

Pharmaceutical Care of HIV/AIDS Patients in a Resource-poor Setting

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Abstract:

Provision of pharmaceutical care to patients suffering from HIV/AIDS pose special challenges due to the complexity of the disease state, these challenges are greater in resource-poor countries such as Nigeria. Against this background, the aim of this study is to identify the pharmaceutical care needs of HIV/AIDS patients at Ahmadu Bello University Teaching Hospital (ABUTH), Zaria. The study was carried out at the HIV/AIDS clinic of the hospital, between September and November 2005. Patients sample was limited to 100 out of the overall population of 497 registered HIV/AIDS patients at the time of the study. The entire professional staff population was used. The study revealed that both patients and care professionals agreed that drugs and provision of better healthcare are the most important pharmaceutical care needs of the patients, although, this awareness was more on the part of the care professionals (86.7%) compared to the patients (70.0%). In in-depth interviews with the head pharmacist and doctor, constant availability of drugs was found out to be a partially met need. The quality of pharmaceutical care provided for the patients was assessed. Instruction related to meals, storage and side effect were provided by the pharmacist. The storage conditions were largely met as many of the patients store their drugs inside air-tight plastic bottles in cupboard (42%) and bags (32%). Although Antiretroviral (ARV) drugs cannot cure but can prolong life, its emergence has prevented the progression of the disease and improved the quality of patients' lives. Therefore it is considered as the most important and urgent need of HIV/AIDS patients in ABUTH Zaria and Nigeria at large.

Key words: Pharmaceutical care, HIV/AIDS, Resource-poor Setting, ARV drugs

Introduction:

HIV/AIDS is a chronic disease; it has killed millions of people and orphaned many African children, the disease has attained pandemic proportions in many parts of Africa [1], Nigeria inclusive, the epidemic is still rising and spreading at the rate of one new infection per minute [2]. It's such a terrible disease. Based on this, there is a need to extend the benefits of disease-specific therapy to people living with HIV/AIDS in developing countries. This specific therapy includes the use of Antiretroviral Therapy (ART) and treatment of opportunistic infections. This can be done through pharmaceutical care. Pharmaceutical care is crucial in every care setting, rich or poor, for it is a philosophy of care that centres on improving quality of life for patients and their families especially in life threatening diseases such as HIV/AIDS. Provision of pharmaceutical care to patients suffering from chronic diseases

like HIV/AIDS pose special challenges due to the complexity of the disease state, these challenges are greater in resource poor countries such as Nigeria [3, 4, 5] when compare to more developed countries. Constraints other than poverty include large family units and low educational status, which are known to have contributory impacts in other disease conditions also [6]. The relatively high burden of drug treatment in HIV/AIDS in general and low per capita income for Nigeria is also significant. Collective efforts from each member of the health care team are needed to meet these challenges. Such input must come not only from within the hospital setting, but also from community practice and public health care facilities [7]. Against this background, the overall aim of this study is to identify the pharmaceutical care needs of HIV/AIDS patients at Ahmadu Bello University Teaching Hospital, Zaria.

Methods:

The study was carried out at the HIV/AIDS clinic of Ahmadu Bello University Teaching Hospital (ABUTH), Zaria at Tudun-wada between September and November 2005. Patients sample was limited to 100 out of the overall population of HIV/AIDS patients, which was 497 as at the time this research was carried out. The entire professional staff population involved in the care of HIV/AIDS patients at the study centre in addition to all the other four (4) pharmacists working at the ABUTHZ and who were not involved at all in the care of HIV/AIDS patients were used. The most senior doctor in the HIV/AIDS clinic as well as the most senior pharmacist in the HIV/AIDS clinic who is also the chief pharmacist of the hospital participated in this research. Data collected were subjected to appropriate statistical analyses using computerized Statistical Package for the Social Scientist (SPSS) version 11.

Results:

Both patients and care professionals had agreed that drugs and provision of better healthcare are the most important pharmaceutical care needs of the patients, although, this awareness was more on the part of the care professionals (86.7%) compared to the patients (70.0%). Approximately, 46.7% of the care professionals and 43.0% of the respondents also identified good jobs and financial support as important needs of HIV/AIDS patients. Majority of the care professionals identified counseling (93.3%) and moral support (60.0%) as important needs of the HIV/AIDS patients while only 1-2% of the patients themselves identified these as needs (Table 1).

Of the 85 patients who responded to this question, 59% did not make any

alternative arrangements to obtain ARVs.

Table 1: Pharmaceutical Care Needs of HIV/AIDS Patients

<i>Patients' Needs</i>	<i>Percent (%)</i>	
	<i>Patients</i>	<i>Care Professionals</i>
Drugs	70	86.7
Better health care	46	-
Good jobs / Financial support	43	46.7
De-stigmatization	42	-
Home visit / Moral support	2	60.0
Counseling	1	93.3

However, while 18% came weekly to the clinic, 41% waited 4 weeks as per their appointment schedule. Nineteen percent (19%) and 7% of the respondents, were buying their drugs from private pharmacy outlets or from other suppliers, respectively. See Table 2.

Table 2: Alternative Arrangements for Antiretroviral Drugs by the Patients

<i>Alternative Arrangement</i>	<i>No. of Respondents / %</i>
None ¹	41
None ²	18
Private pharmacies	19
Other suppliers	7
Unknown	15
<i>Total</i>	<i>100</i>

¹Waited for next appointment 4 weeks away.

²Kept coming to the clinic weekly.

From Table 3 below, when ARVs were not available at ABUTHZ, only 26 respondents were buying their drugs outside the hospital. Nineteen respondents (19%) were buying drugs from private pharmacies while 7% of the respondents were purchasing theirs from private suppliers. The average prices of ARVs from private pharmacies and from

private suppliers were calculated to be ₦8,907.90 and ₦8,142.86 respectively.

Table 3: Amount Respondents Paid for Monthly Supplies of Antiretroviral Drugs Outside ABUTHZ

Price of Drugs (₦)	Pharmacies		Other Suppliers	
	No.	%	No.	%
5,000-8,999	10	52.6	4	57.1
9,000-12,999	7	36.8	3	42.9
13,000-16,999	1	5.3	0	0.0
17,000-20,999	1	5.3	0	0.0
<i>Total</i>	<i>19</i>	<i>100</i>	<i>7</i>	<i>100.0</i>

More than four-fifth of the respondents (87%), received verbal instructions relating to the use of their drugs from their care professionals while only 30% received written instructions. Instructions received, in decreasing order, related to frequency and dosage of administration, meals, side effects and storage (Table 4).

Table 4: Instructions Respondents Received Along with ARV Drugs

Instructions	No. of Respondents / %
<i>Mode</i>	
Verbal	87
Written	30
<i>Relating to</i>	
Frequency	59
Dosage	39
Meals	29
Side effects	20
Storage	10

Majority of the respondents (42%) kept their ARV drugs in a cupboard, 32% in a bag while 19% and 7% were keeping

theirs out of reach of children and on the table respectively Table 5.

Table 6: Side Effects of ARV Drugs Experienced by the Respondents

Side Effects	No. of Respondents
Skin rash	18
Headache	10
Peripheral neuropathy	7
Diarrhoea	6
Abdominal cramp	4
Nausea	4
Night mares	3
Hunger	3
Blue black discoloration of nails	2
Pruritus	2
CNS symptoms	2
Others	5

Of the reported side effects, skin rash (18%) and headache (10%) were the most common side effects experienced with their drugs – Table 6.

Discussion:

The results as explained in Table I show that both respondents and care professionals identified drugs and better healthcare as the most important needs of the patients. From the interviews, majority of the respondents in fact wanted free and curative drugs for the disease condition. This is despite the subsidized drugs from the government as many (53.7%) of the patients were not employed. Despite the fact that there is no known cure for HIV/AIDS at present [8, 9], which 93% of the respondents claimed to be aware of, the patients still wanted curative drugs. Although patients were paying a token ₦1,000 per month's supply of ARVs at the time of data collection, as at the time of this report, the drugs were free of charge at ABUTHZ and therefore, within reach of registered patients. It should be noted

however that only a fraction of HIV/AIDS patients are registered at these clinics and therefore, free / curative drugs is still an important need of many HIV/AIDS patients. Since AIDS is a syndrome, there are usually many associated illnesses and hence the need for drugs other than ARVs to ensure optimum health of the patients. While treatment for TB is usually free in this country, drugs for other opportunistic infections will have to be bought by the patients but at the time of this report, they are free. Closely associated with this, is the issue of good jobs and financial support which both patients and care professionals agreed are important needs of HIV/AIDS patients.

Surprisingly, while 93.3% and 60.0% of the care professionals also identified counseling and moral support respectively, as important needs of HIV/AIDS patients, only 1-2% of the patients themselves recognized this need. Fredrikson and Kanabis (2005), had reported that apart from ARV drugs, the treatment and care of HIV/AIDS patients consists of a number of different elements such as food / management of nutrition effects, follow-up counseling, protection from stigma / discrimination, treatment of STIs and prevention / treatment of opportunistic infections [10]. Mitchell (2004) had also suggested the need for HIV/AIDS patients to have a well balanced diet since malnutrition could interfere with drug therapy [11]. Indeed, more than three-quarter of the care professionals at ABUTHZ (table not shown), had adopted counseling (86.7%) and nutrition (73.3%) as vital non-drug measures in the treatment of HIV/AIDS patients. In addition, the use of ARVs has dramatically altered the lives of HIV/AIDS patients by

preventing the progression of the disease and improving the quality of their lives. As previously stated, many HIV/AIDS patients now live longer and thus need more help managing the complexities of the disease; including diet / nutritional education and counseling. Nutritional assessment and education, based on the needs of the individual patients, are critical components of any HIV/AIDS treatment programme [12]. In in-depth interviews with the head pharmacist and doctor, the needs of HIV/AIDS patients were said to be drugs (preferably free), food / good nutrition, adequate rest and good jobs. Of these, constant availability of drugs was considered as a partially met need while others were considered as unmet needs. Thus, despite the government's subsidized ARV scheme, patients still had to sometimes make alternative arrangements when the drugs were not available as occurred between January and March 2005.

When prescriptions were not refilled due to unavailability of drugs, 59% did not make any alternative arrangements (Table 2). Rather, 41% waited for 4 weeks and only reported to the clinic at their next appointment. On the other hand, 18% of the respondents kept on coming to the clinic weekly, with the hope of getting refills.

For the few respondents, (26%), that could afford to purchase their ARV drugs outside the hospital during the period of unavailability, they were buying from private pharmacies and other suppliers (Tables 2 and 3). It is noteworthy that most of these patients (19%) opted to get their drugs from pharmacies, as opposed to 7% who got their drugs from other suppliers such as non-governmental organizations, (NGO), patent medicine stores and open

markets. This recognition of pharmacies as the expert / professional custodians on drug issues over and above patent medicine stores and the like is an increasing phenomenon in Nigeria resulting from the combined efforts of the National Agency for Food and Drug Administration and Control (NAFDAC), Pharmacy Council of Nigeria (PCN) and Pharmaceutical Society of Nigeria (PSN).

It is ideal in pharmaceutical care to give both verbal and written instructions as was the practice in this clinic. The written instructions as happen frequently are strokes related to dose and frequency. Such notations are easily understood even by those with little or no formal education. Other instructions given to the patients were related to meals, storage and side effects that should be expected. Although, all the key areas concerning instructions were covered by the pharmacists, the rate at which this was done was inadequate, e.g. 10% on storage, 20% on side effects and 29% in relation to meals. There is therefore a need for improvement in this area of pharmaceutical care.

It was observed that on receipt of their drugs, patients discarded the packaging on the spot, in the vicinity of the pharmacy. Presumably, this was because the respondents did not want anyone to see their drugs, and hence know about their HIV status, underlining the problem of stigmatization.

Drug storage is very important, since drugs which are not well stored, may get spoilt and lose their potencies. According to the manufacturers' instructions, the antiretroviral drugs, given to these patients, namely; lamivudine, nevirapine and stavudine, should be stored below 30°C in well closed containers and protected from

light. Since many of the patients stored their drugs inside air-tight plastic bottles, in cupboards (42%) and bags (32%) – see Table 5, these storage conditions were largely met. Perhaps, as a result of the low level of instructions regarding storage received (10%, Table 4); only 19% of the patients kept their drugs out of reach of children, as prescribed. The possibilities for household poisoning therefore exist.

Table 6 shows the profile of side effects of ARV drugs experienced by the respondents. More than half of the respondents (52%) were not aware of the specific side effect of ARVs and many (46%) did not experience any side effect with their drugs. Common side effects experienced were skin rash, headache, peripheral neuropathy, diarrhoea, abdominal cramp, nausea, nightmares, hunger and others. Skin rash and headache which were experienced by 18% and 10% of the respondents respectively are both side effects of lamivudine, one of the respondents' drugs. Peripheral neuropathy, which was experienced by 7% of the respondents, is a side effect of stavudine and lamivudine. The use of nevirapine, another one of the respondents' drugs, can also lead to skin rash and Stevens-Johnson syndrome. All ARVs have side effects that can be severe and all side effects experienced by the respondents were caused by the ARV drugs prescribed. If the side effect of drugs is severe, the drug can be stopped or changed by the prescriber. Majority of the respondents experienced side effects (45 out of 46) did not know the drug that was responsible for the side effect they experienced. These side effects (when they occurred), were generally low; moreover, the two most commonly reported side effects were skin rash and

headache, which, as seen earlier, were also signs and symptoms of HIV/AIDS. The implication is that the true occurrence of side effects due to the drugs may be lower than this table shows. The relatively low incidence of severe side effects in many of the respondents, may have contributed to the relatively good compliance rate observed.

Conclusion:

Although ARV cannot cure but can prolong life, its emergence has given hope to the hopeless and its use has dramatically altered the lives of HIV/AIDS patient by preventing the progression of the disease and improving the quality of their lives. Therefore it is considered as the most important and urgent need of HIV/AIDS patients in ABUTH Zaria and in Nigeria at large.

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References:

[1] Luboobi, L.S. and Mugisha, J.Y.T. HIV/AIDS Pandemic in Africa: Trends and Challenges. *Workshop on Infectious Diseases, ICTP Trieste*, 2005, pp. 1-31.
 [2] UNICEF. Children’s and Women’s Right in Nigeria. *A Wake Up Call: Situation Assessment and Analysis*, 2001, pp. 66-78.
 [3] Harries, A.D. Management of HIV in Resource-poor Countries, with a Focus on

Sub-saharan Africa. *Leprosy Review*. 2002, 73: 268-275.
 [4] Mobolaji, E.A. “Nigeria is Poor, O!” Says President Obasanjo. *The Guardian*, November 14, 2003, p. 1.
 [5] Daniel, O.J. Ogun, S.A. Odusoga, O.L. and Oluwole, F.A. Adherence Pattern to ARV Drugs Among AIDS Patients in Sagamu, Nigeria, *4th National Conference on HIV/AIDS in Nigeria, Abuja, Nigeria, May 2-5*, Book of Abstracts, 2004, p. 40.
 [6] Obiechina, A.E., Arotiba, J.T. and Fasola, A.O. Cancrum Oris (NOMA): Level of Education and Occupation of Parents of Affected Children in Nigeria. *Odonto-Stomatologie Tropical*. 2000, pp. 11-14.
 [7] Olivera, M.A., Esher, A.F., Santos, E.M. Evaluating Pharmaceutical Services for people living with HIV/AIDS in the City of Rio de Janeiro. *Cadernos de Saude Publica*. 2002, 18(5): 1429-39.
 [8] Fong, M. Disability/Condition Promoting Health of People with HIV/AIDS. Focus on Treatment Adherence. National Center on Physical Activity and Disability. Found in <http://www.ncpad.org/ncpad@uic.edu> (internet source). 2004, pp. 1-7.
 [9] World Health Organisation. Changing History. *World Health Report*. 2004, pp. 1-169.
 [10] Fredriksson, J. and Kanabus, A. HIV and AIDS, Stigma and Discrimination. Found in *Avert.org* (internet source). 2005, pp. 1-7
 [11] Mitchell, S. (2004). South Africa: AIDS-fighting’s Basic Tools. *United Press International*. 2004, pp.1-3.
 [12] Kline, D.A. Nutrition Education for HIV/AIDS Patients. *Today’s Dietitian*. 2004, 6(12): 12.