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# Traditional medicine for HIV infected patients in antiretroviral therapy in a tertiary hospital in Kano, Northwest Nigeria

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### ABSTRACT

**Objective:** To investigate the prevalence of use of traditional medicines amongst patients with HIV infection receiving therapies of antiretroviral (ARV) drugs at the Aminu Kano Teaching Hospital (AKTH), Kano, Northwest Nigeria, and to assess the attitude of these patients to their ARV therapy. **Methods:** A cross sectional prospective study using pretested structured questionnaires administered on 430 patients with antiretroviral therapy attending the AKTH between April and June 2009. Data was collected on socio-demographic characteristics, use of traditional medicine and attitude to antiretroviral therapy. **Results:** A mean age of (33.6±8.4) years old was found with 67.2% females and 32.8% males. A total of 29% had no formal education while 10.5% had postgraduate education; 12% earned above 35 000 naira (230 USD) per month; 63.8% were married; 39.8% had at least 2 sexual partners; 27.5% used traditional medicine before commencement of antiretroviral therapy (ART), but only 4.25% of patients used ARV and traditional medicine concurrently. There was no significant difference in most of the socio-demographic indices between the concurrent users and other patients ( $P>0.05$ ). A total of 28.8% HIV patients, 14.6% patients used traditional medicine before ART and 29.4% concurrent users had missed at least a dose of their ARVs since commencement of therapy. 148 (37%) of the patients had their drug regimen changed at least once while 23 (20.90%) patients receiving traditional medicine before ART and 5 (29.41%) patients having two treatments had their drug regimen changed. **Conclusions:** A total of 4.25% patients used ARV and traditional medicine concurrently. In conclusion, the widespread use of traditional medicine by patients living with HIV/AIDS should be of concern to clinicians and policy makers.

## 1. Introduction

The human immunodeficiency virus (HIV) pandemic has spread to all areas of the world, and the infection continues to be associated with high rates of morbidity and mortality, particularly in developing countries[1]. Two thirds of all persons with HIV infection and 60% of all women with HIV infections live in Sub-Saharan Africa[2]. Nigeria has the third largest number of people living with HIV in the world with a national prevalence of 4.6% and an estimated 2.98 million people living with the HIV virus accounting for 9% of the global HIV burden[3].

In spite of the above facts, only 34% of people with HIV infection are receiving antiretroviral drugs in Nigeria[4]. Combination therapies of antiretroviral (ARV) drugs are the

treatment of choice in HIV infection.

The World Health Organization (WHO) estimates that about 80% of people living in Africa use traditional medicines for the management of their prevailing diseases and about two-thirds of AIDs patients in developing countries use traditional herbal medicines[5,6].

This high use of traditional medicines may be due to accessibility, affordability, availability and acceptability of traditional herbal medicines by majority of the population in developing countries. Majority of the traditional herbal medicines are provided by practitioners who live within the communities, have been trusted over time, share similar cultural and spiritual beliefs and are always willing to assist the patients with their knowledge and skills, sometimes at minimal costs to the patients. However, traditional medicine practices differ according to culture, location and category of healer[7], and range from the more ubiquitous traditional doctor who uses herbal and other medicinal preparations for treating diseases (*i.e.* the herbalist), the diviner who operates within a traditional religious supernatural context and acts as a medium with the ancestral shades

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and the faith healer who integrates religious rituals and traditional practices[8]. Patients including those with HIV/AIDS have been known to consult all groups of traditional medical practitioners to various degrees[9–11] and for various reasons, most importantly because it meets their needs and expectations, and they are personalized and pay special respect to social and spiritual matters[12].

In Africa, traditional medicines and natural health products are often used as primary HIV treatment and as therapy for HIV-related symptoms including dermatological disorders, nausea, depression, insomnia and weakness[13]. However, in spite of various interventions by development partners and some national governments, majority of AIDS patients have no access to standard care of management in Africa. Such a situation leaves the patients with only one option which is to use herbal medicines[14]. In recognition of this, several countries have taken steps. The WHO reports that as in 2006, 99 out of 120 countries surveyed have classified herbal medicines as over the counter products making them easily accessible to the public[15]. According to the South African Department of Health (2004), the continuum of care developed for the HIV and AIDS care and treatment program should involve traditional health practitioners as an essential and irreplaceable component of the comprehensive care provided[16]. Studies have reported that many patients take a broad range of traditional and natural health products in addition to their conventional therapeutic products[17–19] and some governments actively promote the use of traditional medicines with antiretroviral treatments, even in the midst of paucity of evidence on effectiveness and the possibility of harm[20,21].

Some clinicians may not even know that their patients are actually using traditional medicines. In one study, 64% of patients stated that their treating doctors were aware of their use of traditional or alternative medicine, although, only a few of the clinicians had advised their patients to discontinue the use of these therapies[22]. Studies have reported conflicting findings in the efficacy and toxicities of traditional medicines in HIV/AIDS. While Tshibangu *et al.*[23], Adewunmi and Ojewole[24] reported significant health improvement in clinical and laboratory indices in AIDS patients using traditional medicine, Erast[25] reported psychiatric and neurological adverse effects due to improper use, intrinsic toxicity of ingredients, contaminations and adulteration of preparations and interactions with conventional drugs. Prescriptions to take toxic plants for HIV treatment have been reported to result in severe adverse events, including death[26]. Studies by Edward Mills and colleagues demonstrated clear *in vitro* toxicities associated with traditional herbal medicines used in the treatment of HIV/AIDS patients in several southern African States, warning that biologically active constituents of these herbal remedies clearly may have an effect on HIV drug metabolism as a result of their inhibitory activity on enzymes and efflux drug transporter systems. They further highlighted the need for serious clinical studies in humans to unveil possible drug interactions of these herbal agents and antiretrovirals and that failure to do this may result in unidirectional drug interactions that may put patients at risk for treatment failure, viral resistance or drug toxicity. This will also have serious implication for adherence and general attitude to ARVs. As widespread as the phenomenon of traditional medicine use among patients with HIV infection, few data are available on the prevalence and patterns of traditional medicine use[27].

The aim of this study was therefore to determine the prevalence of use of traditional medicine, the socio-

demographic distribution and attitude to antiretroviral therapy amongst patients with HIV infection attending the Virology Clinic of the Aminu Kano Teaching Hospital, Kano, North Western Nigeria.

## 2. Materials and methods

This study was designed as a cross sectional prospective study using structured pretested questionnaires.

The location of the study was the S.S. Wali Virology Center at the Aminu Kano Teaching Hospital, Kano, a tertiary health institution that serves as a referral center for three States in North Western Nigeria. It also serves as a center for testing, counseling, treatment and distribution of free antiretroviral drugs provided by the Federal Government in partnership with its global partners. The center attends to all patients with HIV infection diagnosed within the hospital or referred from outside the health facility.

Patients recruited into the study were adults of either sex at 15 years old age and above, who presented at the center with a previous or new diagnosis of HIV infection, irrespective of co-morbid status and had commenced antiretroviral therapy for at least three months.

A total of 430 patients with diagnosed HIV infection were recruited into the study. Participants were recruited intermittently but consecutively for eight weeks from 2nd April to 4th June, 2009. Researchers and translators were present to ensure complete understanding and avoid misinterpretations. All patients met the basic requirements and were given informed consent after the objective and details of the study had been explained. No incentives were offered to patients approached for inclusion to limit bias.

The study commenced after approval had been granted by the Ethical Committee of the Aminu Kano Teaching Hospital. Structured pretested questionnaires were administered on the patients by the researcher and translators. The questions were mainly close ended with a few open ended questions. The questionnaires elicited patients' demographics, including age, sex, marital status, educational status, economic status (*i.e.* how much does the patient earn in a month), sexual preference, sexual habit (*i.e.* number of sexual partners); other questions sought to know if patient had used traditional medicine before coming to hospital for commencement of antiretroviral therapy (ART), whether patient was still on traditional medicine even having commenced ART. We also sought to know if patient had ever missed a dose of antiretroviral drugs in the last six months or since commencement, and whether patients' ARV drug regimen had been changed by the doctor in last six months or since commencement of ART.

Data collected were entered into prepared Microsoft Excel database. Analysis was done using SPSS version 16.0. The chi square test was applied for evaluating associations. Statistical significance was concluded as *P* value < 0.05. Simple frequency distribution tables were used to display results.

## 3. Results

Out of 430 patients recruited into the study, 400 gave effective response and so only these data were analyzed. Table 1 shows the socio-demographic distribution of patients studied. There were 131 (32.8%) males and 269 (67.2%) females with a male:female ratio of 1:2.1. The mean age of the study population was (33.6±8.4) years old. A total

of 76 (19%) were 16–25 years, 181 (45.3%) were 26–35 years, 107 (16.8%) were 36–45 years, and 36 (9.0%) were above 46 years.

**Table 1**

Socio-demographic distribution of all patients in the study [n(%)]

Variables	All patients	Patients taking traditional medicine+ARV
Male	131 (32.8)	7 (41.2)
Female	267 (67.2)	10 (58.8)
Educational status		
No formal education	118 (29.5)	6 (35.3)
Primary school	59 (14.8)	2 (11.8)
Secondary school	123 (30.8)	4 (23.5)
Undergraduate education	58 (14.5)	2 (11.8)
Postgraduate education	42 (10.5)	3 (17.7)
Economic status (thousand N/Month)		
< 5	186 (46.5)	7 (41.2)
5–9	80 (20.0)	4 (23.5)
10–35	86 (21.5)	5 (29.4)
> 35	48 (12.0)	1 (5.9)
Marital status		
Single	41 (10.2)	4 (23.5)
Married	255 (63.8)	9 (52.9)
Divorced	24 (6.0)	1 (5.9)
Widowed	80 (20.0)	3 (17.7)
Sexual habit		
0 partner	3 (0.8)	0 (0.0)
Single partner	238 (59.5)	10 (58.8)
2 partners		80 (20.0)
> 2 partners	79 (19.8)	3 (17.7)

Only 48 (12%) of the study population earned above 35 000 naira (230 USD) per month while 266 (66.5%) earned less than 10 000 naira (65.8 USD) per month.

Out of the 400 patients whose data were analyzed, 110 (27.5%) admitted to using traditional medicine at home before their commencement of the antiretroviral therapy. However, only 17 patients (4.3%) used traditional medicine and antiretroviral drugs concurrently. Table 1 also displays the socio-demographic features of the groups taking ARV and traditional medicine concurrently.

Two main indices were used to assess patient's attitude to antiretroviral therapy with a view to finding out their adherence to ARV. One hundred forty eight (37%) patients had their drug regimen changed at least once while 23 (20.90%) patients receiving traditional medicine before ART and 5 (29.41%) patients having two treatments had their drug regimen changed. A total of 28.8% HIV patients, 14.6% patients used traditional medicine before ART and 29.4% concurrent users had missed at least a dose of their ARVs since commencement of therapy.

A significant association was found between the economic status of the patients under study and the sexual habit ( $P=0.044$ ). However, there was no significant association between the use of traditional medicine and patients adherence to antiretroviral therapy ( $P>0.05$ ). Nevertheless certain trends were observed.

#### 4. Discussion

The majority of patients in the study population as well as those concurrently using ARV drugs and traditional

medicine are females, and had achieved at least primary education. This demographic distribution is consistent with the epidemiological data of HIV positive patients reported by Ajayi *et al* and Uzochukwu *et al* in Nigeria<sup>[28,29]</sup> and Malangu *et al* in South Africa<sup>[30]</sup>. It also reflects the pattern of access to treatment in this environment. Women have been reported to be more susceptible to HIV infection due to hormonal changes, vaginal microbial ecology and physiology and a higher prevalence of sexually transmitted diseases<sup>[31,32]</sup>. Peltzer *et al*<sup>[33]</sup> as well as Malungu<sup>[30]</sup> had shown a predominance of women using the services of traditional herbal practitioners and traditional medicine. In Peltzer's study, 80% ( $n=222$ ) were female, 59.4% were at 18 to 35 years old and 81% had Grade 9 or higher education. This study as well as others previous ones may imply an emphasis on the health seeking behavior of women and the belief in the spiritual influences that touch the daily lives of people making them seek traditional medical practitioners, rather than modern health services. It also reinforces the fact that education has not successfully changed their acceptance of the spiritual influence on diseases as a highly prevalent notion in African societies<sup>[33]</sup>.

The prevalence rate is 4.25% in concurrent use of traditional medicine and Antiretroviral drugs, and it is 4.4% in Malangu's report<sup>[31]</sup>, while Sinsana *et al*<sup>[34]</sup> reported 1.1% prevalence in South Africa. A much higher prevalence of 44.4% had been reported by Peltzer *et al*<sup>[33]</sup>. This is still far below the figure of 75% reported by Turner BJ<sup>[36]</sup>. These wide differences could be explained by cultural and economic reasons as different patients belief systems, social and sometimes economic factors may play significant roles in their decisions to use traditional medicine. Underreporting may also account for the low prevalence figures in some studies including this one. This is expected in subjective methods of measurements. There is a significant difference between the number of patients who were taking traditional medicine before their commencement of ART and those taking ARVs and traditional medicine concurrently. It is conceivable that some patients may have decided to drop one for the other because of side effects or may have been advised to do so by health workers. Indeed, while some clinicians may not be aware that their patients are actually using traditional medicines, one study had reported that 64% of patients claimed that their treating doctors were aware of their use of traditional medicine although only a few of the clinicians had advised their patients to discontinue the use of these therapies.

Some clinicians may not have discouraged their patients from the use of these therapies<sup>[22]</sup> even as safety concerns continue to limit positive encouragement by others.

More patients (29.4%) concurrently using ART and traditional medicine missed at least a dose of their ARVs in the last six months compared to those taking traditional medicine before ART but who stopped using it on commencement of therapy. Furthermore, a greater proportion of patients (29.4%) on concurrent ART and traditional medicine also had their ARV regimen changed as compared to those who took traditional medicine but stopped before commencing ART (14.6%). Ironically, a comparable proportion (28.8%) of patients who never took traditional medicine in the general study population missed at least a dose of their ARV in the last six months while a much higher proportion (37.0%) of them had their drug regimen changed within the period under consideration. The implication of this finding is interesting as adherence to therapy is perhaps the most important factor in treatment failure and the development of resistance<sup>[37]</sup>. While 71.2%

of the general HIV infected population could be said to be 100% adherent to ART, the figure is lower (69.6%) for patients on concurrent ARV and traditional medication.

It is possible that biologically active constituents of these traditional herbal remedies may have an effect on HIV drug metabolism as a result of their inhibitory activity on enzymes and efflux drug transporter systems<sup>[21]</sup>. Furthermore, the usually “powerful” status ascribed to traditional medicine in this cultural setting may make some patients to be careless with their orthodox ARV drugs thus reducing their adherence to therapy.

In conclusion, the widespread use of traditional medicine by patients living with HIV/AIDS should be of concern to clinicians and policy makers. As cultural values are an inherent part of health care and an important part of practicing evidence based health care<sup>[38]</sup> patients will continue to seek traditional healing systems as primary care especially as only a third of infected patients currently access antiretroviral drugs in Nigeria. In our environment, traditional medicine remains poorly researched and poorly regulated. Local production of even the registered herbal medicines generally does not adhere to GMP principles<sup>[14]</sup>. As policy efforts continue to highlight the need for better recognition and standardization, there is a need for circumspection when utilizing traditional medicine in patients with HIV infection and clinical studies are needed to unveil possible drug interactions of these traditional medicines and antiretroviral drugs and also to better characterize the extent of use of traditional medicines in this population of patients.

### Conflict of interest statement

We declare that we have no conflict of interest.

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