

Full Length Research Paper

The economic burden of HIV/AIDS on patients seeking care at a university teaching hospital in Southwestern Nigeria

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This study was carried out among clients attending clinic in a teaching hospital in Uyo, southern Nigeria in 2005. The objective was to determine some of the financial implications of living with HIV/AIDS. This was a descriptive study. Data was collected using a structured, interviewer-administered questionnaire and was subsequently analysed using Epi 6 software. A total of 331 respondents participated in the study, with a male: female ratio of 1:1. The age distribution was 15-69 years. Up to 46.6% of respondents were married, with about 11% having more than 4 children. Though the respondents cut across all income groups, 44.7% either had no income or earned less than 5,000 naira monthly. This could not support their laboratory investigations and treatment. Financial support was available to only 37.8% of them and was higher among those who disclosed their status to many people. Most of the support (80.8%) was from family members. Up to 60.7% of respondents had either borrowed money or sold assets and 56.9% could not afford quality food as before. Further studies will help determine the current trend of the financial impact of living with HIV/AIDS among clients attending clinic in this part of Nigeria.

Keywords: Assets, financial support, household members, income, borrow.

INTRODUCTION

Despite the global trend of declining communicable disease burden in adults, HIV/AIDS has become the leading cause of mortality and the single most important contributor to the burden of disease among adults aged 15-59 years (WHO, 2003). HIV/AIDS affects people of all ethnicity, gender, age and sexual orientation. The most heavily burdened continent is Africa, which is the home to more than 70% of those currently infected with HIV. Of all the AIDS deaths, majority has occurred in this continent (UNAIDS/WHO, 2002).

UNAIDS 2009 AIDS epidemic update recorded 33.4 million people living with HIV/AIDS (PLWHA) in the world in 2008. Nigeria is said to have the 2nd highest number of PLWHA after South Africa (UNAIDS, 2009). According to the 2003 HIV Sentinel survey done in Nigeria, the national prevalence had declined from 5.8% in 2001, which was the highest recorded prevalence to 5.0% in

2003 (Federal Government of Nigeria (FGN), 2003). The subsequent survey done in 2005 recorded a national prevalence of 4.4% (Federal Ministry of Health (FMOH), 2006). Despite the decline, by the end of 2007, there were an estimated 2,600,000 people infected with HIV in Nigeria (UNAIDS, 2008).

HIV infection has a lot of economic implications for the affected persons and their households. AIDS has been reported to cause household expenditure to rise as a result of medical and related costs (Food and Agriculture Organization (FAO), 2003). A UNAIDS study on urban dwellers in Cote D'ivoire showed that families with a member sick with AIDS reduced their food consumption by up to 40% in an attempt to cover their medical cost that suddenly increased to four times the usual level (Wehrwein et al., 2000). Another study done in South Africa showed that more than 5% of AIDS affected

households were forced to spend less on food to cover for increased AIDS related expenses which could absorb one third of a household's monthly income (Steinberg et al., 2002). Furthermore, some households sell assets, liquidate savings, borrow money or seek extended family support to cover the cost associated with AIDS (UNAIDS, 2004). In Burkina Faso sales of livestock were the usual responses to AIDS (Sauerborn et al., 1996). In Nigeria a study on HIV positive farm women reported that 85% of the farm women interviewed stated that HIV/AIDS caused reduction in their family income while 56% of the women lost one or more family assets as a result of HIV/AIDS epidemic in their communities (Ugwu, 2009). A study in South Africa revealed that already poor households trying to cope with an AIDS-sick member drastically reduced spending on necessities as follows: clothing (21%), electricity (16%) and other services (9%). Depreciating incomes compelled about 6% of households to reduce their food allowance and almost half of the households reported having insufficient food at times (Steinberg et al., 2002). This insufficiency is heightened when a female breadwinner is affected especially in the rural farming communities. A study conducted on HIV positive farm women in eastern Nigeria showed that the financial impact of HIV/AIDS on them and their households was significant. These were with respect to loss of feminine agricultural labour supply, reduced household income, reduced agricultural production, increased family burden as well as loss of the women's right, among others (Ugwu, 2009). In developing countries, women are key in feeding the family members. Research has shown that on the average in African societies women put in 70% of all the time expended on food production, 100% of the time spent on food processing, 50% on food storage, 90% on obtaining water supply and 80% on obtaining fuel supply (World Bank, 2003). Research in Nigeria also shows that "about 95% of the Nigerian farmers who actually feed the nation are small scale farmers and about 55% of them are women who bear the triple work burden of breeder, feeder and producer" (Tanko, 1995). In 2006 UNAIDS estimated that women accounted for 61.5% of all adults aged 15 and above living with HIV (UNAIDS). In a study carried out in eastern Nigeria, Ugwu reported that the ravaging effects of HIV epidemic led to loss of income by 60% of the women. It also increased expenditure on health maintenance and care for persons affected by HIV/AIDS within the households of 75% of the women (Ugwu, 2009). This situation deepened the level of poverty among them. Nigeria is ranked 158 out of 177 on the United Nations Development Programme (UNDP), Human Poverty Index (UNDP, 2007/2008). HIV is likely to further reduce this index due to its devastating economic effect on both the PLWHA and their households.

Households affected by HIV/AIDS often have to make some adjustments in their spending pattern in order to

cope with the basic necessities of life. A South African long-term study reported that AIDS affected households maintained food, health and rent expenses by reducing spending on clothing and education (Bachman and Booyesen, 2003). Some studies done in South Africa and Zambia showed that AIDS affected households, most of them already poor had a fall of 66-80% in monthly income due to coping with AIDS related illnesses (Barnet and Whiteside, 2002). Similarly, a study in cote D'ivoire showed a staggering 400% rise in healthcare expenses when a family member had AIDS (AVERT, 2004). This further increases the financial demands of such households. In several communities, PLWHA have been encouraged to form support groups and this has helped them to cope with the impact of the HIV scourge. Members of such support groups in Enugu, Nigeria have been reported to receive material and financial support/help from members (Ugwu, 2009).

Food insecurity is particularly damaging for AIDS infected people because they need more calories than unaffected people. Worse still malnourished HIV-infected people progress more quickly to AIDS (Harvey, 2003). This study therefore aimed at describing some of the financial implications of living with HIV/AIDS among clients attending clinic in a teaching hospital in Uyo, southern Nigeria in 2005 in order to serve as a basis for comparison with more recent studies so as to establish a trend.

MATERIALS AND METHODS

A descriptive study was carried out on PLWHA attending clinic at University of Uyo Teaching Hospital, Uyo southern Nigeria in April 2005. This town is the capital of Akwa Ibom State, one of the 36 states in the country. The estimated population of Uyo metropolis as at 2006 was 304, 000 (National Population Census (NPC), Nigeria.2006). At the time of the study, this was the only centre for national anti-retroviral treatment in Akwa Ibom and Cross River States. As at this time, the federal government of Nigeria had subsidized the monthly cost of treatment for 850 PLWHA to 1,000 naira (\$6.7). The few not covered had to buy their drugs at 9,100 naira (\$60.7).

All individuals living with HIV/AIDS who were registered and had commenced treatment on the antiretroviral therapy were considered eligible to be part of the study. The calculated minimum sample size was 278. However to compensate for non response and improperly filled instrument, the sample size was increased to 331. A total of 1000 were currently on treatment. The respondents were enrolled using systematic random sampling method with a sampling interval of 3. Every 3rd PLWHA attending the twice weekly clinic was enlisted into the study on each clinic day until the desired sample size was obtained. The instrument of data collection was a structured interviewer administered questionnaire.

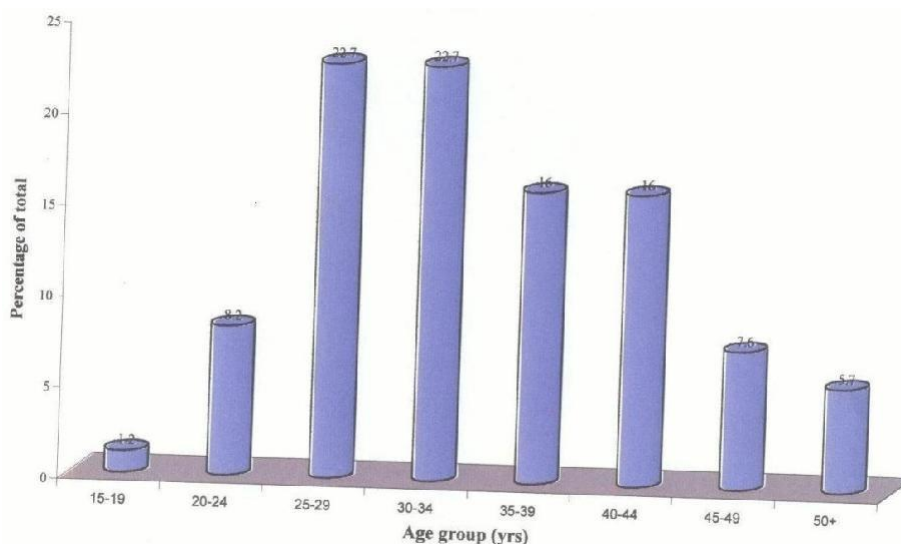


Figure 1. Age distribution of PLWHA

Table 1. Distribution of PLWHA by monthly income

Income (Naira)	Frequency	Percentage
1000- 5,000	106	32.0
5,001-10,000	71	21.5
10,001-20,000	65	19.6
20,001-30,000	25	7.6
30,001-40,000	15	4.5
40,001-50,000	2	0.6
>50,000	5	1.5
No income	42	12.7
Total	331	100

Information obtained included personal data and financial implications of living with HIV/AIDS. Four trained personnel who were public health nurses assisted in administering and collecting the questionnaires. The questionnaires were pre-tested on 30 PLWHA in a health facility in another city about 3 weeks before the study began. Data collection lasted for 7 weeks. The Helsinki Declaration principles were strictly followed while conducting this study. The purpose, content and significance of the study were explained to the subjects and written informed consent was obtained from the clients at the beginning of each day's data collection. Absolute confidentiality was guaranteed. The participants were informed that they were free to decide not to participate and could choose to discontinue at any point during the process of the interview and that they would not suffer any consequences if they chose not to participate. Data analysis was carried out using Epi info 6 software. Frequencies were generated and the Chi-square test was used to compare different proportions and test associations.

RESULTS

This study was carried out among 331 PLWHA attending clinic at university of Uyo Teaching hospital. There were 167 males and 164 females, with a male to female ratio of approximately 1:1. Up to 45.4% of them were within the age range of 25-34 years. Those aged 15-24 years and those above 49 years formed only 9.4% and 5.7% respectively of the study population (figure 1). The most common educational level was tertiary (40.2%), followed by secondary (32.6%). One hundred and fifty four (46.6%) of the respondents were married. Other marital statuses included, single (36.6%), widowed (10%), divorced (5.4%) and separated (2.4%). Majority, 201 (60.7%) of the respondents had children of varying number with 37 (11.2%) having more than 4 children.

The median monthly income of the PLWHA was 7,500 naira (\$50). About a third of them, 106 (32.0%) earned less than 5,000 naira (\$33), while 42 (12.7%) had no income at all (Table 1). Up to 154 (46.5%) of the respondents spent 10,000-15,000 naira (\$67-100) on

Table 2. Amount of money spent on investigations before starting therapy

Amount (Naira)	Frequency	Percentage (%)
1000- 5,000	21	6.3
5,001-10,000	95	28.7
10,001-15,000	154	46.5
15,001-20,000	47	14.2
>20,000	10	3.0
No Response	4	1.2
Total	331	100

Table 3. Monthly expenses of PLWHA on HIV-related medications

Amount (Naira)*	Frequency	Percentage (%)
1000- 2,000	125	37.8
2,001-5,000	125	37.8
5,001-10,000	40	12.1
10,001-15,000	17	5.1
15,001-20,000	12	3.1
>20,000	5	1.5
No Response	7	2.1
Total	331	100

Table 4. Relationship between number of children and either borrowing or selling assets

Number of children	Borrowed or sold assets N=154 n (%)	Did not borrow or sell assets N=177n (%)	Total N=331	Statistics χ^2	p-value
None	46 (36.2)	81 (63.8)	127	13.61	<0.01*
1-2	52 (53.6)	45 (46.2)	97		
3-4	32 (45.7)	38 (54.3)	70		
5-6	19 (70.4)	8 (29.6)	27		
7-10	5 (50.0)	5 (50.0)	10		

*statistically significant

laboratory investigations before starting therapy (Table 2), while 74 (22.3%) of the PLWHA spent above N5,000 naira (\$33) on HIV-related medications. (Table 3)

Only 125 (37.8%) had financial support from any source. Most of the support (80.8%) was from family members as follows: parents (42.4%), spouses (24%) and siblings (14.4%).

The respondents both borrowed money and sold assets to cope with the illness. More of them resorted to borrowing money (47.3%) than selling assets (27.2%). Overall, majority of them, 201 (60.7%) had either borrowed money or sold assets in the course of the illness. There was a statistically significant relationship between number of children and either borrowing of money or selling of assets. Borrowing was least among those with no children, 46 (36.2%) and highest among those with 5-6 children, 19 (70.4%) (Table 4).

There was no statistically significant relationship between gender and either selling assets or borrowing

money ($p>0.05$). Also there was no statistically significant association between level of education and borrowing of money or selling of assets ($p>0.05$). However, the rate of borrowing was relatively higher among those with primary education (73.2%) and those with no formal education (62.5%) than among those with secondary education (54.6%) and tertiary education (57.9%).

Majority of the PLWHAs, 140 (56.9%) could not afford the type of food they were previously eating before the illness began.

DISCUSSION

Most PLWHAs in this study were young with over half of them not up to 35 years of age and less than a tenth above 50 years. They were therefore mostly in their most productive years and such a chronic condition was likely to affect their income generating ability. The disease

affected both sexes virtually equally. The large number of females affected had negative implications on the welfare of their respective households in terms of their income generating abilities and care giving roles in the family. Several studies have reported reduced family income as a result of a female HIV positive household member being too ill to continue with income generating activities (Ugwu, 2009; World Bank, 2003; Tanko, 1995). This is because they play a very important role in the sustenance of the household.

More respondents were married compared to those that were single and over 60% of those married had children. Having children obviously attracted additional financial responsibilities, which coupled with the financial demands of HIV/AIDS may lead to a reduction in the quality of life in such households as a result of the large household. The quality of care given to such children may also be compromised, especially their education. HIV affected households sometimes have to give up the children's education in order to afford food and other necessities (Bachman and Booyesen, 2003). Despite the extra financial burden that having children attracted, the married respondents however had a chance of obtaining financial support from their spouses unlike those that were single.

The monthly income of most PLWHA in this study was generally low. Up to two thirds of them either had no income or earned less than the amount of money needed by majority of them for laboratory investigations before starting therapy. Also, up to a fifth of them spent above 5,000 naira (\$33) on HIV related medications. This may have been the group not covered by the federal government subsidy on HIV treatment which was 1,000 naira (\$6.7) monthly. The financial burden for this group was therefore higher. The financial effects on the PLWHA are more if drugs for AIDS treatment are expensive, if public subsidies for care are limited (Guinness and Alban, 2000). A study to examine expenditures of patients receiving treatment from a government subsidized anti retroviral therapy clinic showed that on average, patients spent 990 naira (US\$ 8.3) on antiretroviral (ARV) drugs per month. They also spent an average of 978 naira (\$8.2) on other drugs per month. However, people that bought ARV drugs from elsewhere other than the ART clinic spent an average of \$88.8 per month. Patients were also reported to spend an average of \$95.1 on laboratory tests per month. Subsidized ARV drugs depleted 9.8% of total household expenditure, other drugs (e.g. for opportunistic infections) depleted 9.7%, ARV drugs from elsewhere depleted 105%, investigations depleted 112.9% and total expenditure depleted 243.2% (Onwujekwe et al., 2009). The expenditure becomes higher in the presence of a co-infection. In a study to assess the economic burden to families of HIV and HIV/tuberculosis coinfection in a subsidized HIV treatment program in the teaching hospital in Benin, Nigeria, the mean cost of treatment per month was significantly

higher in families in the HIV/TB cohort than in other cohorts, $P = 0.0001$ (Wilson and Osa, 2007).

In addition to treatment cost, people living with HIV/AIDS also need money for other basic necessities like food, purchase of drugs and care of children. This situation actually increases the number of people living in extreme poverty. A study done in Burkina Faso, Rwanda and Uganda revealed that AIDS did not only reverse efforts to reduce poverty but also actually increased the percentage of people living in extreme poverty which is projected to move from 45% in 2000 to 51% in 2015 (AVERT, 2004).

The impact of HIV on affected households has been reported in different studies to be enormous. A study carried out in 2004 to assess the impact of HIV/AIDS on individuals' health care utilization and spending in Oyo and Plateau States of Nigeria and determine the income forgone from lost work time showed that HIV is associated with significantly increased morbidity, healthcare utilization, public health facility use, lost work time and family time devoted to care-giving. Direct private health care costs and indirect income loss per HIV positive individual in that study was 36,035 naira which was about 56% of annual income per capita in affected households. About 40% of these costs were losses associated with sicknesses and care giving. Only 10% of HIV cost was accounted by public subsidies on health, while 54% of the economic burden of HIV was out of pocket (Canning et al., 2008).

The fact that close to two thirds of the respondents in the present study either borrowed money or sold their assets in order to cope with their situation was not surprising as their income could not support their treatment and other basic necessities. The chances of paying back the borrowed money was slim since their need for money persisted. This plunged them into further borrowing and selling of assets, sinking them deeper and deeper into extreme poverty which could lead to dissolution of the household. Only slightly above a third of the respondents in this study had any form of financial support, most of which was offered by family members. This shows that the burden of HIV/AIDS still rests mainly on the family. Lost work time leads to significant economic losses in HIV affected households. A study to assess the economic burden of HIV and AIDS on households in Nigeria showed a significantly sharp drop in household income as a result of HIV related illnesses. Fall in mean income was 44.4% among civil servants, 72.6% among artisans and 84% among the unemployed. Among all occupational groups, borrowing from cooperative society in the course of the illness was the commonest measure taken to cope with the illness (Adedigba et al., 2009).

In the present study, borrowing money or selling of assets was generally more common among those with children compared to those without children. The practice was most common among those with 5-6 children. This

stands to reason because the financial needs of larger households are bound to be higher than that of smaller ones. The less educated were less likely to have jobs with good pay due to their lower qualification compared to the more educated so their tendency to borrow was likely to be higher. It was therefore not surprising that the rate of borrowing was found to be relatively higher among those with primary and no formal education compared to those with secondary and tertiary education though the difference was not statistically significant.

More than half of the respondents could not afford the quality of food they were previously eating before the illness began. This situation is very pathetic since malnutrition is more likely to promote progression of the illness. As a result of the many competing needs, many of them may just have been eating just to satisfy hunger without paying much attention to the nutritional value of the food. Those of them who could feed as before may have had to cut down expenses in other areas such as clothing and children's education in order to achieve that.

CONCLUSION

Most of the PLWHA in this study were within the most productive periods of their lives. Their income was generally low and could not sustain their basic necessities, such as laboratory tests, drugs and food. Financial support available to them was quite low. Most of them therefore resorted to borrowing money and selling their assets. Financial assistance should be given to people living with HIV/AIDS as the condition attracts a heavy economic burden on the PLWHA.

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