

# Dramatic Improvement in Physical Well-Being of Terminal AIDS Patients Following Administration of Phytochemicals

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## ABSTRACT

Phytochemicals (PHT) are biologically active chemicals produced by plants, non-essential nutrients, with medicinal properties. In this short communication we report the dramatic improvement in the physical and clinical well-being of 9 terminal AIDS patients that received Phyto V7, a PHT mix, for a period of 3 months. All patients living in the Dr. Cruz Jiminian Foundation (hospice) in Santo Domingo, Dominican Republic, were in an emaciated condition—most could not eat, sit down, shower, stand up or dress alone; all had high viremia (from ~50,000 to above 500,000;  $243,816 \pm 176,724$  HIV-1 RNA copies/ml) and very low CD4+ T-cells counts ( $142 \pm 51$  counts/mm<sup>3</sup>). The clinical status of all patients was C3 according to the United States Centers for Disease Control (CDC) status index. As antiretroviral treatment was not available to the Foundation at the time of the study, the only treatment that they received was Phyto V7 supplementation. Each individual received 5 tablets 3 times a day, each tablet containing 750 mg of Phyto V7. At the end of the 3 months, Phyto V7 supplementation radically improved the well-being of all 9 patients. All patients could eat, sit down, shower, stand up and dress alone. This study supports the notion that PHT supplementation can improve significantly the well-being of terminally ill AIDS patients and is the foundation to conducting further control studies to substantiate this notion.

**Keywords:** Phytochemicals; HIV-1; AIDS

## 1. Introduction

Highly active antiretroviral therapy (HAART) taken by HIV-1 infected individuals results in viremia control and reduced mortality [1,2]. However, HAART may have significant toxic side effects, such as hepatotoxicity, lipodystrophy, pancreatitis, hyperlipidemia, lactic acidosis and insulin resistance [3-5]. In many cases the well-being of the HIV-1 infected HAART treated patients is not improved, no immune reconstitution occurs, and/or they suffer from other complications [2,3,6]. In addition, low compliance results in treatment failure and development of resistant viruses that are harder to control [2,7]. HAART is relatively expensive and in many developing countries, where the rates of HIV-1 infection are extremely high, antiretroviral treatment is not universally available or not fully implemented [8-10].

Terminally ill AIDS patients suffer from significant

weight loss, loss of appetite, fatigue, pain and wasting [11]. The resting energy expenditure in AIDS patients is 20% to 30% higher than that in asymptomatic HIV-1 infected individuals and non-HIV infected individuals [12-16]. HAART treatment and viremia control do not necessarily improve the patient's well-being. Specific diets have also been found to reduce HAART related side effects [17]. Furthermore, micronutrients supplementation has been shown to increase CD4+ T-cell counts and reduce mortality in HIV-infected individuals [18-24]. The use of cannabis (marijuana) by AIDS patients has been reported by some to improve the appetites, mood, body weight and the quality of life of AIDS patients, but long-term data, showing a sustained effect and safety in patients have not yet been conducted [25]. Thus, other beneficial, safe and inexpensive treatments, which can improve the well-being of AIDS patients and be given with or without HAART treatment, are being sought.

Phytochemicals (PHT), chemical compounds that oc-

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cur naturally in plants, beside serving as bionutrients [26, 27], possess radical scavenging activities [28], enhance nonspecific immunity [29], down regulate inflammatory diseases [30], promote health and may inhibit disease progression [31-37]. Here we report that the sole administration of Phyto V7, a phytochemical mix, to terminally ill severely symptomatic AIDS patients significantly improved their well-being.

## 2. Report

The study was conducted with 9 patients (**Table 1**) living at the Dr. Cruz Jiminian Foundation House (hospice), Santo Domingo, Dominican Republic, between June and September of 2001. All patients were previously diagnosed as being HIV-1 positive with very high viral loads (mean ± standard deviation of 243,816 ± 176,724 HIV-1 RNA copies/ml; minimum-50,875, maximum-> 500,000). Eight out of the nine patients were scored as C3 and one as C2, according to the United States Centers for Disease Control (CDC) status index. The CD4+ T-cell counts of

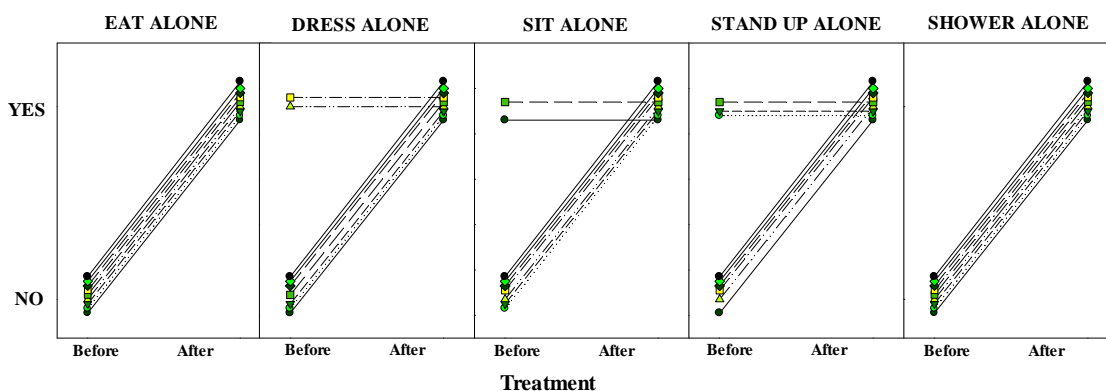
only 4 patients was known as determined elsewhere (18, 32, 71 and 45 counts/mm<sup>3</sup>) and no further measurements could be made or were available to the Foundation. Seven out of the 9 patients were antiretroviral naïve patients. Two had previously been treated with antiretrovirals elsewhere, but apparently developed resistance and failed the treatment. They arrived to the Foundation several months after stopping antiretroviral treatment. None were taking antiretroviral treatment while living in the Hospice, as it was not available to the Foundation then. Following the donation of the Phyto V7 in the form of tablets (registered in the Dominican Republic Ministry and in other countries as a food supplement), and following approval by the Ministry of Health of the Dominican Republic, each patients received 5 tablets 3 times a day, each tablet containing 750 mg of PHT.

None of the patients at the commencement of the study could eat or shower alone. Only 2 out of the 9 patients could dress and sit alone and 3 could stand up alone initially (**Figure 1**). However, after 30 to 45 days of Phyto

**Table 1. Characteristics of patients at the beginning of the study.**

Patient#	Age	Sex	CDC <sup>a</sup>	VL <sup>b</sup>	CD4 <sup>c</sup>	Flags <sup>d</sup>	Antiretroviral treatment
201	28	F	C3	91826	ND <sup>e</sup>	N <sup>f</sup> ; L <sup>g</sup> ; A <sup>h</sup> ; An <sup>i</sup> ; C <sup>l</sup>	Stopped previous to study
202	33	F	C3	181042	18	N; E <sup>m</sup> ; Ly <sup>n</sup> ; M <sup>o</sup> ; C	Naive
203	16	M	C3	159850	45	N; E; Ly; C; To <sup>p</sup>	Naive
204	33	F	C3	500000	32	N; L; A; An; D <sup>q</sup>	Naive
205	43	M	C3	334341	ND	E; L; Ly; A; An; C	Naive
206	43	M	C3	59963	ND	N; L; A; D	Naive
207	29	M	C3	500000	71	T; D; C	Stopped previous to study
208	40	M	C3	316446	ND	N; A; Ly; E	Naive
209	44	F	C2	50875	ND	N; L; To <sup>r</sup>	Naive

<sup>a</sup>Center for Disease Control Score Index; <sup>b</sup>Viral load-number of HIV-1 RNA copies/ml; <sup>c</sup>CD4+ T-Cells counts per mm<sup>3</sup> blood; <sup>d</sup>Clinical major problems; <sup>e</sup>Not determined; <sup>f</sup>Neutropenia; <sup>g</sup>Leukopenia; <sup>h</sup>Anemia; <sup>i</sup>Anisocytosis; <sup>l</sup>Candidiasis; <sup>m</sup>Eosinophilia; <sup>n</sup>Lymphocytosis; <sup>o</sup>Monocytosis; <sup>p</sup>Toxoplasmosis; <sup>q</sup>Diarrhea; <sup>r</sup>Tonsillitis.



**Figure 1. Improvement in the daily day activities of the studied patients.**

V7 supplementation, the well-being of the patients improved dramatically, both physically and mentally. Their appetite, mood, capacity to respond to the surroundings and to perform daily activities improved dramatically: all patients could eat, sit down, shower, stand up and dress alone (**Figure 1**).

### 3. Discussion

Since the establishment of HAART, the prognosis of HIV-1 infected individuals and AIDS patients has improved significantly. However, treatment failure can occur immunologically, virologically, or clinically, significant side effects occur and the salvage treatment options are many times restricted (e.g. due to viral cross-resistance) or are non-available [38]. HAART is also problematic to pregnant women and children [39,40]. In developing countries HAART may be even more harmful because of the high prevalence of ailments such as anemia, malnutrition, and co-infections, such as tuberculosis [41]. Furthermore, since HAART is expensive and needs good infrastructural support and control programs, it is not available to multitude of patients, especially in developing countries [42]. Thus, new, non-expensive, safe, easy to take, alternative or complementary remedies, that can improve the patient's well-being, are very attractive for the treatment of individuals that fail HAART or antiretroviral naïve patients that cannot get antiretroviral therapy. A food supplement, such as the PHT examined in this study, is extremely inexpensive as compared to HAART. PHT are from a natural source. They have been in the market for several years and have no adverse effects. Also, as opposed to antiretrovirals, since they do not affect directly HIV-1, their uptake with low adherence does not result in appearance of drug resistant viruses. Obviously, in order to increase their efficacy high compliance is desired. The regimen used in this study, of 5 pills three times a day is not optimal, as taking 15 pills a day, in addition to usually taking other treatments, is cumbersome to the patients and personnel and may result in low adherence. Better formulations should be developed in the future. Be as it may, it is clear that the administration of the Phyto V7 improved very dramatically the well-being of the patients. Unfortunately, no viral load or CD4+ T-cell counts were taken from the patients after the 3 months PHT supplementation, so it cannot be determined if there was an improvement in the CD4 counts or reduction of viremia as a consequence of the PHT supplementation. Future studies should carefully examine this.

This study, while it was not a controlled study, strongly supports the notion that Phyto V7 supplementation can improve significantly the well-being of terminally ill AIDS patients. Part of their positive effects can be explained as PHT having radical scavenging activities [28],

stimulating nonspecific immunity [29], and by down regulating inflammatory responses [30]. We hypothesize that 1) PHT supplementation can also improve significantly the well-being of AIDS patients not necessarily in terminally ill conditions, by improving the capacity of the HIV-1 infected individuals to cope with the viral infection, 2) PHT supplementation may potentially postpone the need to treat HIV-1 infected individuals with HAART, postponing the potential complications associated with this treatment, and 3) HIV-1 infected individuals undergoing HAART and PHT supplementation would have a better prognosis than those undergoing HAART only. This study serves as the impetus to conduct further studies with significantly larger cohorts of HIV-1 infected individuals and AIDS patients, to substantiate our hypotheses.

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