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Prevalence and predictors of complementary and alternative medicine use in African-Americans with acquired immune deficiency syndrome

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Abstract

Background—The use of complementary and alternative medicine (CAM) among Human Immunodeficiency Virus (HIV)-positive individuals is becoming increasingly widespread. Unfortunately, some CAM therapies may jeopardize the efficacy of conventional HIV medication, making it critical to understand CAM use among this population.

Objective—To investigate the prevalence and predictors of CAM use in a theory-driven, multidimensional manner.

Methods—African-American individuals who had received a diagnosis of acquired immune deficiency syndrome (AIDS) were recruited. The computer-administered survey asked questions about participants' CAM use and various psychosocial and socio-demographic characteristics. Participants' most recent CD4+ cell counts and HIV RNA levels were abstracted from medical records. Linear regression analyses, adjusted for potential confounders, were conducted to assess the independent contribution of various factors in explaining frequency of CAM use.

Results—One hundred and eighty two subjects participated in the survey. Results indicate that most (94%) participants used at least one type of CAM therapy. The majority of participants (79.7%) used CAM therapies as a complement (rather than an alternative) to their HIV medications though half had not discussed these therapies with their healthcare providers. Female sex, high yearly income, high health literacy and high HIV RNA levels were associated with a greater frequency of CAM use, while stronger emotional well-being was associated with a lower frequency of CAM use.

Conclusions—The implications of these findings are discussed and suggestions for future research are provided.

Keywords

African-American; Complementary and alternative medicine; HIV/AIDS

Introduction

The use of complementary and alternative medicine (CAM) - a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine¹ - has increased over the last fifteen years^{2,3}, with utilization rates among the general population as high as 67.6%.⁴ Some reports suggest that these rates are even higher among individuals with life-threatening illnesses. For example, research indicates that individuals with Human Immunodeficiency Virus (HIV) may be more likely to use CAM compared to healthy populations. One study reported that while 5% of the general population used CAM therapies, approximately 36% of people with HIV used them.⁵ More recent evidence indicates that as many as 87% of individuals with or at risk for HIV infection reported using some form of CAM within the past six months.⁶

Assessing the prevalence and predictors of CAM use among HIV-positive populations is critically important, as research suggests that some CAM therapies may jeopardize the efficacy of conventional HIV medication, particularly highly active antiretroviral therapy (HAART). For example, there is some evidence that echinacea may increase HIV viral load⁷, kava may cause hepatotoxicity⁸, garlic⁹, vitamin C¹⁰ and St John's wort^{11,12} may put an individual at risk of sub-therapeutic HAART levels, aloe¹³ may reduce HAART drug absorption, and ginkgo¹⁴, ginseng¹⁵ and milk thistle¹⁶ may intensify HAART-related side effects. Given that many patients are unlikely to disclose CAM use to their providers¹⁷, the onus is often on the providers to initiate these conversations. Unfortunately, evidence suggests that providers do not feel sufficiently educated about CAM¹⁸. Therefore, thoroughly assessing CAM use and then disseminating this information to HIV healthcare providers is essential in facilitating effective doctor-patient communication.

Unfortunately, much of the research on CAM use among HIV-positive populations is lacking. First, most CAM studies are atheoretical in spite of the fact that theory is arguably one of the most important components of health research.¹⁹ Second, the majority of studies continue to dichotomize CAM use such that participants are categorized as either "users" or "non-users" based on whether they respond affirmatively to any questions about CAM use. Given that CAM use among HIV-positive individuals may be fairly common, this is not the most useful approach. A more nuanced method would be to assess the frequency of CAM use on a continuum, thereby developing a more thorough understanding of the degree of CAM use among this population. Given these limitations in the literature, the aim of the present study was to investigate the prevalence and predictors of CAM use in a theory-driven, multi-dimensional manner.

Methods

Conceptual Model

The present analysis was based on the CAM Healthcare Model²⁰, which is a modification of Andersen's Behavioural Model for Health Services Use.^{21,22} According to the CAM Healthcare Model, individual determinants of CAM use can be classified into three main categories: predisposing, enabling and need-based factors. Predisposing factors are those that influence whether an individual will use CAM, including socio-demographic

characteristics and beliefs/values. Enabling factors are those that either facilitate or impede an individual's use of CAM, including financial factors and health literacy. Need-based factors refer to an individual's health status or illness state and are divided into perceived need factors and evaluated need factors. Perceived need factors are subjective assessments of health status (e.g. perceived symptom severity); evaluated need factors are objective assessments of disease status (e.g. number of doctor's office visits). Using these categories, the model aims to identify factors associated with CAM use and enhance understanding of factors that predict CAM use.²⁰

Participants

Individuals were recruited from the infectious disease program (IDP) clinic of a large, urban hospital in Southeastern United States. Eligible individuals (1) were currently receiving their HIV/AIDS care from the IDP clinic, (2) had received an AIDS diagnosis, (3) identified as African-American, (4) were 21 years of age, and (5) spoke English. Participants were recruited from the check-in area of the IDP clinic. Patients were approached and, if eligible to participate, were referred to a conference room where the survey was administered.

Procedure

Prior to participation, each participant read and signed a consent form describing the study and ensuring his/her confidentiality. Participants then completed the survey on audio computer-assisted self-interview (ACASI)-programmed laptops, which took approximately 30–45 minutes to complete. On completion of the survey, participants were compensated for their time.

Instruments

CAM Survey—The CAM questions were based on the survey used by Lengacher and colleagues²³, one of the few CAM measures available that has been evaluated for reliability and validity. Originally used with breast cancer patients, this instrument was edited to make it applicable to patients with AIDS.

Participants were first asked about their frequency of CAM use for each of the following fourteen types of CAM: vitamins, herbs, home remedies, chiropractic, massage, dietary supplements, aromatherapy, marijuana, counselling/support groups, meditation, yoga, tai chi, acupuncture and prayer/spiritual healing. The rationale for including these specific CAM modalities is detailed elsewhere.²⁴ If participants responded that they “never” used a therapy, a programmed skip pattern took them to the next CAM therapy. If participants responded that they “seldom used” (some occasions/year), “occasionally used” (some occasions/month) or used the therapy on a “regular basis” (many occasions/week), they were asked follow-up questions concerning the duration of and reasons for use. Participants were also asked about whether they had used the therapy prior to their HIV diagnosis, how they used the therapy (as a complement or an alternative to their HIV healthcare) and whether they had discussed the therapy with their HIV healthcare providers.

Predisposing Characteristics—The predisposing characteristics assessed included age, gender, marital status, education, satisfaction with conventional healthcare, coping self-efficacy and health locus of control. Satisfaction with conventional healthcare was assessed using the 9-item Satisfaction with Healthcare Scale²⁵, which was minimally edited so that it was applicable to HIV-positive patients. Coping self-efficacy was assessed using the 13-item Coping Self-Efficacy Scale.²⁶ Health Locus of Control was assessed using a revised version of the Multidimensional Health Locus of Control (MDHLOC) scale developed by Wallston, Wallston and DeVellis.²⁷ This scale measures the extent to which respondents believe their health is controlled by themselves ('Internality' subscale), chance or luck

(‘Chance’ subscale) or powerful others such as doctors (‘Powerful Others’ subscale). The version in the present study was nearly identical to the original version but was modified so that each question was specific to HIV (e.g. “*If my H.I.V. worsens, it is my own behaviour which determines how soon I will feel better again*” as opposed to “*If I get sick, it is my own behaviour which determines how soon I will feel better again*”).

Enabling Resources—The enabling resources assessed included yearly income, employment status and health literacy. Health literacy was assessed using The Newest Vital Sign, a 6-item tool intended for identifying individuals at risk for low health literacy in a clinical setting. Prior literature suggests that this tool is reliable (Cronbach’s alpha > 0.76 in English and 0.69 in Spanish) and correlates with the Test of Functional Health Literacy in Adults (TOFHLA), the instrument most often used for literacy assessment in health care research.²⁸

Need for Care—Participants’ ‘perceived need for care’ was evaluated by assessing their quality of life and severity of HIV-related symptoms. Perceived quality of life was assessed using the nine-item Health-Related Quality of Life Survey from the HIV Cost and Services Utilization Study.²⁹ Perceived severity of various HIV-related symptoms experienced in the last four weeks was assessed using the 20-item HIV Symptom Index.³⁰ Participants’ ‘evaluated need for care’ was assessed by their most recent CD4+ cell count (cells/mm³) and HIV RNA level (copies/mL). These data were abstracted from patients’ electronic medical records.

Analyses

Descriptive statistics were conducted to examine the characteristics of the study population, the frequency and duration of CAM use and the reasons for CAM use. When participants used CAM (prior to and/or after their HIV diagnosis), how they used CAM (as a complement or as an alternative) and whether they discussed their CAM use with their healthcare providers was also assessed using descriptive statistics.

Linear regression analyses proceeded in two phases. Initially, all continuous variables were examined to determine the fit between their distributions and the assumptions of multivariate analysis (e.g. normality). Viral load and CD4+ cell count both had significant positive skewness and kurtosis and were logarithmically transformed. Next, variables identified as associated with CAM use in bivariate analyses at $p < 0.10$ and for which there was no evidence of collinearity (characterized by a conditioning index greater than thirty coupled with variance proportions greater than 0.50 for at least two variables)³¹ were retained in the subsequent multivariable linear regression model to assess the independent contribution of the predisposing, enabling and need-based factors in explaining CAM use. Analyses were conducted using SPSS Version 16.0.

Results

Characteristics of the Study Population

One hundred and eighty-two individuals participated in the survey. The mean participant age was 45.4 years (SD=6.9). Participants were predominantly male (69.8%), identified as mostly or completely heterosexual (53.6%), single (80.7%), not working (83.8%), had a high school education or less (60.6%), made less than US\$15,000 per year (82.0%) and rented their apartment or house (40.6%) (see Table 1).

Frequency of CAM Use

The majority of participants (94%) reported using at least one type of CAM therapy in the last twelve months. Even when prayer/spiritual healing was excluded, CAM use in the last twelve months was extremely common (91.2%). The most frequently used types of CAM included vitamins (multivitamins and calcium), counselling/support groups, prayer/spiritual healing and dietary supplements (Boost/Ensure, energy drinks, protein shakes) (see Table 2).

Duration of CAM Use

Among those participants who reported using various CAM therapies, the duration of use was relatively lengthy, with the majority of participants reporting that they used most of the therapies (twelve out of the fourteen therapies) for longer than one year. Specifically, home remedies (77.8%), marijuana (88.9%) and prayer/spiritual healing (88.8%) were all therapies that had been used for a longer duration (see Table 3).

Reasons for CAM Use

Stress reduction was among the most common reasons for CAM use reported by participants, particularly among massage (81.8%), aromatherapy (69.6%), meditation (73.1%), yoga (50.0%), tai chi (66.7%), acupuncture (66.7%) and counselling/support group (57.6%) users. Using CAM to boost energy/appetite or gain weight was common among vitamin (40.6%), dietary supplement (55.8%) and marijuana (50.0%) users. The majority (46.7%) of home remedy users reported using the modality to boost their immune system (see Table 4).

Other Dimensions of CAM Use

Of those individuals who reported currently using CAM, approximately half (52.7%) used at least one type of CAM therapy prior to their HIV diagnosis. There were some therapies, however, that were not initiated until patients received their HIV diagnosis. For example, 69.2% of those using chiropractic, 67.4% of those using dietary supplements and 72.9% of those receiving counselling or attending support groups reported not using these therapies prior to their HIV diagnosis. The majority (79.7%) of study participants who were currently taking HIV-related medications reported using CAM therapies as a complement, as opposed to an alternative, to HAART. However, nine participants (4.9%) who reported taking vitamins and eleven participants (6.0%) who reported taking dietary supplements did so as an alternative to some or all of their HIV-related medications. Half (50%) of study participants who reported using any CAM had not discussed the CAM use with HIV healthcare providers.

Predictors of CAM Use

Results from preliminary bivariate analyses revealed that six variables in the original model were not associated with frequency of CAM use at the $p < 0.10$ level and therefore, were excluded in subsequent regression models. Nine variables were retained in the model: age, gender, education, 'internality' health locus of control, income, health literacy, HIV RNA level, emotional wellbeing and symptom severity. Analyses examining possible collinearity among the retained variables in the model indicated that there was no collinearity.³¹

Results from the multivariate linear regression indicated that being female, having a yearly income of US\$15,000 per year or more, having higher health literacy and higher HIV RNA levels were associated with a greater frequency of CAM use, while stronger emotional wellbeing was associated with a lower frequency of CAM use, even after controlling for all other variables in the model (see Table 5).

Discussion

The present study aimed to investigate the prevalence and predictors of CAM use among a population of African-Americans with AIDS in a theory-driven, multidimensional manner. Results support and extend findings from prior research as well as highlight additional gaps of knowledge in the field that warrant further investigation.

CAM use in the present study was very common, even when prayer/spiritual healing was not included in the analyses. This is one of the highest known estimates of CAM use among HIV-positive study populations in the published literature, though one recent study involving individuals with or at risk for HIV infection reported similar findings.⁶ The types of CAM therapies found to be used most frequently – vitamins, counselling/support groups, prayer/spiritual healing and dietary supplements – are congruent with findings from prior research.^{17,32–35} For example, a recent study by Hasan and colleagues³⁶ similarly reports that, among Malaysian HIV-positive study participants, vitamins and supplements were among the most commonly used CAM therapies. However, herbal products (particularly traditional Chinese medicine [TCM]) were quite common also among Malaysian participants, which is a departure from the present study findings. Due to the fact that about a quarter of the Malaysian population is Chinese, TCM is likely to be more accessible (and individuals are more likely to be knowledgeable about TCM) in Malaysia, in contrast to the United States where TCM is still relatively uncommon among CAM users.³⁷ The fact that acupuncture, tai chi, yoga, and chiropractic were reportedly used less often is not surprising, as evidence suggests these are uncommon CAM modalities among African-American populations.^{38–41}

Prior evidence from non-HIV-infected study populations suggests that most individuals use CAM as a complement rather than as an alternative to conventional healthcare^{3,42,43}; findings from the present study provide congruent results.⁶ Interestingly, many authors describe these findings in a positive tone, suggesting that the use of CAM as a complement to conventional healthcare is the preferred approach when in fact, particularly among HIV-positive populations, using these therapies as a complement to conventional care can be just as risky. It is potentially dangerous for HIV-positive individuals to use CAM therapies as an alternative to HAART given the critical importance of HAART adherence for the health and well-being of HIV-positive patients.⁴⁴ However, it is equally important to consider the impact of using CAM therapies as a complement to HAART given the possibility of serious drug interactions.⁴⁵ Regardless, the potential for either deleterious effect can be considerably minimized through effective doctor-patient communication. It is important to highlight then, that half of CAM users in the present study had not discussed their use with any healthcare provider, which supports prior research that African-Americans, in particular, are less likely to disclose CAM use to their providers compared to non-Hispanic Whites.⁴⁶ Therefore, one priority for both research and clinical practice should be increasing the frequency of doctor-patient dialogues about CAM use.

It is not surprising that being female and having a higher income was associated with an increased frequency of CAM use, as these are two commonly reported socio-demographic predictors of CAM use in prior research.^{47–50} The association between health literacy and CAM use, however, has not yet been investigated in prior research, though there is some evidence that health literacy is associated with other preventative health practices.⁵¹ The use of most CAM therapies, excluding some home remedies, often requires the user to identify how and where to seek out information about the modality, understand the information, evaluate its credibility and then make use of that information. Though this process may also be common among individuals seeking additional conventional health information^{52,53}, it may be even more likely among CAM users as the internet and print materials may be the

only sources of information about CAM modalities. Given the complexity and poor readability of many internet and print health materials^{54,55}, it is reasonable to conclude that higher health literacy levels may be needed for more extensive CAM use. Future research is needed to explore this relationship further.

Prior research suggests that there is an association between number of clinic visits, lower helper T cell counts and higher viral load and CAM use among HIV-positive individuals^{17,56,57}; results from the present study support these findings. In contrast, Hassan and colleagues did not find an association between participant CD4+ cell count or viral load and CAM use. However, individuals were eligible to participate in the Hassan *et al*/study if they were HIV-positive, whereas all participants in the present study had an AIDS diagnosis. If stage and severity of disease increase the likelihood that participants will use some type of CAM, Hassan and colleagues may not have observed this association because their population was comparatively healthier than the participants in the present study. The fact that greater emotional wellbeing was associated with a lower frequency of CAM use is also compatible with prior research, suggesting that having a greater burden of illness⁵⁸ and being more emotionally distressed⁵⁹ may lead to a more frequent use of alternatives. Thus, CAM use may occur as a way for HIV-positive individuals to manage their disease^{60,61} and assert some control in their healthcare⁶², particularly when they are experiencing greater physical or emotional suffering.

Limitations

The present study has several limitations. First, the data are cross-sectional, thereby limiting our ability to be certain about the temporal relationship between the predisposing, enabling and need-based variables and the frequency of CAM use. Future longitudinal cohort studies are needed to provide evidence for temporality. Second, the data were largely self-report. However, participants completed the surveys individually on ACASI-programmed laptops, an approach that has been demonstrated to improve the quality of self-report information by increasing responses to sensitive questions and preventing null responses.⁶³ Third, results may be subject to selection bias, as those individuals interested in participating in a survey about CAM may be more interested in CAM and/or more likely to use CAM compared with individuals who were not interested in participating. Further, because the survey was administered on computers, individuals willing to participate may have been more computer-savvy and/or felt more comfortable using computers compared to those who decided not to participate. Prior research suggests that individuals commonly use computers (specifically the Internet) to acquire CAM-related information.⁶⁴ Therefore, it is possible that study participants who were comfortable with computers were also more likely to be CAM users. These factors might partly explain the high rate of CAM use in this study. Unfortunately, the method of participant recruitment (convenience sampling) made it impossible to assess whether participants and non-participants differed in any systematic way. Finally, the findings are derived from a sample of African-American individuals with AIDS residing in the southern region of the U.S. Thus, caution is urged in generalizing the findings to other ethnic groups or regions of the country. Further research with diverse populations will be needed to corroborate the observed findings.

Conclusions

Prior research on CAM use among HIV-positive populations has been generally atheoretical and lacks depth by dichotomizing CAM use outcomes. The present study sought to address these limitations by using and extending the CAM Healthcare Model and examining CAM use on a continuum.

Our findings highlight several important issues that warrant future study. First, though the CAM Healthcare Model was a useful guide, future research could use structural equation modelling, a procedure that evaluates the correspondence between empirically observed relationships and the relationships predicted by a theory⁶⁵, to statistically examine the degree to which the model can explain CAM use. Second, findings consistently indicate that, in spite of widespread use of CAM among HIV-positive populations, doctor-patient communication about CAM is infrequent. Therefore, subsequent research is needed to develop, implement and assess the effectiveness of provider-level interventions and clinical screening tools aimed at facilitating more informed doctor-patient dialogues about CAM. Future research is also needed to inform patient-level interventions that could serve to educate patients about the risks associated with combining conventional HAART with various CAM therapies and the importance of discussing CAM use with their providers. Little is known currently about patients' perceptions of risk and the ways in which this perceived risk might impact individual behaviour and interpersonal communication, though research does suggest that participant's knowledge of safety issues involved in CAM care for HIV is limited.⁶⁶ Finally, more studies are needed to assess the efficacy of various CAM therapies in ameliorating disease- and medication-related side effects, improving biological (e.g. CD4+ cell count and RNA viral load) and psychological (e.g. depression, anxiety) outcomes and extending the length and quality of life of those infected.

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Table 1

Characteristics of the study population (N=182).

Characteristic	N (%)
Age, N (%)	
45 years	90 (49.5)
> 45 years	92 (50.5)
Sex, N (%)	
Male	127 (69.8)
Female	52 (28.6)
Intersex	3 (1.6)
Sexual Orientation, N (%)	
MCHe	97 (53.6)
Bisexual	30 (16.6)
MCHo	54 (29.8)
Refused to answer	1 (0.5)
Marital Status, N (%)	
Single	146 (80.7)
Divorced or separated	27 (14.9)
Married or partnered	8 (4.4)
Refused to answer	1 (0.5)
Employment Status, N (%)	
Working	21 (11.5)
Unemployed	57 (31.1)
Disabled	96 (52.7)
Other	8 (4.4)
Education, N (%)	
High school	109 (60.6)
> High school	71 (39.4)
Refused to answer	2 (1.1)
Yearly Income, N (%)	
<\$15,000	146 (82.0)
\$15,000	32 (18.0)
Refused to answer	4 (2.2)
Housing Status, N (%)	
Rent	73 (40.6)
Own	4 (2.2)
Live with others	52 (28.9)
Homeless	51 (28.3)
Refused to answer	2 (1.1)
On HAART, N (%)	
Yes	56 (30.8)
No	123 (67.6)

Characteristic	N (%)
Missing	3 (1.6)
Log ₁₀ CD4+ Cell Count, cells/mm ³ , Mean(SD) [^]	2.28 (0.47)
Log ₁₀ HIV RNA, copies/mL, Mean(SD) [^]	2.74 (1.17)
CAM Use, N (%)	
None	11 (6.0)
1–3 therapies	88 (48.4)
4 therapies	83(45.6)

HAART - highly active antiretroviral therapy; MCHe - Mostly or completely heterosexual; MCHo - Mostly or completely homosexual.

[^]
N=92.

Table 2

Frequency of CAM Use (N=182).

Therapy	Frequency of Use N (%)			
	Never	Seldom	Occasionally	Regular Basis
Vitamins	86 (47.3)	4 (2.2)	9 (4.9)	83 (45.6)
Herbs	165 (90.7)	2 (1.1)	7 (3.8)	8 (4.4)
Home remedies	137 (75.3)	13 (7.1)	19 (10.4)	13 (7.1)
Chiropractic	169 (92.9)	5 (2.7)	3 (1.6)	5 (2.7)
Massage	160 (87.9)	5 (2.7)	13 (7.1)	4 (2.2)
Dietary supplements	96 (52.7)	14 (7.7)	31 (17.0)	41 (22.5)
Aromatherapy	159 (87.4)	1 (0.5)	11 (6.0)	11 (6.0)
Marijuana	164 (90.1)	5 (2.7)	8 (4.4)	5 (2.7)
Counselling/Support Groups	64 (35.2)	5 (2.7)	48 (26.4)	65 (35.7)
Meditation	115 (63.2)	5 (2.7)	18 (9.9)	44 (24.2)
Yoga	170 (93.4)	2 (1.1)	6 (3.3)	4 (2.2)
Tai Chi	173 (95.1)	2 (1.1)	5 (2.7)	2 (1.1)
Acupuncture	179 (98.4)	1 (0.5)	1 (0.5)	1 (0.5)
Prayer/Spiritual Healing	75 (41.2)	4 (2.2)	7 (3.8)	96 (52.7)

Table 3

Duration of CAM Use.

Therapy	Total N (%)	Duration of Use N (%)		
		< 1 Month	1–12 Months	> 1 Year
Vitamins	96 (52.7)	4 (4.2)	32 (33.3)	60 (62.5)
Herbs	17 (9.3)	3 (17.6)	6 (35.3)	8 (47.1)
Home remedies	45 (24.7)	2 (4.4)	8 (17.8)	35 (77.8)
Chiropractic	13 (7.1)	5 (38.5)	1 (7.7)	7 (53.8)
Massage	22 (12.1)	1 (4.5)	10 (45.5)	11 (50.0)
Dietary supplements	86 (47.3)	12 (14.0)	21 (24.4)	52 (60.5)
Aromatherapy	23 (12.6)	5 (21.7)	6 (26.1)	12 (52.2)
Marijuana	18 (9.9)	0 (0)	2 (11.1)	16 (88.9)
Counselling/Support Groups	118 (64.8)	8 (6.8)	28 (23.7)	82 (69.5)
Meditation	67 (36.8)	7 (10.4)	10 (14.9)	50 (74.6)
Yoga	12 (6.6)	3 (25.0)	2 (16.7)	7 (58.3)
Tai Chi	9 (4.9)	1 (11.1)	7 (77.8)	1 (11.1)
Acupuncture	3 (1.6)	1 (33.3)	0 (0)	2 (66.7)
Prayer/Spiritual Healing	107 (58.8)	3 (2.8)	9 (8.4)	95 (88.8)

Table 4

Reasons for CAM Use.

Therapy	Total N (%)	Reasons N (%)				
		Reduce stress	Boost immune system	Boost energy/appetite or gain weight	Detoxify the body	Gain control over HIV treatment
Vitamins	96 (52.7)	1 (1.0)	31 (32.3)	39 (40.6)	0 (0)	4 (4.2)
Herbs	17 (9.3)	2 (11.8)	6 (35.3)	3 (17.6)	2 (11.8)	0 (0)
Home remedies	45 (24.7)	5 (11.1)	21 (46.7)	6 (13.3)	6 (13.3)	0 (0)
Chiropractic	13 (7.1)	5 (38.5)	2 (15.4)	5 (38.5)	0 (0)	1 (7.7)
Massage	22 (12.1)	18 (81.8)	1 (4.5)	3 (13.6)	0 (0)	0 (0)
Supplements	86 (47.3)	4 (4.7)	20 (23.3)	48 (55.8)	1 (1.2)	1 (1.2)
Aromatherapy	23 (12.6)	16 (69.6)	2 (8.7)	5 (21.7)	0 (0)	0 (0)
Marijuana	18 (9.9)	8 (44.4)	0 (0)	9 (50.0)	0 (0)	1 (5.6)
Counseling	118 (64.8)	68 (57.6)	4 (3.4)	10 (8.5)	2 (1.7)	34 (28.8)
Meditation	67 (36.8)	49 (73.1)	4 (6.0)	3 (4.6)	0 (0)	11 (16.4)
Yoga	12 (6.6)	6 (50.0)	1 (8.3)	1 (8.3)	2 (16.7)	2 (16.7)
Tai Chi	9 (4.9)	6 (66.7)	0 (0)	2 (22.2)	1 (11.1)	0 (0)
Acupuncture	3 (1.6)	2 (66.7)	0 (0)	1 (33.3)	0 (0)	0 (0)
Prayer	107 (58.8)	48 (44.9)	4 (3.7)	6 (5.6)	9 (8.4)	40 (37.4)
						0 (0)

Table 5

Predictors of frequency of CAM use (N=182).

Variable	<i>B</i>	<i>SE B</i>	<i>p</i>
Predisposing Variables			
Age	−0.02	0.02	0.30
Gender	0.53	0.26	0.05
Education	−0.01	0.25	0.98
Internality *	0.02	0.02	0.23
Enabling Variables			
Income	1.38	0.42	0.01
Health Literacy	0.97	0.08	<0.001
Need Variables			
Log ₁₀ HIV RNA, copies/mL [^]	0.35	0.17	0.04
Emotional Well-Being	−0.06	0.03	0.03
Symptom Severity	−0.01	0.01	0.77

* Internality subscale of the Multidimensional Health Locus of Control (MDHLOC) scale.

[^] N=92.