

Preliminary Investigations Of Effectiveness Of Herbal Remedies Used For HIV Infection In Nigeria

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Abstract

This study analysed some of the widely publicised herbal remedies in use for HIV infection in Nigeria, and investigated their efficacy scientifically. Those found to be efficacious will be subjected to further analysis to identify their active chemical components.

The research deals directly with patients living with HIV/AIDS that are seeking treatment in herbal homes and hospitals. The herbal homes are regularly visited and newly diagnosed patients living with HIV/AIDS are recruited after confirmation of the disease. The herbal centres of priority are those located in Zaria (Kaduna state) and Osogbo (Osun state), Nigeria with all the nearby tertiary hospitals serving as diagnostic and treatment centres for HIV infection. Assessment of the effectiveness is based on laboratory and clinical parameters using World Health Organisation (WHO) and United State Centre for Disease Control and Prevention (CDC) criteria. Parameters will be assessed before commencing medication and periodic intervals up to two years when patients started medication of herbal remedies.

There are variable significant laboratory and clinical findings depending on the type of herbal therapy used by the patient with about 20% of the herbal homes have potential effective herbal remedies for HIV infection, 60% with symptomatic treatment and 20% with potential toxic products. The patients taking Zam-z (Herbal home A treatment) improved clinically and with laboratory parameters within the three months of the normal treatment, however, study is still in progress to determine the withdrawal effects of the medication and role as complementary or alternative therapy to Highly Active Antiretroviral Therapy (HAART).

Key Words: herbal medicine, HIV infection, Nigeria

Introduction

It was estimated that about 5 million people in Nigeria are infected with HIV (UNAIDS 2005)¹. Although Highly Active Anti-Retroviral Therapy (HAART) is available to many of these people, traditional therapies are still widely popular and heavily used. However, despite strong anecdotal evidence about their efficacy, there is little reliable data on the effectiveness of their use and it was estimated that about 80% of the population use herbal remedies (WHO 2002)². The patients take herbal remedies for many reasons depending on the medications and nature of the illness (Morris 2002)³. However, terminal illness like HIV infection will increase the patronage for herbal remedies. The current position that HIV infection has no cure led many non orthodox practitioners to come out with non-proved alternative curative medicines. Some medical practitioners also joined the stream of non scientifically proven claim of cure for HIV infection⁴. Herbal remedies are herbs, herbal materials, herbal preparations and finished herbal products, that contain as active ingredients parts of plants, or plant materials, or combinations thereof used to treat a multitude of ailments throughout the world². Nigeria is the third largest country in the world, with people living with HIV infection (UNAIDS 2005)¹. Since the diagnosis of the patients with HIV infection in 1980s, in USA, France and Germany, many other countries have recorded the incidence of HIV of which Nigeria is not an exception with the report of first case in 1987.^{5,6} Nigeria, is a country that had many herbal practitioners and with liberty to make public advertisement of their non scientific drugs. This led to major controversy of in the last decade of different HIV curative therapies ranging from non-scientific drugs to vaccine⁴. There had been claims by this herbal medicine suppliers about efficacy of their product, however, their role when compared with HAART (alternative or complementary) in HIV infection needed to be specified.

Confirming the efficacy of herbal remedies for HIV infection is very important in preventing resistance to the current HAART therapy. Patient's compliance to medication is very important in therapy especially of highly stigmatised disease in Nigeria. Thus, the patient will avoid being seen and may not present regularly for the medical review of his status. The patient will prefer to patronise the herbal therapist

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who's the consulting hours and mode of services are mostly favourable for those avoiding stigmatisation³. Wasting precious time and financial resources on non effective or dangerous herbal remedies may be the beginning of drug resistance.

The rate at which the herbal therapists come out with the curative medicines or vaccine for HIV infection without scientific investigation is very alarming. Some of the proven herbal medicines are complementary therapy thus there is a need to study the drug interactions with HAART and other medications frequently used by HIV patients. Unfortunately, many of the herbal therapists of HIV infection are not ready to submit their products for phytochemical and further studies to prove their claims of the effectiveness. Unfortunately application of Nigerian law through NAFDAC has its gross limitation especially in the rural areas. Therefore, is therefore urgent need to investigate scientifically the effectiveness of many publicly declared effective herbal remedies in Nigeria to solve the controversy and proffer solutions to associated problems.

Method

The identified herbal homes/medical centres were visited based on the publicity and informal interactions with people living with HIV/AIDS (PLWA). The study began after meetings with HIV patients and the Herbal therapists. The uniform chart designed using WHO and CDC clinical staging of HIV infection criteria was used. The general medical examination was done on all patients attending the herbal homes. The HIV test and confirmation using Western blotting technique was done on all those included in the study. The radiological and laboratory investigations were done to ascertain associated disease and the level of organ involvement. This also served as reference point when comparing effectiveness of the medication at periodic intervals. Liver and renal function tests were of weekly priority in determining the immediate toxicity of the drugs apart from routine special electrophoresis. The followings are the summary of the basic laboratory parameters:

Immunology: CD4/CD8 count, B cell, Electrophoresis

Virology: HIV (RNA viral) load

Haematology: FBC, blood film, ESR

Clinical chemistry: Electrolyte& Urea (E&U), Creatinine, Liver function test (LFT), CRP and urinalysis.

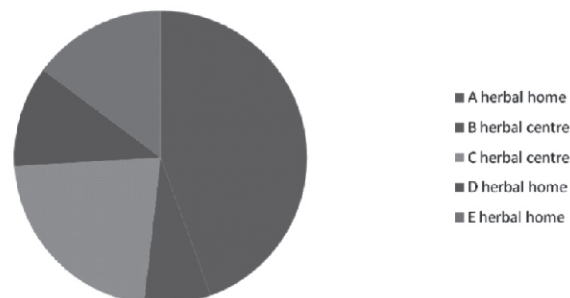
Microbiology; blood microscopy, culture and sensitivity, sputum AAFB, urine microscopy and blood films for parasites

Result

Herbal homes A-E as coded in this study are shown

below with their patients' patronage and clinical findings. The clinical findings are divided into two using the combination of CDC and WHO criteria for staging of HIV infection. The safety of the herbal

HIV HERBAL REMEDIES HOME/CENTRE WITH THEIR PATIENTS



medications was summarised below as liver and renal function tests. The efficacy of an herbal product is determined by its effect on patients as evidenced by: marked reduction in viral load, marked increase in CD4 count, normal B cell count, renal and hepatic functions tests and in reduce signs and symptoms of HIV infection. Weight gain or loss is graded in this study as mild (2-4kg), moderate (5- 9kg) and marked (> 10kg) over three (3) months.

Full blood cell count (FBC) and differentials (WBC), ESR and C- reactive proteins are indicators of super-imposed infection and needs for intervention.

Discussion

From this study, there are variations in number of patients attending different herbal homes. The pie chart (figure I) showed that Herbal home A has highest number of patients with HIV infection receiving herbal remedies. Herbal home B has the lowest number of patients receiving herbal remedies for HIV infection. Herbal home C has more patients than Herbal home E and D which is very low compare with others in herbal remedies for HIV infection. There are many reasons for having low or high patient patronage for herbal remedies for HIV infection in Nigeria. In this study, efficacy of the herbal remedy is the most important to patients because many orthodox hospitals offer free treatment to HIV infection especially HAART drugs. Morris 2002 was of the opinion that poor financial status of patient favoured patronage to herbal homes but cost, accessibility, publicity and the severity of the disease also influence the type of herbal homes for HIV therapy.

It is clearly shown that the herbal home A has significant therapeutic effects on HIV infection as evidenced by the laboratory parameters: CD4 count and HIV (RNA viral) load. Table I showed Herbal home A is the only centre in this study to have average laboratory CD4 count of significant increase while

Signs & symptoms	Herbal home A	Herbal home B	Herbal home C	Herbal home D	Herbal home E
Oral thrush	Decreased+++	Decreased+	Decreased+++	Decreased++	Decreased+
Weight gain	Increased +	Increased	Increased++	Increased++	Increased+
Food appetite	Increased+	Increased	Increased+++	Increased++	Increased+
Skin lesions	Decreased+++	Remain	Remain	Remain	Remain
Fever	Decreased+++	Remain	Decreased	Decreased	Decreased
Malaise	Decreased+++	Decreased+	Decreased	Decreased	Decreased
diarrhoea	Decreased+++	Decreased	Decreased+	Decreased	Decreased

Table I- Changes in laboratory parameters of the patients attending Herbal homes A-E over three (3)

Laboratory parameters	Herbal home A	Herbal home B	Herbal home C	Herbal home D	Herbal home E
FBC (WBC)	Normal	Increased+	Normal	Increased	Increased
CD4	Increased+	Decreased+	Decreased	Decreased+	Decreased++
B cell	NORMAL	Increased	Normal	Increased	Increased+
RNA Viral load	Decreased++	Increased	Increased	Increased+	Increased+++
Liver function	Normal	Deranged++	Normal	Normal	Normal
Renal function	Normal	Deranged+	Normal	Normal	Normal
ESR & C-reactive protein	Normal	Increased+	Normal	Increased	Increased+

Table II- Changes in Signs and Symptoms of patients attending Herbal homes over three (3) months

other centres showed decrease extent of which varies with each centre. Likewise, Herbal home A (HIV) RNA viral load showed marked decrease contrary to increase in other Herbal homes B-E. Herbal home E had the average lowest in CD4 count and average highest in HIV (RNA viral) load despite the patient taking herbal remedies as prescribed. Herbal home B is the only centre with impaired hepatic and renal function tests in their patients receiving herbal remedies for HIV infection while the medications of all other herbal homes are neither hepatotoxic nor nephrotoxic.

The improved clinical signs and symptoms as evidenced by Table II made Herbal home C the best in

herbal therapy for oral thrush, food appetite stimulation and weight gain. Herbal home D also showed a better result by reducing oral thrush remarkably, increase in food appetite and marked weight gain. From Table II, Herbal home A had the best improved result in signs and symptoms relating with skin lesions, fever, malaise and diarrhoea. Herbal home B showed no change in fever pattern of patients receiving their herbal remedies for HIV infection.

From the above results in Figure 1, Table I and II, it is clear that Herbal home A had more patients receiving herbal therapy for HIV infection probably due to the efficacy of the medications and its safety.

The efficacy are based on marked increase in CD4 count, marked reduction in HIV (RNA viral) load, reduced super-imposed infection as evidenced by normal Full blood count and its differential, normal Erythrocyte Sedimentation rate (ESR) and C-reactive protein. Cos P et al^{7,8,9} were of the opinion that there are some herbal remedies which are very effective against HIV infection. It is likely that the herbal product of Herbal home A acts on one or more of the ten steps in HIV replication like many other well proven herbal remedies^{10,11,12}

Herbal home B might contain deleterious product(s) which may cause increase in morbidity and mortality. This accounted for the lowest number of patients with HIV infection patronising the herbal home B. The toxic product causes the hepatotoxicity and impaired renal function tests. Abere and Agoreyo in 2006¹³ concluded in their study on a Nigerian herbal product as safe based on toxicological studies but the Herbal home B product is toxic at normal therapeutic dosage for HIV patients. Thus, there is a need to do phytochemical and toxicological studies so that the toxic product is identify and remove for better therapeutic use.

Herbal homes C, D and E that did not showed any significant change in laboratory parameters but improved in clinical signs and symptoms. Herbal homes C, D and E herbal remedies might contain active ingredients that are effective against oral thrush as documented in other studies¹⁴. However, Herbal home C herbal remedy also contains immune booster as evidenced by normal full blood count with differentials, normal erythrocyte sedimentation rate and C- reactive protein. This helped the patients taking herbal remedies from Herbal home C fight many opportunistic infections as documented in many studies^{15,16,17,18}.

From these preliminary results, many of the publicly non- scientifically claimed curative centres for HIV infection in Nigeria have no active ingredients that are antiviral to HIV. Despite many false claims, there are few centres with genuine drugs that are potent against HIV infection like other herbal remedies documented in other parts of the World^{19,20,21} Metadilogwukul et al in 2009²² concluded that an herbal remedy made patients with HIV infection sero-negative over a period of time. It will not be a surprise if the herbal remedy from Herbal home could make patient sero-negative within a shorter period. It is pertinent that if more studies are carried out in all part of Nigeria, we will get more effective herbal remedies for HIV infection^{23,24}. Thus, we can effectively prevent drug resistance to HIV infection through natural products²⁵

From this study, we concluded that about only twenty percent of herbal homes or centres treating HIV infection in Nigeria has indication of effectiveness,

only about the same percentage has remedies that are dangerous and many are food appetisers and immune booster but not effectively controlling HIV infection. The research is still going on with the hope of being able to classify significant herbal remedy into alternative or complementary therapy when compared with present Highly Active Antiretroviral therapy (HAART).

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