

Full Length Research Paper

# Assessing the Quality of Antiretroviral Therapy Services: A Patient-Centered Study in a Sokoto Tertiary Hospital

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Patient satisfaction towards services has become a tool to gain attention and value amongst the patients as well as health care providers. Satisfied patients are more likely to comply with prescribed treatment and advice from the doctors; they are also more likely to return for additional care especially for those on long term treatment like human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS). This study aims to assess the satisfaction of people living with HIV/AIDS with services provided at anti-retroviral therapy centre in a tertiary hospital in Sokoto state, Nigeria. The study was a descriptive cross-sectional design carried out in Usmanu Danfodiyo University Teaching Hospital (UDUTH) in November, 2012. A total of 257 respondents were recruited into the study using systematic sampling. A set of semi structured questionnaire was used to obtain data from the respondents. Most of the respondents were females, Hausa/Fulani, HIV stage 2 disease and had been on Anti-retroviral therapy (ART) between 2 to 5 years. They were generally satisfied with most of the services rendered by the clinic. Dissatisfaction was expressed on only 3 components of the clinic services, home visits, the adherence unit and availability of drugs. The binary logistic regression model was able to distinguish between respondents who reported and those that have not reported satisfaction with the services of the centre;  $P < 0.005$ . Though our study shows most of the respondents were generally satisfied with services, there is still need for improvement of services in some areas where the patients showed dissatisfaction. There is a need to maintain high standards in all areas of services provided to ensure that patient optimize need to utilize the services and improve their general wellbeing.

**Key words:** Human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS), patient satisfaction, antiretroviral treatment, people living with HIV/AIDS.

## INTRODUCTION

The Human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) pandemic is a major public health problem with an estimated 33.33 million people living with the virus globally (Bhagat et al., 2011). It has become the greatest threat to humanity worldwide.

The first case in Nigeria was reported in 1986 and since then, it has rapidly spread to every community in the country, reaching exponential levels with a national estimate of HIV/AIDS prevalence rate of 3.7% in 2011, this translated to an estimated 3.4 million people living

with HIV/AIDS in Nigeria as at the end of 2011 (UNAIDS, 2011).

Over the past decade, the rapid expansion of antiretroviral treatment (ART) in Africa and Asia has dramatically reduced HIV-related morbidity and mortality, and transformed HIV into a chronic illness (World Health Organization (WHO), 2011). There are many antiretroviral treatment centers in hospitals across Nigeria that offers services ranging from diagnosis, staging, routine investigations treatment and routine follow-up. With all these, it still remains a challenge to achieve the universal access target of high quality of HIV/AIDS health care services and optimal patient satisfaction in many low-income countries with the hardest hit of HIV epidemics (Wolfe et al., 2010; Reda and Biadgilign, 2012; Srikantiah et al., 2010). Patient satisfaction has been defined as the patient's "Personal evaluation of providers' ability of health care services". It reflects provider's ability to successfully deliver care that meets patients' expectations and needs (kagashe and Rwebangila, 2011).

A number of factors influence patients' satisfaction with health care services including patients' socio-demographic characteristics, physical health status, patients' personal understanding and expectations from various health care services that is, doctors, nurses, laboratory and pharmacy services (kagashe and Rwebangila, 2011). Hence, patient satisfaction with health care reflects the quality of services from the patients' perspective that supplements traditional indicators such as survival outcomes or processes of care (Crane et al., 2007). In the same vein, the measurement of patient satisfaction could help health managers come up with measures to evaluate the performance of health care delivery system in addition to identifying patients in need of additional attentions or other interventions aimed at improving their health care (WHO, 1997).

Measuring patient satisfaction will enhance appropriate communication and building of stronger health worker-patient relationship based on identified gaps and barriers to effective performance of HIV/AIDS prevention and control programs from the patients' perspective. Although, several studies have documented challenges with HIV/AIDS prevention and control programs in Nigeria (Olawookere et al., 2008), however what remains unknown is the magnitude and patterns of client satisfaction with anti-retroviral therapy services in tertiary hospitals in North Western Nigeria that have different socioeconomic and cultural beliefs from areas where studies have been reported. The Usmanu Dan Fodiyo Teaching Hospital (UDUTH) is a tertiary health facility that serves as a referral centre for Sokoto, Kebbi and Zamfara States and Niger Republic. The hospital therefore serves both urban and rural communities and registration for any ailment is unrestricted. Patients are charged according to services rendered - user fee charges.

This study aims to assess the satisfaction of people living with HIV/AIDS with services provided at anti- retroviral therapy centre in Usmanu Danfodiyo University Teaching Hospital (UDUTH).

## METHODOLOGY

Usmanu Danfodiyo University Teaching Hospital (UDUTH), the study center, is located within Sokoto metropolis. It is a tertiary health institution with 700 bed capacity, serving as referral center to several hospitals within the North-Western region. It offers general and specialty services to patients at the General outpatient department (OPD) and various specialty outpatient clinics including the ART clinic. The ART clinic is run by a multi-disciplinary team of specialists from internal medicine, paediatrics, public health and haematology departments of the hospital. The study was a descriptive cross-sectional design carried out in November, 2012. The study population comprised of People Living with HIV/AIDS (PLWA) attending the ART clinic of the Teaching Hospital (UDUTH). Using the formula for cross sectional study (Kirkwood and Sterne, 2003) and a prevalence of 18.5% from a previous study (Getenet and Haileamlak, 2008), a total of 257 respondents were recruited into the study using systematic sampling technique.

The instrument of data collection sought information on respondents' socio-demographic characteristics, satisfaction with services in monitoring and evaluation unit care provider in consulting room, treatment support specialist (TSS), basic care package (BCP), adherence unit, clinic's pharmacy unit community support services (CSS) and satisfaction with laboratory services. The questionnaires were administered by trained research assistants (RAs) after obtaining informed verbal consent from the respondents. A total of 250 questionnaires were found to be suitable for analysis, giving a response rate of 97%.

The questionnaires were entered into and analyzed using statistical package for social sciences (SPSS) statistical software package version 17. Analysis of data started with description of data using mean and standard deviation for quantitative variables, counts and frequencies for qualitative variables. This was followed by inferential statistics (multivariate, logistic regression) which were used to identify the major determinants of patient satisfaction at alpha level of 0.05. Ethical approval for this study was obtained from the ethical committee of the teaching hospital. Participants were informed of the objectives of the study that participation is voluntary, that they could opt out at any stage of the interview and all information will be treated as highly confidential. Informed consent was obtained from all participants in the study.

## RESULTS

The ages of the respondents ranged from 15 to 61 years with mean  $\pm$  SD of  $34 \pm 9$  years, while 51.4% were within the 30 to 44 years age group. Up to 75.2% of the respondents were resident in urban areas while 14.8% were from rural areas. Thirty six (14.6%) of them were students, 28.5% were civil servants, 30.1% were business men/women and farmers accounted for 22% of them. With respect to their educational qualification, 10% of them had no form of education, 24.1% had only Quranic education while 18.9% had up to tertiary level education. Majority of the respondents (64.3%) were in

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

Variable	n (%)
<b>Age (years)</b>	
15-29	85 (34.4)
30-44	127 (51.4)
45-59	30 (12.1)
60-75	5 (2.0)
Total	247 (100)
Mean = 34±9 years	
<b>Sex</b>	
Male	113 (45.2)
Female	137 (54.8)
Total	250 (100)
<b>Tribe</b>	
Hausa/Fulani	141 (56.4)
Igbo	44 (17.6)
Yoruba	31 (12.4)
Others	34 (13.6)
Total	250 (100)
<b>Residence</b>	
Urban	188 (75.2)
Rural	62 (24.8)
Total	250 (100)
<b>Education</b>	
None	25 (10)
Quranic	60 (24.1)
Adult education	28 (11.2)
Primary	7 (2.8)
Secondary	82 (32.9)
Tertiary	47 (18.9)
Total	246 (100)
<b>Occupation</b>	
Student	36 (14.6)
C/S	70 (28.5)
Business	74 (30.1)
Farmer	54 (22)
Others	12 (4.9)
Total	249 (100)
<b>Stage</b>	
Stage I	151 (64.3)
Stage II	72 (30.6)
Stage III	12 (5.1)
Stage IV	0
Total	235 (100)

**Table 1.** Contd.

<b>Duration on art (years)</b>	
<2	23 (11.3)
2-5	139 (68.1)
>5	42 (20.6)
Mean±SD = 4±2 years	204 (100)

stage I of the disease, followed by those in stage II (30.6%), then stage III (5.1%). About 68% of them have been on drugs for 2 to 5 years, while 20.1% have been on drugs for more than 5 years (Table 1).

Table 2 shows some of the services offered by the clinic, where 151 (61.9%) of the respondents said they have never been visited at home by any treatment support staff (TSS) and of the 93 (38.1%) that were visited, 92.5% of them said health education talk was given to them during the visit, 45.2% said supportive kits were given to them. Up to 61.9% of them said basic care (BC) packages were given to them and 60.2% (N = 145) said they have experienced out of stock (O/S) of some of the commodities supplied by the clinic. Only 1 (0.4%) of them said he would not recommend the center to others.

Table 3 shows the satisfaction of respondents with the services of the clinic, where most of them were generally satisfied with the different sections/services of the clinic. All the respondents expressed satisfaction with the clinic triage system and explanation given to them by the care providers. Dissatisfaction was expressed on only 3 components of the clinic services, with highest dissatisfaction expressed on home visits by TSS staff (13.5%), followed by dissatisfaction with the adherence unit (0.8%), then on availability of drugs (0.4%). A few of the respondents were only fairly satisfied with some of the services offered by the clinic.

Table 4 is the model of the binary logistic regression used to assess factors that determines the overall satisfaction of people living with HIV/AIDS with services provided at anti-retroviral therapy centre. The model contained five independent variables namely age, educational attainment, health education sessions, provision of supporting kit, and duration on ART. The model was statistically significant  $\chi^2$  (9, N = 172) 17.2; P < 0.005, indicating the model was able to distinguish between respondents who reported and those that have not reported satisfaction with the services of the centre. The model was able to explain between 19.5% (Cox & Snell R Square) and 29.1% (Nagelkerke R Square) of variance in overall satisfaction status of respondents and correctly classified 17.2% of cases. However, only two of the independent variables (education attainment and age) had significantly contributed to the model. The strongest predictor of satisfaction with the ART services

**Table 2.** Provision of some services by the clinic.

VARIABLES	Yes [n (%)]	No [n (%)]	TOTAL [n (%)]
Have you ever been visited at home by TSS staff? (n=93)	93 (38.1)	151 (61.9)	244 (100)
Was health education given by the TSS staff	86 (92.5)	7 (7.5)	93 (100)
Was any supportive kit given during their visit? (n=245)	42 (45.2)	51 (54.8)	93 (100)
Have you been given any Basic care package? (n=241)	150 (61.2)	95 (38.8)	245 (100)
Have you ever experienced out of stock (O/S) with respect to any commodity usually given at the clinic? (n=240)	145 (60.2)	96 (38.9)	241 (100)
Would you recommend this center to someone? (n=240)	239 (99.6)	1 (0.4)	240 (100)

**Table 3.** Satisfaction of respondents with services of the clinic.

VARIABLE	Satisfaction (%)			TOTAL [n (%)]
	Satisfied [n (%)]	Fairly satisfied [n (%)]	Dissatisfied [n (%)]	
Satisfaction with clinic triage	243 (100)	0	0	243 (100)
Satisfaction with courtesy of care providers	240 (99.2)	2(0.8)	0	242 (100)
Satisfaction with explanation given by care providers	241 (100)	0	0	241 (100)
Satisfaction with waiting time in the waiting area	240 (99.2)	2(0.8)	0	242 (100)
Satisfaction with condition of consulting room	241 (99.6)	1(0.4)	0	242 (100)
Satisfaction with consultation time	240 (99.6)	1(0.4)	0	241 (100)
Satisfaction with adherence unit	245 (98.4)	2(0.8)	2 (0.8)	249 (100)
Satisfaction with availability of drugs	243 (98.8)	2(0.8)	1 (0.4)	246 (100)
Satisfaction with services of the pharmacy	242 (99.6)	1(0.4)	0	243 (100)
Satisfaction with services of CSS unit	244 (99.6)	1(0.4)	0	245 (100)
Satisfaction with home visit by TSS staff	192 (83.5)	7(3)	31 (13.5)	230 (100)
Satisfaction with waiting time in the laboratory	243 (99.2)	2(0.8)	0	245 (100)
Satisfaction with overall services of the clinic	241 (99.6)	1(0.4)	0	242 (100)

**Table 4.** Determinants of satisfaction with TSS staff home visit.

Predictor variables	B	SE	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
						odds ratio	Lower	Upper
Health education sessions	0.15	0.62	0.06	1	0.81	1.12	0.35	3.92
Provision of supportive kit	0.29	0.34	0.73	1	0.39	1.33	0.70	2.60
Age	-0.04	0.02	3.91	1	0.04	0.96	0.93	1.00
Educational attainment	-1.55	0.63	5.97	1	0.01	0.62	0.46	0.73
Duration on ART	0.05	0.08	0.42	1	0.52	1.05	0.89	1.24
Constant	1.07	0.96	1.25	1	0.26	2.92	-	-

SE = standard error, df = difference, sig = significance.

was age of respondents with an odd ratio of 1.96 (CI = 93 to 1.00) likelihood of being satisfied compared to other variables.

## DISCUSSION

The mean age of the respondents was  $34 \pm 9$  years,

which is similar to what was observed in previous studies (Tran and Nguyen, 2012; Devnani et al., 2012). These similarities in mean age seen at the ART clinics may reflect the fact that most people present to the clinic within the age range of 30 to 40 years. About 51% of the respondents were within 30 to 45 years age group, similar to a previous study carried out in Uyo South-east

Nigeria (Opara et al., 2007). About 35% of those enrolled into the study had attained secondary level education, which is far lower than what was reported in a previous study carried out in Vietnam (Tran and Nguyen, 2012). This is not surprising given the fact that the area of study was reported to have 50 and 70% of males and females as illiterate (National Population Census (NPC), 2008).

More than half of the respondents were females. A previous study (Olowookere et al., 2008), however reported a much higher percentage of females in their study. This higher percentage of women seen at the clinic could both be due to the fact that females are more exposed to the disease or that women are more conscious of their health than men and therefore tend to seek for medical attention more.

The respondents were generally satisfied with most of the services rendered by the clinic. All respondents interviewed were satisfied with the clinic triage system as well as explanations as given by the care providers. Similar observations were in a previous study where almost all respondents were satisfied with the manner the clinic sort out their clients (PSS-HIV, 2002; Beck et al., 1999). Satisfaction with other services such as courtesy of care providers, waiting time in the clinic/laboratory, and condition of the clinic were all rated very high. Similar findings were also reported in several studies (PSS-HIV, 2002; Beck et al., 1999; Tsasis et al., 2000; Helena et al., 2008; Bhagat et al., 2011; Karunamoorthi et al., 2009). Even though satisfaction with waiting time was rated very high in this study, it was observed to be lower in a previous study conducted in some Primary Health Centers in South Africa (Wouters et al., 2008). The higher level of satisfaction observed in this study may not be unrelated to the fact that this center is a tertiary center with more manpower, thus being able to cater for larger number of patients within a reasonably short time as against the primary health Care centers (PHCs). The overall satisfaction with the clinic services was rated very high, as it was reported in a previous study conducted in India (Bhagat, 2011). These high levels of satisfaction expressed by respondents should encourage care providers and donor agencies to continue providing high quality services in order to sustain patients' satisfaction.

Conduct of health education during the visit, provision of supportive kit and duration on ART were not found to be significantly associated with respondents' satisfaction with the visit. Supportive kits that were given to clients during home visits include insecticide treated nets (ITNs), drinking water guards, condoms, plumpy nuts and action meals. From practical significance, the health education sessions, home visits and the provision of some of these items to clients go a long way to improve the compliance of patients and improve the patient – health worker relationship as it is a form of social support which was reported to be effective for the management of chronic

diseases (Redding et al., 2000), even when they are statistically not significant (Ellis, 2010). This human behavior is a three-way, dynamic, reciprocal process in which personal factors, environmental influences, and behavior interact continuously and is influenced by changes in the environment and the individual determination to desire, pursue or continue towards the desired behavior despite daunting challenges (Bandura, 1989). Patients are meant to be supported/managed by their respective family members in order for the family members to appreciate the management of the disease and provide an enabling environment devoid of stigmatization.

## CONCLUSION

The overall results indicated a small effect size of 96% (odds ratio (OR) = 1.96; CI = 93 to 1.00) with P values less than 0.05 especially for age indicating both practical and statistical significance. It is however, important to note that, even though most of the respondents were generally satisfied, a small percentage of the respondents expressed dissatisfaction with some aspects of the clinic's services, especially in the area of home visits by the TSS staff and the adherence unit. This shows that despite the high level of overall satisfaction, there is still need for improvement of services in some areas especially home visits by TSS staff. This will go a long way in building the confidence of the patients and ensuring adherence to treatment guidelines.

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