Factors related to the use of complementary and alternative medicine among people living with HIV/AIDS in Bangkok, Thailand

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Abstract

Background: There is insufficient data for casual factors and no up to date evidence of complementary and alternative medicine use among healthy groups of HIV/AIDS patients in Bangkok, Thailand. The aim of this study was to explore the prevalence of complementary and alternative medicine use among healthy HIV/AIDS patients and find out the causal factors.

Method and Material: A cross-sectional study was carried out using the self-administered questionnaire. The questionnaire was distributed to 225 people living with HIV/AIDS in four HIV/AIDS associations in Bangkok. Data were analyzed using descriptive statistics, the chi-square test and multiple logistic regression analysis.

Results: More than half of the people living with HIV/AIDS used complementary and alternative medicine. Vitamins and minerals, dietary supplements and herbal products were the three most popular types. Most of the people living with HIV/AIDS had positive perceptions towards complementary and alternative medicine; however, two-thirds of the people living with HIV/AIDS had poor knowledge about complementary and alternative medicine. Using multiple logistic regression, age, perceptions towards complementary and alternative medicine and product accessibility were associated with the use of complementary and alternative medicine among people living with HIV/AIDS.

Conclusion: Learning how to use complementary and alternative medicine appropriately is recommended for people living with HIV/AIDS. A proper balance of the advantages and disadvantages in the information received from the media and from peers is recommended. Lastly, awareness on the part of health professionals of reports of adverse events attributable to complementary and alternative medicine is also necessary for effective two-way communication.

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Introduction

It is common to see people living with Human Immunodeficiency Virus trying to relieve stress or pain by using complementary and alternative medicine (CAM). The fact that HIV cannot be cured[1] causes many of them try both conventional medicine and complementary and alternative therapies to improve their quality of life and longevity.[2]

The prevalence of CAM use among people living with HIV/AIDS (PLWH) around the world is consequently high, although it varies widely, ranging from 50% to 95%. This rate is around three times higher than the rate of utilization of CAM among uninfected people.[3-8] In 2008, 51.3% of HIV-infected Africans used traditional CAM to

treat the signs and symptoms of their infection.[4] In 2009, 79% of HIV-infected women in United States used CAM[9], which is similar to the 78.2% of HIV patients in Malaysia who utilized CAM.[3] Moreover, in Thailand 10 years ago, the rates of CAM use among HIV-infected patients in Chulalongkorn Memorial Hospital and Ramathibodi Hospital were 95% and 86.1% respectively.[5,10]

Because the use of CAM among HIV patients has expanded constantly around the world, studies of the factors related to CAM use have been conducted in many areas. The demographic factors for the use of CAM in HIV/AIDS have been characterized as high educational level, high income and young age;[3,6,11] the biomedical characteristics for the use of CAM are correlated to higher frequency of symptoms, longer duration of the disease and higher degree of disability;[4,6,11] moreover, the main psychosocial characteristics have been identified as more severe symptoms of depressive[6,11] and family experience of CAM use.[3] In addition, HIV-infected people's beliefs and perceptions have a significant influence on CAM use.[4] There is no single factor for predicting the health-seeking behavior of people who have HIV. In addition, many internal and external factors stimulate the desire for CAM use. The mass media, product information, friends, health service providers and family recommendations are potentially powerful factors influencing CAM use in HIV-infected people. All affect impressions about CAM and trust in CAM among people living with HIV/AIDS and lead to increased use of CAM.[10]

Significant interest in CAM use among HIV infected people should be aware because the increase in brand loyalty of CAM products may affect patient's perception. The disadvantage is that they consume CAM without taking precautions in using the products or services.[3,12] Until now, one problem has been the lack of sufficient evidence to support the usefulness and

benefits of CAM among HIV-infected people.[11] Moreover, there is some information about the potential health risks for CAM use among HIV/AIDs patients who use antiviral medicines, such as drug interaction.[13] That CAM users are less likely to adhere to antiviral regimens has also been confirmed.[14]

Little is known about CAM use among PLWH in Thailand. One study into the use of complementary and alternative medicine among Thais (2010) found that CAM plays a critical role conjunction with therapeutic in the maintenance of health in terms of mind and body care, integrated health care, holistic health care, decisions regarding self-care choices and naturalistic care at every level of Thai society.[15] It is clear that the use of CAM in the Thai community is intensive, while the Thai governmental health care system has provided anti-retroviral medicine free-of-charge to every HIV/AIDS patient since 2007.[16] This study was therefore designed to find the current extent of CAM use and the factors related to CAM use among PLWH in Bangkok, Thailand. The associations between independent variables (socio-demographic, biomedical, knowledge, perceptions and cues to action) and CAM use were examined.

Methodology

A cross-sectional descriptive study was conducted among PLWH who were members of four HIV associations which cooperate with the Thai Red Cross AIDS Research Centre: the Pozz Home Center, Ya Fak, Namjai Poen Sai Sam and Mittrapap Hang Faa. The required sample size was estimated using a confidence interval of 95%, an acceptance of error of 3% and the proportion of CAM use in 2003 of 0.95.[5] Thus, the sample size needed was at least 203. However, the sample size was increased by 10% to protect against information loss. Therefore, 225 questionnaires were distributed to PLWH in those four

associations. Participants were selected in proportion to the overall membership of these organizations. The data collection was conducted in March 2012, after obtaining formal approval from the ethics committee at Mahidol University.

The structured questionnaire consisted of eight parts, namely demographic characteristics, biomedical characteristics, knowledge of CAM, perceptions towards CAM, cues to action and the use of CAM. Demographic characteristics comprised six questions dealing with age, sex, education level, employment status, monthly income, and health insurance status. Biomedical characteristics were obtained from three questions about length of time since being infected with HIV, CD4 count and number of HIV-related symptoms.

Knowledge about CAM was evaluated by nine statements focused on general information about CAM, and the benefits and side effects of CAM. Each question scored on the basis of one point for a correct answer and no points for an incorrect answer. The total score for the knowledge part was classified into three categories: good (80-100), moderate (60-79) and poor (less than 60) based on Bloom's criteria.[17]

The perceptions towards CAM addressed PLWHs' feelings or opinions on HIV-related treatment, the potential consequences of the treatments, the benefits of CAM and the barriers to CAM use. Perceptions were measured by 24 statements using a five-point Likert scale. The scoring for each statement was 5, 4, 3, 2, 1 corresponding to "strongly agree", "agree", "unsure", "disagree" and "strongly disagree". The score was reversed for negative statements. The total scores for each part of the perception section were classified into two levels: positive perceptions and negative perceptions using the mean for the group as the cut-off point.

The cues to action section consisted of 12 questions about sources of information, one question on the accessibility of CAM products and one question on the availability of CAM products. Accessibility to CAM products was classified into easy to access and difficult to access. Availability of CAM products was categorized as sometimes unavailable and always available.

CAM use was measured by asking about kinds of HIV therapy that the PLWH had used over the previous three months. CAM users included both those who used only CAM and those who used both ARV and CAM. Non-users of CAM were those who used only ARV.

The questionnaire was pre-tested for validity and reliability before data collection. The results of the pilot study at the Samutsongkram HIV/AIDS association showed that the KR20 for knowledge was 0.6368 and Cronbach's alpha for perception was 0.7317.

Frequency, percentage, mean and standard deviation were used to describe both the prevalence of CAM use and the variables. The chi-square test was used to determine a possible association between each independent variable and CAM use, and multiple logistic regression was used to determine the association between each independent variable and CAM use.

Results

Table 1 shows that the majority of respondents were male (64.0%), aged between 25 and 44 years of age (77.7%), with the largest group educated at the secondary level (34.1%). Most CAM users were employed (50.7%), with the most frequent income range being 5,000-9,000 baht per month. Most CAM users had been infected with HIV for less than five years (53.4%), with a CD4 count more than or equal to 500 cells per mm3 (59.6%). More than half the respondents had no signs or symptoms.

With regard to knowledge, perceptions and cues to action for the use of CAM, most respondents had poor knowledge (66.2%) and

positive perceptions (52.0%) towards the use of CAM. Television, newspapers and magazines, and the Internet were the three most popular media for obtaining information about CAM. The people most responsible for giving information about CAM to respondents were HIV-infected friends (51.8%), family (46.8%) and health professionals (45.9%). A large majority (77.1%) of respondents also reported that it was easy to access CAM and about 70% of them had never encountered a lack of CAM products or services (Table 2).

Table 3 shows that the prevalence of CAM use for the three months prior to the study was 54.7%. CAM users reported that vitamin-mineral products (69.9%), dietary supplements (60.2%), and herbal products (47.2%) were the three most frequently used CAM products. Reasons for using CAM were reported as improving immune response (74.0%), followed by maintaining health (65.0%) and relieving stress and suffering from HIV/AIDS (64.2%).

Table 4 shows that the use of CAM had a significant association with gender, age, educational level, employment status, income, duration of HIV infection, number of symptoms, perceptions, and product accessibility. Multiple logistic regression indicated that age, perceptions towards CAM, and product accessibility were significant predictors of the use of CAM among PLWH in Bangkok, Thailand, when adjusted for other factors (Table 5).

Discussion

This current study indicates that the prevalence of the use of CAM among PLWH was 54.7%. This prevalence was lower than that found by various Thai studies in the past.[5,10] This might be partly the result of a high degree of trust in conventional medical providers and deficiencies in the scientific database for the efficacy, safety and side effects of CAM. The national health care policy of free HIV/AIDS treatment and more varieties of ARV

medicines might be another reason for the decrease in the use of CAM by PLWH.[16] However, the prevalence was still high and was consistent with a prevalence of 50-95% in previous studies worldwide.[3-8,10] The relevant findings were an increased desire on the part of PLWH for involvement in decisions regarding CAM, the positive perceptions towards CAM and influential external factors which lead to the high prevalence of the use of CAM among PLWH.

Perception was found to be the strongest predictor of CAM use when adjusted for other factors. PLWH who had positive perception were more likely to use CAM than those having negative perception. This was consistent with the findings in the previous study of Pelzer K et al.,[4] which showed that perception was strongly associated to CAM use. In this study, most of PLWH had positive perceptions towards the use of CAM. However, most of PLWH had poor knowledge about CAM. They had a poor level of knowledge about the adverse effects including management of the risky situation. It is interesting that these PLWH respondents seemed unsure about how to manage their use of CAM in a proper way. They still lacked confidence in the management of health-related decisions. This is a consequence of Thais having inadequate knowledge, but positive perceptions towards the use of CAM. This may be because CAM plays a role in providing hope and optimism.[2], and two main reasons for the use of CAM among PLWH in Bangkok were to promote health and prevent illness by fulfilling the patient's psychological demands. Another reason is to reduce the appearance of HIV-related symptoms. PLWH used CAM to increase their control over their illness and attempt to normalize their health status. This was similar to the results of many previous studies [9,12] which found that PLWH hope that CAM might reduce the side effects of ARV or strengthen the action of conventional medicine. Hence, the concept of multiple therapies is the best choice

for treatment in the view of many PLWH.

Interestingly, there has been a change in the past belief that the use of CAM resulted from a belief in spiritual remedies[5] to the newer concept of trust in the scientific method of producing medicine. There is also a greater appreciation for ingestible natural health products. Ingestible natural health products might be easier for PLWH to buy and consume. This result was similar to results found in many previous studies. Natural health products (vitamins and minerals, dietary supplements and herbal products) were frequently used by those living with HIV.[3,7,18]

Most sources of information reported PLWH using CAM because of information from HIV infected friends (50.22%), followed by family (45.33%) and some types of CAM use were inspired by health service providers (44.44%). In addition, some of them also sought CAM information from the mass media such as TV (44.44%), magazine (41.33%) and the Internet (38.22%) after being infected with HIV/AIDS. This finding of the various sources of information was consistent with the results of previous studies.[10,19] The group of HIV-infected friends was strongly influenced to the decision making of health care services and products. In Bangkok, many associations for HIV/AIDS have supported PLWH by providing many activities for their members. The PLWH have the chance to discuss their health status and health care products or services with one another. However, this may be problematic, as what is effective for one patient may not be for another, even one with the same symptoms. This is a significant issue for HIV/AIDS organizations to consider when attempting to provide correct information through appropriate HIV-infected psycho-social networks. Moreover, health professionals also influence CAM use. Finding the most beneficial therapy and obtaining higher patient's satisfaction are based on good physician-patient communication.[20]

This study had some limitations. The research design for this study was cross-sectional, using self-administered questionnaires, and relied on recall of PLWH covering the previous three months. Thus, recall bias in respondents' memories may have occurred and in-depth information may not have been obtained. Demographically, the sample was composed of PLWH in HIV-associations and therefore may not represent the behaviors of all PLWH in Bangkok. Self-Selection bias may have occurred, as the respondents were PLWH who chose to participate in the study. Due to the ethical issues, the PLWH also had the right not to participate or not to answer in some question. Thus, a longitudinal study and a qualitative research should be conducted in order to get more accurate information about variations in CAM use as the disease progresses, and to get in-depth information. Moreover, the disclosure of CAM use among PLWH to health professionals, the health professionals' views towards CAM use, the relationship between CAM use and ARV adherence of HIV/AIDS people are also deserving of future research.

Conclusion

In conclusion, the study reveals that PLWH had positive perception towards CAM, but they had inadequate knowledge. They had a poor level of knowledge about adverse effects of CAM, including management of risky situation. Therefore, PLWH should strive to learn more about CAM by conducting their own investigations to find how to use CAM appropriately. The advantages and disadvantages found in the information from both the media and peers should be taken into consideration. In addition, PLWH should disclose their use of CAM and discuss this use with health professionals by establishing two-way communication.
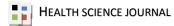
Acknowledgements

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ANNEX

Table 1 Distribution of respondents by socio-demographic and biomedical characteristics of the respondents

Variables	n	%
Gender (n=225)		
Female	81	36.0
Male	144	64.0
Age (n = 224)		
<25 years	21	9.4
25-44 years	174	77.7
>44 years	29	12.9
Mean = 34.33 years SD = 9.09 years Min = 18 years Max = 63 years		
Educational level (n = 223)		
Primary and lower	39	17.5
Secondary	76	34.1
College (Vocational school)	48	21.5
University	60	26.9
Employment status (n = 223)		
Unemployed	48	21.5
Employed	113	50.7
Private business	62	27.8
Income (n = 193)		
< 5,000 Baht	15	7.8
5,000-9,999 Baht	80	41.4
10,000-19,999 Baht	65	33.7
$\geq$ 20,000 Baht	33	17.1
Mean = 12,043 Baht SD = 8,965 Baht Min= 500 Baht Max = 95,000 Baht		
Duration of HIV infection (n = 221)		
<5 years	118	53.4
6-10 years	79	38.8
>10 years	24	10.8
CD4 count (n = 223)		
< 200 cells/mm^3	23	10.3
200-499 cells/mm^3	67	30.3
$\geq$ 500 cells/mm^3	133	59.6
Number of HIV-related symptoms (n = 225)		
0	127	56.4
1-2	47	20.9
$\geq$ 3	51	22.7

Table 2 Distribution of respondents by knowledge on CAM, perceptions towards CAM, accessibility and availability of product or service, and information accessibility.

Variables	N	%
Level of Knowledge (n = 225)		
Good	19	8.4
Moderate	57	25.3
Poor	149	66.2
Mean = 4.58 SD = 2.12 Min = 0 Max = 9		
Level of Perception (n=225)		
Positive	117	52.0
Negative	108	48.0
Mean = 75.00 SD = 11.22 Min = 52 Max = 103		
Product or Service Accessibility (n=201)		
Easy	155	77.1
Difficult	46	22.9
Product or Service Availability (n=192)		
Sometime unavailable	55	28.6
Always available	137	71.4
Sources of Information*(n = 225)		
TV	100	44.4
Radio	80	35.6
Newspaper/Magazine	93	41.3
Poster/brochure	71	31.6
Internet	86	38.2
Family	102	45.3
Health Professional	100	44.4
CAM practitioners	65	28.9
Friends	55	24.4
HIV-infected friends	113	50.2
Product Sale	54	24.0

*Multiple Answers

Table 3 Distribution of respondents by CAM use, CAM types and reasons for using CAM

Variables	n	%
CAM use (n = 225)		
Yes	123	54.7
No	102	46.3
CAM Types* (n=123)		
Natural product		
Herbal product	58	47.2
Vitamin-mineral product	86	69.9
Dietary supplements	74	60.2
Mind and Body medicine and practices		
Meditations	52	42.3
Exercise including Yoga, Tai Chi and other exercise	29	23.6
Acupuncture	1	0.8
Manipulative and body based practices		
Massage Therapy	28	22.8
Other CAM practices		
Prayer	53	43.1
Ritual remedy (Mor Pra)	17	13.8
Superstitious remedy	3	2.4
Reasons*(n=123)		
To improve immune supplement	91	74.0
To relief stress and suffering from HIV/AIDS	79	64.2
To prevention of illness related to HIV/AIDS	63	51.2
To decrease the illness related to HIV/AIDS	51	41.5
To relief the suffering from side effect of antiretroviral therapy	36	29.3
To maintain good health	80	65.0
The CAM products and services responded to my needs	39	31.2
The good accessibility of CAM products or services	34	27.6
The good availability of CAM products or services	16	13.0
Recommendation from influencing people	36	29.3
Influencing media (TV, radio, internet or other media)	37	30.1

* *Multiple Answers*

Table 4 Association between independent variables and CAM use

Variables	CAM use		Crude OR	95% CI	p value
	Yes (%)	No (%)			
Gender					
Female	44.1	55.6	1		0.021*
Male	60.4	39.6	1.91*	1.10-3.31	
Age					
<44 years	51.8	48.2	1		0.015*
≥45years	75.9	24.1	2.93*	1.19-7.16	
Educational level					
Primary and lower	30.8	69.2	1		<0.001*
Secondary	40.8	59.2	1.55	0.68-3.52	
College (vocational school)	68.8	31.2	4.95*	1.99-12.34	
University	76.7	23.3	7.39*	2.99-18.29	
Employment status					
Unemployed	50.0	50.0	1		0.019*
Employed	52.2	47.8	0.92	0.47-1.80	
Private business	30.6	69.4	2.26*	1.04-4.95	
Income (per month)					
< 9,999 Baht	33.7	66.3	1		<0.001-
10,000-19,999 Baht	67.7	32.3	4.13*	2.11-8.08	
≥ 20,000 Baht	81.8	18.2	8.86*	3.32-23.64	
Duration of HIV infection					
1-5 years	66.1	33.9	2.83*	1.64-4.90	<0.001*
>6 years	40.8	59.2	1		
CD4 count					
< 200 cells/mm^3	69.6	30.4	2.32	0.90-6.01	0.154
200-499 cells/mm^3	58.2	41.8	1.41	0.78-2.56	
≥500 cells/mm^3	49.6	50.4	1		
Numbers of symptoms					
0	45.7	54.3	1		0.004*
1-2	59.6	40.4	1.75	0.89-3.46	
≥3	72.6	27.4	3.14*	1.55-6.38	
Knowledge					
Good	52.6	47.4	0.96	0.37-2.49	0.848
Moderate	57.9	42.1	1.19	0.64-2.20	
Poor	53.7	46.3	1		
Perception towards CAM					
Positive	87.2	12.8	28.17*	13..69-57.97	<0.001*
Negative	19.4	80.6	1		
Product or service accessibility					
Easy	71.0	29.0	13.62*	5.67-32.71	<0.001*
Difficult	15.2	84.8	1		
Product or service availability					
Sometimes unavailable	50.9	49.1	1.63	0.86-3.06	0.130
Always available	62.8	37.2	1		

Table 5 Multiple logistic regression analysis for predictors of CAM use in PLWH

Variables	Adjusted OR	95% CI	p value
Gender			
Female	1		
Male	1.84	0.50-6.74	0.357
Age			
<44 years	1		
≥45years	15.67	1.16-212.14	0.038*
Educational level			
Primary and lower	1		
Secondary	1.19	0.14-10.50	0.873
College (vocational school)	1.28	0.13-12.48	0.832
University	8.27	0.72-97.74	0.089
Employment status			
Unemployed	1		
Employee	1.24	0.18-8.64	0.827
Private business	2.11	0.26-17.47	0.489
Income (per month)			
< 9,999 Baht	1		
10,000-19,999 Baht	3.44	0.93-12.70	0.064
≥20,000 Baht	2.29	0.34-15.28	0.391
Duration of HIV infection			
1-5 years	2.02	0.61-6.71	0.253
>6 years	1		
Numbers of symptoms			
0	1		
1-2	2.50	0.56-11.16	0.229
≥3	1.91	0.48-7.52	0.356
Perception towards CAM			
Positive	33.99	9.14-126.34	<0.001*
Negative	1		
Product or service accessibility			
Easy	13.02	2.51-67.64	0.002*
Difficult	1		