Overall satisfaction	SC	165	158.92	26,381	12,520.00	0.177
	CP	166	173.12	28,565		

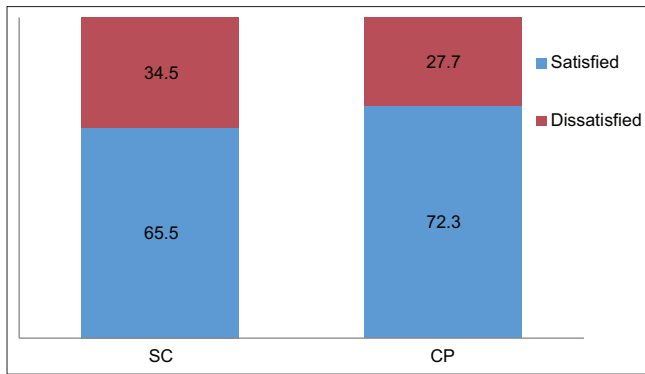**$P \leq 0.05$, SC: Specialty clinic, CP: Community pharmacies

Figure 2: Levels of overall clients' satisfaction among facilities

than SCs. Although there is a paucity of studies comparing CP with HIV treatment centres in the tertiary, secondary or primary health care levels, review of data involving levels of health care at a similar level with the CP such as the primary health centres and the private clinics in which comparisons were made with the SCs appear to be in line with the findings of this study. This finding demonstrates that satisfaction is tied more to the ability of the system to meet the expectations of the clients and not merely on technical quality or the sophistication of the facility.[11]

This study's finding of a large gap in favour of the CP over the SCs in overall clients' satisfaction with the quality of HIV care is unexpected and surprising as one would have expected clients in SCs to have better satisfaction with HIV care received compared to CP. Osiya et al. made similar findings in Rivers State using the PSQ-18 tool when they compared clients' satisfaction among 1290 clients who accessed general practice care between primary health centre and tertiary centre, in which it was found that PHC clients were more satisfied with general practice care than the clients in the tertiary centre.[11] Although the study of Osiya et al., was among clients who accessed general outpatient care and not HIV clients, the findings of a large difference between these levels of care are similar to findings of this study, which is in favour of CP over SCs. This agrees with the work of Umeokonkwo et al., who also found that clients at lower level of health care such as private hospitals were more satisfied with HIV treatment services received compared to higher centres such as the public owned secondary health centres.[12] This is also congruent with the findings of a Brazilian study which found a higher level of satisfaction among HIV clients that attend health centres compared to the city's main hospital.[21]

Our findings show that clients attending CP were more satisfied than clients of SCs in general satisfaction and financial aspect domains. There was also the difference in the ease of getting appointments, waiting time, care received, ability of provider, and attention paid to their complaints by the providers.

A greater proportion of CP clients are employed and found their treatment more affordable, which could explain for the finding of a higher level of satisfaction in the financial aspect domain compared to the SCs. Clients of the CP also had a

higher level of satisfaction in the general satisfaction domain. Clients who chose to receive care at the CP are mainly patients who require only ART refill, with no comorbidities and may find this service as perfect for their needs especially as they get more attention from the providers than their counterparts in specialty clinics and at the same time avoiding the hassles of going to a crowded centre with attendant longer waiting time.

Meanwhile, our study found higher levels of satisfaction at the SCs in the time spent with the provider domain and the interpersonal domains which could have resulted from the higher perception of clients that the providers at the SCs were friendlier, courteous and spent adequate time with them. At the practice level, the SCs provide counseling session along with drug refill which invariably creates satisfaction of spending longer time with the provider and interpersonal relationship between clients and providers.

Strengths and limitations of the study
This study employed an analytic cross-sectional design, adequate sample size, and assessed HIV clients that are stable, in the fourth category of differentiated care and receiving care either at the CP or SCs. However, being a cross-sectional study, findings from this study should be interpreted bearing in mind the limitations of the study design.

Implications of the findings
Research implications
There is a need for confirmation of this hypothesis using analytic design to inform further decentralization to the remaining LGAs in Rivers State. Future studies may consider exploring the factors that determine satisfaction with care in CP and SCs.

Practice implications
Available evidence shows that decentralizing HIV care away from the SCs to CP improves access to care and retention in care. Our findings show that beyond retention and access to care, clients in CP have higher levels of satisfaction to care that they receive, underscoring the need to strengthen this level of care for HIV clients. One way of achieving this may be by strengthening the capacity of the providers at the CP in the area of counseling through training and retraining.

Policy implication
Policies that strengthen the financial capacities of the HIV clients should be put in place as our findings showed that HIV clients who were currently employed may have contributed to a higher level of satisfaction in the financial aspect domain at the CP. This could be through such avenues as conditional cash transfers which would go a long way in subsidizing nonmedical cost of care. Policies that support mandatory counseling at the CP should also be put in place as this could help achieve better results for the decentralization program.

CONCLUSION
The study found a higher level of overall client satisfaction for HIV care services received at CP compared to the SCs. These

findings emphasize the need for confirmation of this hypothesis using analytic design to inform further decentralization to the remaining LGAs in Rivers State.

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