RESEARCH ARTICLE

USING OF MEDICINAL PLANTS AMONG PEOPLE LIVING WITH HIV

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Received-17.07.2016, Revised-29.07.2016

Abstract: The using of traditional medicine in the world is well recognized to treat different health problems, which is evidenced by the variety of natural and plant products available on the market and the presence of markets specialized in trading medicinal plants. The aim of this study was to interview a group of people living with HIV on using of medicinal plants. Participants (n = 86) were grouped into those who frequently use medicinal plants (n = 51) and those who do not use any type of complementary medicine (n = 35). We found that all study participants had used complementary therapies to treat diseases before being diagnosed reactive to HIV, and a high proportion of these participants turn constantly to the using of medicinal plants to supplement their anti retroviral treatment in order to maintain and improve their health and quality of life.

Keywords: Medicinal plants, People, HIV

INTRODUCTION

Infection with Human Immunodeficiency Virus (HIV) remains a public health problem, particularly for population groups that have been strategically identified as groups with high-risk practices among them: men who have sex with men (MSM), transgender people (Trans), sex workers and injecting drug users (UNAIDS,2016; AIDS.gov, 2016).

When people living with HIV receive anti-retroviral treatment, infection is not a problem that triggers death in short time; that is, the life expectancy of people living with HIV on anti-retroviral treatment increases. However access to treatment is limited for various reasons such as: economic resources, treatment distribution strategies, diagnosis strategies, strategies incorporating those affected to health services, retention strategies for affected people in health services, adherence-to-treatment strategies among many other causes. For these reasons and others, people living with HIV whether or not they are on antiretroviral treatment, often used complementary remedies to maintain and improve their health and quality of life (Cho et al., 2006).

The using of traditional medicine in the world is well recognized to treat various health problems, which is evidenced by the variety of natural and plant products available on the market and the presence of markets specialized in trading medicinal plants. The aim of this study was to interview a group of people living with HIV on using medicinal plants.

MATERIAL AND METHOD

This work took place in Mexico City, according to the Helsinki declaration. A sample (n=86) of people living with HIV were invited to participate in this study. All people reported being in anti-retroviral treatment. Those who agreed to participate in this work said they understood the purpose of the study and signed the informed-consent, later a semi-structured interview was performed, in which knowledge addressed was: a) Sexual and reproductive health, b) Sexually transmitted infections, c) HIV and AIDS, d) Anti-retroviral therapy, and e) Using of alternative treatments.

People were grouped into those who frequently use medicinal plants (n=51) and a group of people who do not use any type of complementary medicine (n=35).

The systematization of qualitative information was based on the frequencies of the responses provided by the people. Statistical analysis was performed using the X2 test and Binomial test to assess whether the frequencies of the people in both study groups were produced with the same odds; Median test was performed to assess whether the medians of the variables of both groups were equal, and the Mann - Whitney U test to assess whether the distribution of the variables is the same between the two study groups. All tests with a significance level of $p < 0.05$

A series of quantitative variables obtained from laboratory tests are also reported. ANOVA test was conducted to assess whether the means of the variables were different, with a significance level of $p < 0.05$

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RESULT AND DISCUSSION

All study people reported having used complementary therapies to treat their ailments at some point in their lives, including plant remedies, homeopathy, microdosis and bach flowers. They also reported the combination of different treatments.

Focusing on the using of medicinal plants highlights its popularity to complement the anti-retroviral treatment and treatment of other health problems such as anxiety, depression, discomfort and general pain. The selection of medicinal plants is based on recommendations from close relatives such as parents or grandparents, followed by recommendations from friends and peers (people who are also living with HIV) and finally by recommendations from sellers of medicinal plants.

The main plants that reported the people of this work according to Table 1 were:

Plants with immunomodulatory properties

a) Echinacea (*Echinacea angustifolia*). It is noteworthy that although people from this study have reported the using of this plant, the available scientific literature is controversial as to whether or not there is evidence of drug interactions (Moltó *et al*., 2012; Moltó *et al*., 2010).

b) Ginseng (*Panax ginseng*). Other studies support its using by people living with HIV (Takeda & Okumura, 2015; Chung *et al*., 2014; Sung *et al*., 2009; Sung *et al*., 2005).

c) Neem (*Azadirachta indica*). Other studies support its using by people living with HIV (Pedroza-Escobar *et al*., 2016; Pathak *et al.*, 2013).

Plants with anti -inflammatory properties

d) Arnica (*Arnica montana*). People in this study only reported the using of homeopathic preparations of this plant.

e) Horse-chestnut (*Aesculus hippocastanum*).

f) Calendula (*Calendula officinalis*).

Plants with calming properties

g) Flor de azahar (*Citrus sinensis*).

h) Valeriana (*Valeriana officinalis*).

i) Chamomilla (*Matricaria recutita*).

People interviewed said avoiding products derived from grapefruit or St. John's wort, as they have been informed by peers and doctors of drug interactions between grapefruit and St. John's Wort with anti retro viral drugs.

Finally of the people interviewed, a group of participants (n=35) reported not currently using any medicinal plant given the uncertainty of possible interactions with conventional anti-retroviral treatment.

The main characteristics and laboratory variables of the people were compared as shown in Table 2, differences among people who reported frequent using of medicinal plants and who reported refrain from using of medicinal plants were analyzed, no significant differences between the variables analyzed were found; however, it is important to note that a significant p value for CD4 T cells when comparing groups was found. As we found greater variability in CD4 T cells counts of people who frequently use medicinal plants compared to who do not use as shown in Table 2 and Figure 1 ($p=0.028$) and based on the answers provided in the interview, we believe that people who have low and high CD4 T cells accounts are those more likely to resort to the using of medicinal plants in order to increase their concentrations of CD4 T cells or avoid to down according to what they themselves referred to the interview.

CONCLUSION

We found that all people in this study had used complementary therapies to treat diseases before diagnosis of being reactive to HIV, and a high proportion of these reports turn constantly to the using of medicinal plants to supplement their anti-retroviral treatment in order to maintain and improve their health and quality of life. They also reported frequent use of medicinal plants to treat any health problems. It is noteworthy that within the limitations of this study is its design, which was retrospective cross-sectional and that the using, frequency and dosage of medicinal plants reported by participants was self-reported, so the results of this work should be interpreted with caution as there are well-documented reports of interactions between products of plants and anti-retroviral drugs. However it is noteworthy that the main products avoided by those interviewed are those derived from grapefruit and St. John's wort, which allows us to conclude that the development of further research on potential interactions between plant products and anti-retro viral medicines is necessary.

Table 1. Principal findings of the interview between study groups.

Question *Answer(s)*	Frequency (Percentage)
Have you ever used complementary medicine? (n=86)	
Yes	86(100)
No	0(0)
What kind of complementary medicine have you ever used? (n=86) -Multiple answers are possible-	
Medicinal plants	86(100)
Homeopathy	19(22)
Microdosis	5(6)
Bach flower	5(6)
Other	13(15)
Combinations	17(19)
Are you currently using medicinal plants? (n=86)	
Yes	51(59)
No	35(41)
Why? (n=51) -Multiple answers are possible-	
Keep and improve my health	42(82)
Anxiety	36(71)
Depression	28(55)
General pain	15(29)
Who recommended it to you? (n=51)	
Family	25(49)
Friends and peers	20(39)
Sealer	6(12)
What plants have you used lately? (n=51) –Common names are not mentioned since the interview was realized in Spanish.	
Echinacea angustifolia, Panax ginseng, Azadirachta indica, Arnica montana, Aesculus hippocastanum, Calendula officinalis, Citrus sinensis, Valeriana officinalis, Matricaria recutita.	

Table 2. Statistics of study groups.

Variable	Group of people using medicinal plants (n=51) Mean ± SEM (Median)	Group of people not using medicinal plants (n=35) Mean ± SEM (Median)	P value
Men (n=…)	44	31	
Women (n=…)	0	1	0.084[a],
Trans (n=…)	7	3	0.106[b]
Age	39.62+1.35(40)	39.31+1.94(38)	0.085[c], 0.857[d], 0.795[e]
CD 4 T cell	517.88+47.62(576)	423+14.75(434)	0.111[c], 0.103[d], 0.028[e*]
Viral load	40789.29+21721.85(0)	8888.74+3751.50(0)	0.231[c], 0.727[d], 0.783[e]
Leucocytes	6.54+0.24(6.27)	6.28+0.25(5.98)	0.478[c], 0.501[d], 0.661[e]
Glucose	97.47+3.06(94)	95.77+2.08(96)	0.678[c], 0.816[d], 1.00[e]
Cholesterol	188.84+6.62(179)	176.09+6.18(174)	0.183[c], 0.268[d], 0.661[e]

Difference comparing each variable between both groups a) X^2 Test, b) Binomial Test, c) ANOVA Test, d) Mann-Withney U Test, e) Median Test. ***** significative p value <0.05

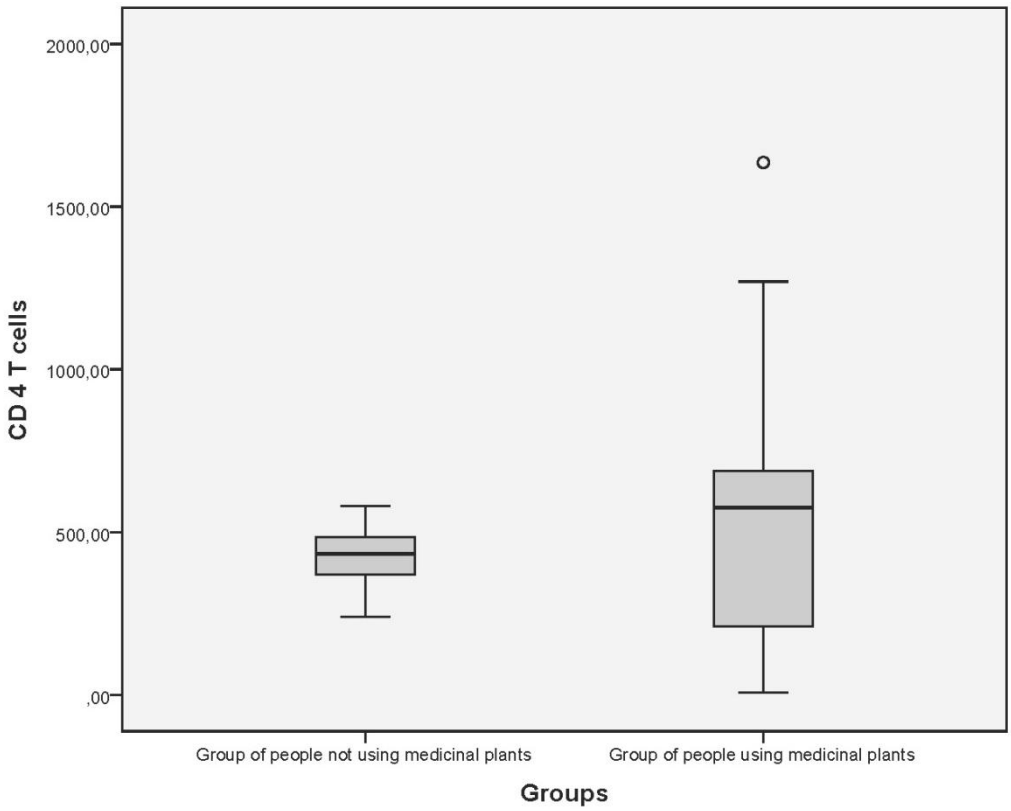

Fig. 1. Box plot of CD 4 T cells between study groups

ACKNOWLEDGEMENT

All people interviewed in this study who made the development of this research possible.

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