

Palliative Approach towards Managing HIV/AIDS Pandemic

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ABSTRACT

The central discourse of this study is on HIV surge, management and the use of anti-HIV herbs. The use of medical herbs as complementary effort to control HIV surge has been attempted in some countries of the world. The paper critically examines plants that have anti HIV potency mostly in in-vitro. The in-vivo test for those herbs against HIV is still in the pipeline. Mention was made of plants that have medicinal propensity against the deadly virus (HIV); and which equally boost human immune system. The study equally discusses profile, etiology of HIV and psycho-socio-management of the HIV victims.

Keywords: *Palliative herbs, management of HIV/AIDS Pandemic*

INTRODUCTION

HIV is the acronym for Human Immuno deficiency Virus. It is a pathogen which lives inside human body cells and is believed to be the casual agent of the dreaded Acquired Immune Deficiency Syndrome (Jenkins 2000, Akorde 2004, Mader 2004). HIV was discovered in 1983 by Lec Mentangler of the Pasteur Institute in Paris (Campbell and Reece, 2012). Lec called the virus Lymphocyte-Associated virus (LAV). Independently, Robert Gallo, a USA Scientist of the National Cancer Institute in Bethesda, Maryland, claims its discovery in 1984 and named it Human T-Lymphocyte Trophic virus 3 (HTLV – HI) (Barter, Barton and Gazzard, 1993; Mader, 2004). In human, the HIV was believed to be first spotted in Los Angeles City of the USA sometimes around 1980. In the etiology of human disease, none had long resisted a clue to a cure like the much dreaded Acquired Immune Deficiency Syndrome (AIDS) caused by the HIV (Brimblecomb, 1993, Mader 2004, Sylvester 2004).

Human Immuno-Deficiency Virus is an infectious agent that causes HIV infections. There are two types of HIV, these are HIV-1 and HIV-2 (Mader 2004, DAAIR 2006). The HIV-1 is common in Europe, Asia and America. Whereas, HIV-2 is found in the West African coasts (USAID, 2002). The progression of HIV infection leads to a disease called AIDS (Acquired Immune-Deficiency Syndrome) (Campbell and Reece 2002). It is the most severe form of HIV infection. The virus destroys the body's immune system and lowers its ability to resist other infections, then the body is said to be immune deficient (Hopewell, 1998; Campbell and Reece, 2002). However, Gwen, Debbie and Slawn (1999) opine that being HIV positive is not the same as having AIDS because HIV is a virus, and endoparasite living in the cells of the host for years before resulting into full blown AIDS, which is the actual disease. AIDS Treatments News USAID (2002) reported that AIDS is the stage where HIV has destroyed the body's immune system and the infected person's helper cells CD4⁺ cells drop below 200 cells per cm³ (cubic millimeter),

thereby making the infected person become vulnerable to opportunistic infections. The drug that can kill this pathogen can simultaneously kill the AIDS patients as well (Hopewell 1988). Hence is it very difficult for science to find cure for this deadly disease for now. Treatment for HIV infections is aimed at reducing the viral load with the use of Ante Retroviral drugs (Calabrese, 2000). There is no definite cure. According to Brimblecomb (1995) and Mader (2004) research into how fast the HIV reproduces, estimated that a billion new viruses are produced in the body and that two billion white blood cells are destroyed every 24 hours.

Hopewell (1988) confirms that AIDS virus once outside the human body is readily killed by detergents, alcohol, hydrogen peroxide, phenolic compound and sodium hypochloride. The virus does not withstand very high or very low temperature. Once exposed to high or low temperature it dies (Barter, Barton and Gazzard 1993; Sylvester 2004). Akorede (2004) observes that taking vitamins, mineral salts, proteins, undermines the risk of getting HIV. Vitamins boost the immune system and help fight infections. This is in consonant with observation made by Howpwell (1988), Gwen, Debbie, Slawn (1999), Jenkins (2000), that malnutrition promotes infection and progression of disease. People with vitamin and mineral deficiencies and poor diet progress to full blown AIDS faster, so economic enhancement can indirectly reduce the spread of the infection (Calabrese, 2000, Jenkins 2000, Kusa 2006).

HIV is mostly transmitted through sexual contact, blood transfusion, sharing of sharp objects like razors, needles and syringes, and from infected mother to her baby during pregnancy (Taylor, Green and Stout 1984, Mader 2004, Akorede 2004). Globally, 47 million people are infected and living with the virus (Taylor, Green and Stout, 1984). About 2.3 million of them are children, 37 million of the infected people are from ages 15 and above, almost 14 million orphans have emerged globally; 26.6 million of the infected are from sub-Saharan Africa. HIV is responsible for one out of every five deaths in Sub-Saharan Africa (Campbell and Reece 2002 Mader, 2004). About 8000 people die daily globally of AIDS and a cumulative death of 22 million has been recorded (USAID, 2002).

Nine out of 10 infected people do not know they are infected. 50-55% of the people infected globally fall within age group of 15 to 24 years (Gallo 2006, Evan 2006). About 7000 people between ages of 10 to 24 years get infected every minute. About 1.7 million young people are infected every year in Africa (Sharp and Hahn, 2011). By the year 2020 there would be about 40 million AIDS orphans under 15 to 23 years (Taylor Green and Stout, 1984, Mader 2004). In Nigeria, the prevalence rate is 5%, that is, an estimated 3.8 million people are living with the virus (Akorede 2004, Kallings 2008). And about 89,000 children are HIV positive (USAID 2002). Also, statistics show that 1.92 million children are now orphans owing to the disease. AIDS has killed more people than all the deaths from all the world's wars put together (USAID 2002). Sequel to the above, this study is conducted to explore palliative approach towards managing HIV/AIDS pandemic. The purpose of this study are:

- i To sensitize superstitious tribes that HIV/AIDS is real and not a myth or fable
- ii To highlight how HIV/AIDS can be managed in prospective victims or patients

- iii To bring to the knowledge of prospective victims the palliative herbs that could boost and strength their immune system.

MANAGING THE HIV/AIDS PANDEMIC

The HIV- positive individual is usually confronted with initial reaction of denial, derangement and dejection. These are followed by fright and fear of emotional and physical sufferings which will eventually precipitate death. There is also the fear of confiding in people, since it may invite gossip, hostility and rejection because people may use avoidance/isolation-approach on HIV/AIDS patients. Formal counseling approach should be used to handle patients living with HIV (Kallings, 2008). This approach will help in restoring the psychological aspect of the infected person. Though patients may put negative attitude towards any form of treatment because, conceptually, victims think of the incurability of the disease. This makes victims think that any form of treatment is a waste of resources (Brimblecomb, 1993; Barter, Barton and Gazzard, 1993).

Prospects for HIV Patients: Future life and numerous hopes abound for the HIV victims. A lot of work has been done, by the Federal Ministry of Health on HIV/AIDS Campaign team and various Non-Governmental Organisations). Having known the potential psycho-social implications of positive HIV anti-body test, measures have been put in place through organized counseling by support groups through health campaign, and seminars. Governmental and non--governmental organizations are aiming at restoring hope, integrity and improved quality of life for people living with HIV. Through counseling, victims develop positive attitude to life and receive various forms of support and help that may be needed. They are educated about their diet, health and how to improve their quality of life. Although, individual circumstances may differ, many of the psychological, emotional needs are common to everyone faced with life threatening illness such as HIV and AIDS (Mader 2004, Evian 2006). And so the emotional support required in confronting the situation is also common. With this increased awareness and the facilities in place, everyone is encouraged to know his or her HIV status so as to face life more confidently and purposefully.

HIV screening has become a routine test in most ante-natal clinics and other medical examinations (with consent) (WHO 2007). Everyone living with the virus is expected to go to any of the support groups or medical centres with specialists in attendance for counseling and drugs. In Nigeria as at 2003, the government had subsidized the cost of ante - retroviral drugs to about ₦1000 per month in 25 designated centres all over the country (WHO 2007, Blackson 2010). There is no known cure for AIDS as at now, but efforts to reduce the viral load in victims with the use of Anti-retro viral drugs have recorded a tremendous progress. The anti-retroviral drugs is said to have a check on the upsurging and multiplication of the Virus.

In the recent time, concerted researches have been conducted to isolate plants that have anti-viral factors, especially the anti HIV-1 type. For example at Aichi Medical University in Japan, researchers report the in-vitro anti-HIV activity of a tea plant (*Aspalathus linearis*) and some other tea leaves (Kusa, 2006). Sharp and Hahn (2011) find that alkaline extracts of *Aspalathus linearis* and Du Zhona tea leaves were safe and

able to suppress the ability of HIV to kill human cells in-vitro (laboratory setting). In another study, a flavonoid compound called Baicalin that was purified from Chinese herbal medications was tested for its anti-HIV potency (DAAIR 2006). The compound was purified from the plant *Scutellaria baicalensis goergi*, which has been used as a traditional Chinese herbal medicine and studied in -vitro. It was found to inhibit the replication of HIV-1 (DAAIR 2006). A study from Japan looked at the effect of a Chinese herbal medicine called BG-104, in two HIV positive haemophiliacs. Both persons, who had been losing CD4⁺ cells, took BG-104 daily and were able to maintain stable CD4⁺ cell counts for 3 years (Holmes *et al*, 2003). Disease progression halted as well.

Another study conducted in Hong Kong devised a way to screen multiple compounds used in Chinese medicine as anti virals to evaluate their anti-HIV potential (Holmes *et al*, 2003; Gallo 2006; Blackson, 2010). The 19 agents were evaluated in a laboratory. Six of the herbal extracts were found to inhibit the interaction between HIV-1 and CD4⁺ cell receptors, 2 extracts appeared to be potent reverse transcriptase inhibitors and 14 inhibited another enzyme gluco hydrolase involved in cell infections (Calabrese 2000). In yet another study from Bolivia Kallaway, herbalists evaluated anti-HIV herbal drug studying extracts of over 60 species of herbs using a therapeutic index. Researchers found that aqueous formulations appeared more promising than alcoholic extracts and that plant traditionally used to treat lung and liver diseases had the most anti-HIV activity (Gallo 2006, Blackson 2006).

In his report, Calabrese (2000) elucidates a list of herbs that have been used in HIV disease management; these include garlic extract allicin, sage, slippery elm and Echinacea. Incidentally, *Echinacea purpurea* an immune stimulant is used cautiously by herbalists who considered it possibly too strong for people with fewer than 200 CD4⁺ Cells/mm³. Certain plant polysaccharides are being evaluated for immune stimulation in the USA, Switzerland and Japan (Holmes *et al*, 2003). In another development, Carlo (2000) suggests that researchers should scan literature and look for botanicals and nutrients that have been clearly shown in laboratory studies to attack HIV. They should also determine whether or not the traditional dose would reach therapeutic levels in vivo (in the body) as well as in the in vitro (laboratory) studies.

Efforts should also not be spared in determining the in-vitro evidence of the herbal preparations actions against HIV, the safe use, clinical evidence of benefit; concentration in-vitro levels without causing toxicity (Calabrese 2000). The herbal combinations that appear promising should be tested to evaluate their in-vitro longevity and the half-life of the herb in the blood stream should also be determined. Although there is little clinical evidence of anti-HIV efficacy, herbs that have already arouse interest in researchers for their potential application include curcumin, glycyrrhizin (licorice), hyssop (*Hyssopus officinalis*), being developed in Japan and *Lentinus* (Shitake mushroom). Other less familiar herbs include *Prunella vulgaris*, commonly known as 'heal all, and *Rosmarinus officinalis*, which appear in-vitro to have anti-HIV properties (Kusa 2006, Kallings 2008). Studies conducted in France indicated that Rosmarinus compounds suppressed HIV replication without damaging cells studied in the laboratory (Calabrese, 2000).

Immune-Supporting Herbs Used in HIV/AIDS Management

Hopewell (1988), Sylvester (2004) had earlier observed that certain herbs are rich in immune-supporting factors and when, consumed on regular pattern boost human immune system and was believed to lower the virulence of HIV-1 in victims. Kusa (2006); Balch and Balch cited in Kusa (2006) suggest the use of juice extractions from wheat, barley and spirulina leaves for treatments of colon disorders, cancer and HIV-1. Spirulina is noted for its high contents of protein, beta carotene, vitamin B₁₂, Calcium and Iron. Kakuzo cited in Kusa (2006) reports that the inclusion of spirulina in diets increases the activity of enzyme, lipoprotein and lipase. There were convergent opinions that wheat grass, barley grass and spirulina leaves' juices build a healthy immune system.

Alfalfa leaves (*Medicago sativa*) which to Arabs is the 'father' of all herbs, according to Kusa (2006), is rich in eight essential amino acids, calcium and trace-elements, carotene vitamins and it has propensity to boost the immune system and -modulate viral and bacterial infections. Focus had been on garlic and allium extractions that they might offer some auxiliary functions because it boosts the cells ability to resist infections. According to Adodo (2001) and Bakhru (2009), garlic and allium concentrates contain bioactive ingredients such as allicin which functions include maintaining efficient functioning of body cells, and exerting anti-microbial functions. Arthur (1999) argues that Allicin from garlic help promote optimal wellness, tone the cardiac system and boost the immune system. A key question with regard to using herbal medicine to support the immune system is, What are the targets and desired effects? As with any treatment that stimulates the immune system, one's fear is that herbs that stimulate the cells and cellular machinery to fight HIV may also stimulate the virus.

CONCLUSION AND RECOMMENDATIONS

Indeed, Acquired Immune Deficiency Syndrome (AIDS) may have not got Orthodox medical cure as at now, but there is hope in the horizon because frantic research work is in the pipeline to procure alternative medicine to treat HIV diseases. For example, plans are underway at Bastyr University to screen combination of herbal agents for anti-viral use. Data gathered in a comprehensive survey of 1,689 people with HIV/AIDS conducted by Bastyr University researchers is currently being analyzed. Calabrese (2000) discovered that more than 75% of higher plants possess anti-HIV potential but the problem is that many plants and their extracts are toxic to humans.

However, many promising anti-HIV herbal preparations are underway for evaluation. In the context of HIV infection, there are 4 aspects to the using of herbal medicine (Calabrese 2000, Sharp and Hahn, 2011); (i) to attack the virus (the anti-HIV ability of plants), (ii) to treat or prevent specific opportunistic Infections of neoplasms, (iii) to support the immune system and or to correct HIV related immune deficits and (iv) to relieve side effects from conventional anti-viral medications. This study therefore recommends that:

- i Orthodox medical practitioners and trado medical practioners should teem up and access the possibility of employing medicinal plants to palliate or reduce the virulence of the dreaded Human Immunodeficiency Virus (HIV).
- ii Indigenous drug technology should be encouraged by the Nigeria Medical Agencies, cum Federal Government as it is done in countries like China and India for better healthy living.
- iii Government should encourage and equally provide all necessary tools and facilities needed in natural products research.
- iv A down to earth laboratory analysis and experimentation of any herbal product is required. It is believed that nature has the solution to every problem of humanity only that human beings see themselves as indispensable of nature; as such nature has decided to treat human beings indispensably.

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