

ORIGINAL ARTICLE

Expenditure incurred by HIV/AIDS patients receiving free antiretroviral therapy (ART) in a tertiary health facility in North-Western Nigeria.

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ABSTRACT:

Introduction: HIV/AIDS is by far the most prominent emerging infectious disease, causing unsurpassed morbidity and mortality than its peers. Free ART was introduced by World Health Organization as part of universal access to ART. Despite this, patients still incur out-of-pocket expenses when accessing it. **Objective:** To assess the additional out-of-pocket expenditure incurred annually by patients receiving free ART in a Tertiary Health Facility. **Method:** A cross-sectional descriptive study involving 85 HIV positive patients receiving free ARTS at Ahmadu Bello University Teaching Hospital, Nigeria. Respondents were selected by simple random sampling. Data was collected using standard structured interviewer-administrated questionnaire. SPSS statistical package was used for data analysis. **Result:** Most of the respondents (45.6%) are in the 30-39 years age group and are mostly females (65.9%) residing in Zaria (51.8%). They visit the clinic at least once a month, spending money on feeding, transportation, substitute labour, non-ART drugs, among others. On average, such expenditure amounts to \$200.52 annually, while their average annual income is \$1751.98. There was a statistically significant association between monthly income and occupation in respondents who feel regular clinic attendance is difficult to sustain financially ($X^2 = 45.682$, $df\ 30$, $P=0.033$). **Conclusion:** HIV/AIDS patients receiving free ARTS incur significant out-of-pocket expenses while accessing treatment. There is need for the program to move beyond free ARTS and introduce some financial relief such as Government subsidy and an 'AIDS Allowance' for the patients (especially the low income ones).

Key words: Expenditure, free, antiretroviral therapy, HIV/AIDS, patients, health facility.

INTRODUCTION

HIV/AIDS is by far the most prominent emerging infectious disease, causing unsurpassed morbidity & mortality than its peers. Of the 33.3 million people currently living with it, 68% reside in sub-Saharan Africa. Free ART was introduced by WHO in 2006 as part of universal access to ART.¹ Despite this, patients still incur out-of-pocket expenses while accessing it.

Throughout the world, both the fee and non fee costs of obtaining medical care have been found to limit access to acute care and adherence to chronic care.² In Tanzania, transportation costs to the ART centers have been identified as a

major barrier to accessing antiretroviral therapy by patients in addition to low quality of care rendered at those sites.³ In Indonesia, where Antiretroviral drugs (ARVs) are provided free of charge to patients, they must pay for other services including VCT, medical consultations and examinations, laboratory monitoring and drugs other than ARVs. Additionally, there are opportunity costs associated with HIV care, most notably time spent away from work and travel costs.⁴ Thus, even though ARVs are free to patients, overall HIV care is not; hence, real and perceived costs might hamper access to therapy. In Benin City, Nigeria, patients needed to pay additional costs for multivitamins, prescribed medicines and transportation to the treatment centre with consequences to adherence to therapy.⁵

With the burden of HIV/AIDS worldwide, access to antiretroviral therapy is necessary to prolong life, reduce the number of AIDS-related deaths and for prevention (as in prevention of

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mother to child transmission (PMTCT) and post exposure prophylaxis). Access to treatment is also necessary to promote public health and safeguard economic and social development.⁶ In Taiwan, a programme guaranteeing universal ART access was implemented in 1997, after which the estimated rate of HIV transmission decreased by more than half.⁷ In this instance, ensuring access to antiretroviral therapy altered the course of the epidemic. At the end of the year 2008, more than 4 million people in low-and middle-income countries had access to HIV treatment, compared to 3 million in the previous year. However, despite considerable progress, global coverage remains low: as of 2008 only 42% of those in need of treatment had access to ART. The situation is equally poor in sub-Saharan Africa where out of the 6.7 million people needing ART in 2008, only 2.9 million (44%) were receiving it.⁸ This study was aimed at assessing other expenditure incurred by HIV/AIDs patients receiving free ART in ABU Teaching Hospital, Zaria, Nigeria.

MATERIALS AND METHODS.

The study was conducted at Ahmadu Bello University Teaching Hospital's AIDs treatment clinic (also known as Nasara clinic or PEPFAR Clinic). The following services are provided free of charge to HIV/AIDs patients at the clinic: antiretroviral drugs, laboratory investigations, PMTCT services, HIV counseling and testing, Tuberculosis care, entrepreneurship development, economic empowerment, capacity building and development with infrastructural support. The descriptive, cross sectional study consisted of 85 HIV/AIDs patients receiving treatment at the clinic. The sample size was obtained using the formula for descriptive study and prevalence from a previous study in South Africa, where 95% of the patients incurred costs on visit day.⁹ Respondents were selected by simple random sampling using the clinic register as a sample frame. Data collection was conducted using a standard interviewer administered questionnaire with open and close-ended questions. The questionnaire was structured into sections to capture information on the socio-demographic profiles and monthly expenditure incurred by patients while receiving free ART at the clinic. It was administered over a period of 2 weeks. The

questionnaire was pre-tested among HIV/AIDs patients receiving free ART at Barau Dikko Specialist Hospital, a similar Health facility in another Local Government Area within the same State. Data analysis was computer-aided using SPSS statistical package (version 17). Descriptive statistics such as frequency distribution and cross-tabulation were used. Chi-square(X^2) test was used to explore the association between variables such as monthly income and feeling that regular clinic attendance is difficult to sustain due to financial constraint. A p-value of 0.05 or less was considered significant. Results are presented in tabular form. Ethical clearance for the study was obtained from Ahmadu Bello University Teaching Hospital's ethical committee. Informed verbal consent was obtained from the respondents.

RESULTS

A total of 85 HIV positive patients receiving free ART at Ahmadu Bello University Teaching Hospital participated in the study.

Table 1 shows the socio-demographic profile of the respondents. Most of the respondents (45.6%) were in the 30-39 years age group and are females (65.9%) with 41.2% having tertiary level educational qualifications. Eighty percent of the respondents are or were once married, with 54.1% still married, 20% have been widowed, 5.9% divorced or separated. Only 20% of respondents are single. Most (90.6%) are employed: 37.6% are civil servants, 17.6% are self employed, 15.3% are business persons, 8.2% are private employees, 5.9% each are farmers and students. Only 9.4% of respondents are unemployed. Most of the respondents (82.4%) reside in Kaduna State: 30.6% come from Kaduna City, 51.8% live within Zaria Local Government and Sabon Gari Local Government Areas combined. Only 17.6% reside in neighbouring states like Kastina and Borno state and the Federal Capital Territory, Abuja.

As shown in table 2, most of the respondents (55.3%) were enrolled at the clinic for 3 years or less; 28.2% were enrolled for 4-6 years and 14.1% were enrolled for 7-10 years. Only 2.4% were enrolled for more than 10 years.

Table 3 shows the estimated monthly income of the respondents. Most respondents, 88.4%, earn a steady monthly income: 25.9%

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earn less than N10, 000.00 (\$65.04); 16.3% earn between N10, 000.00 to N19, 999.00 (\$65.04-\$130.07); 18.6% earn between N20, 000.00 to N39, 999.00 (\$130.08-\$195.13), while 11.6% earn more than N50, 000 (>\$325.20). Only 10.6% of the total respondents do not have a steady source of monthly income. A significant proportion of respondents (35%), feel that regular clinic attendance is difficult to sustain financially. Most of them, 45%, earn less than N10, 000.00(\$65.04) per month.

As shown in table 4, average monthly expenditure by patients on transportation, feeding, substitute labour and prescription drugs/food supplements are N913.41 (\$5.94); N125.33 (\$0.82); N161.18 (\$1.05) and N1368 (\$8.9) respectively. The total average monthly expenditure is N2, 567 (\$16.71).

Table 1 Socio-demographic profile of respondents.

Variable	Frequency (n=85)	%
Age		
<20	4	4.7
20-29	15	17.6
30-39	39	45.9
40-49	15	17.6
50-59	12	14.1
Sex		
Female	56	65.9
Male	29	34.1
Marital Status		
Single	17	20
Married	46	54.1
Divorced/separated	5	5.9
Widow/widower	17	20
Occupation		
Civil servant	32	37.6
Self employed	15	17.6
Farmer	5	5.9
Business man/woman	13	15.3
Private employee	7	8.2
Unemployed	8	9.4
Student	5	5.9
Educational Status		
Primary	15	17.6
Secondary	30	35.3
Tertiary	35	41.2
Quranic	5	5.9
Place of residence		
Sabon Gari	20	23.5
Zaria City	10	11.8
Samaru	5	5.9
Shika	8	9.4
Jaji	1	1.2
Kaduna City	26	30.6
Others	15	17.6

Table 2 Distribution of respondents by duration of enrolment (in years) into ART.

No of years on ART	Frequency	%
1-3	47	55.3
4-6	24	28.2
7-10	12	14.1
>10	2	2.4
Total	85	100.0

Table 3 Distribution of respondents by their estimated monthly income and feeling that clinic attendance is difficult to sustain financially.

Monthly income in Naira (U.S. Dollar)	Frequency (n=85)	CADS (n=31)
<10,000.00 (<\$65.04)	31(36.5%)	14(45.2%)
10,000.00-19,999.00(\$65.04-130.07)	14(16.5)	7(22.6%)
20,000.00-29,999.00(\$130.08-195.12)	16(18.8%)	6 (19.3%)
30,000.00-39,999.00(\$195.13-260.16)	8(9.4%)	1(3.2%)
40,000.00-50,000.00(\$260.17-325.20)	6(7.0%)	0(0%)
>50,000.00 (>\$325.20)	10(11.8%)	3(9.7%)
Total	85(100%)	31(100%)

$\chi^2 = 45.682$, $df = 30$, $p = 0.033$.

Average monthly income = N22, 447.20 (\$146.00). \$1 = N153.75 (April 2011).

CADS = Respondent who feel that clinic attendance is difficult to sustain financially

Table 4 Average estimated monthly expenditure on various activities by respondents

Activity	Average monthly amount spent
Transport	N913.41 (\$5.94)
Laboratory investigation	N0.00 (\$0.00)
Feeding	N125.33 (\$0.82)
Substitute labour	N161.18 (\$1.05)
Prescription drugs	N1368 (\$8.9)
Total	N2567 (\$16.71)

DISCUSSION

Most of the respondents were aged between 30 – 39 years (45.9%). This falls within the sexually active age group. Adolescents (15 – 19years) had the lowest distribution of 4.7%. This is contrary to the common fact that they are at higher risk for acquiring sexually transmitted infections for a combination of behavioral, biological and cultural reasons.¹⁰ The low patronage of the tertiary facility by adolescents may be due to low prevalence of HIV among adolescents in the region resulting from increased awareness and use of condoms. Lack of youth-friendly services in the facility may be another reason.

Females are the majority 65.9% of respondents. This is in line with global statistics

of female majority (out of the total of 33.4 million people living with HIV in 2008, 15.7 million are female. This has been described as feminization of the epidemic and it is because women in the study area are more vulnerable to HIV infection. Low condom use, gender inequality and economic disadvantage of women in the region are likely causes.¹¹

Married respondent's had the highest number (54.1%), a trend similar to what was documented in other countries.¹²⁻¹⁴ However, recent studies have challenged the assumption that marriage is a risk factor.¹⁵ In fact, a study of Demographic Health Survey data from 33 countries concluded that marriage is protective.¹⁶

Only 15.3% of the respondents live in Shika and Samaru, which are within 10 Kilometers of the antiretroviral clinic. This has financial implications: the farther the distance from the clinic, the higher the transportation cost. This is in contrast to a study in Indonesia where 62% of respondents live within 10 Kilometers of the ART clinic.⁴

Years of clinic attendance is directly associated with financial expenditure. All respondents have been attending the clinic for more than a year. Only 2.4% were enrolled for more than ten years. This could be due to AIDS-related deaths since the median survival time for HIV/AIDS patients in the country is low.¹⁷ In some health centres, the median survival time is as low as 4 days.¹⁸ The low median survival time in the country and other African countries, like Uganda and Tanzania, has been attributed to delayed presentation for HIV management and care.^{17,19,20,21}

Divorced respondents have the lowest proportion of 5.9%. This could imply that women are not frequently divorced when diagnosed with HIV in the region. Single and widowed respondents have equal proportion of 20% each. This is contrary to finding in other African countries such as Tanzania where more than 27% of widowed women compared to 2% of singles are living with HIV.²² It is also contrary to findings in Uganda where widowed individuals are more than six times more likely to be living with HIV than singles.²³ Farming is the major occupation in the country.²⁴ However, farmers were the least in number among respondents. This is probably due to a

low prevalence of HIV infection among farmers in this region, most of whom are peasant farmers.

The average monthly income of N22, 447.2 (\$146) is relatively low for sustenance and care of a life threatening illness. The N913.41 (\$5.94) average monthly cost of transportation on clinic visit is lower than the \$7.81 (R55) reported in South Africa.⁹ However; it is higher than the \$4.56 per month spent by patients in Cote d'Ivoire.²⁵

The average monthly expenditure on transportation, feeding, substitute labour, and prescription drugs/food supplements is N2, 567 (\$16.71) and per annum it amounts to N30, 804 (\$200.52). This translates to 11.4% of patient's annual income since the average monthly income is N22, 447.20 (\$146.00) [Per Annum = N269.366.4 (\$1751.98)].

Health expenditure has been defined as catastrophic if it exceeds 40% of annual income.²⁶ For patients attending the clinic 5 times (or greater than 5 times) per month, their expenditure will exceed 40% of their annual income. Yet, the above estimates of expenditure by respondents are for a single visit per month, which is the least possible.

A significant proportion of the respondents (36.5%) feel that regular monthly visit to the clinic is difficult to sustain financially. A statistically significant association was noted between their monthly income and occupation ($X^2 = 45.882$, $df = 30$, $p = 0.033$). This depicts a problem of financial accessibility which needs to be addressed.

One limitation of the study is its relatively small sample size which limits the statistical significance of our findings. However, this should not underscore the importance of the findings.

In conclusion, HIV/AIDS patients receiving free ARTS incur significant out-of-pocket expenses while accessing treatment. There is need for the program to move beyond free ARTS and introduce some financial relief such as Government subsidy and an 'AIDS Allowance' for the patients (especially the low income ones).

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