

ORIGINAL RESEARCH ARTICLE

# The use of complementary and alternative medicine by persons with HIV infection in Europe

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**Summary:** Between June 1996–September 1997 and December 1998–December 1999, two surveys using an anonymous questionnaire were carried out in Europe among persons living with HIV infection. The questionnaire included questions on use of antiretrovirals, complementary or alternative medicines. Vitamins/minerals were taken by 528 (58%) of the 1996–97 participants, compared to 326 (63%) of the 1998–99 participants ( $P=0.06$ ). Homeopathy was taken by respectively 176 (21%) and 55 (14%) ( $P=0.003$ ) participants and herbal products respectively by 213 (25%) and 77 (20%) ( $P=0.06$ ). In multiple regression analysis a longer time since HIV diagnosis, having a higher education level and having a lower CD<sup>+</sup> lymphocyte count were associated with the use of homeopathy. A longer time since HIV diagnosis and a more advanced stage of the disease were associated with the use of herbal products. The study shows that despite the availability of highly active antiretroviral therapy many people with HIV infection still take complementary and alternative medicine.

**Keywords:** complementary medicine, alternative medicine, HIV infection, Europe

## Introduction

Several studies from the United States (US) and Europe have shown that between 40% and 70% of persons with HIV infection were using complementary or alternative medicine (CAM)<sup>1–5</sup>. There is relatively little information about whether the availability of highly active antiretroviral treatment (HAART) has influenced the use of CAM<sup>6,7</sup>.

In a cohort of HIV-infected women in the US a consistently high CAM use (45–55%) was observed from 1994–2001<sup>6</sup>. In this study we compared the situation in Europe of CAM used by persons with HIV infection in 1996–97, when only few patients received HAART, to the situation in 1998–99 when HAART was widely available.

## Methods

In the periods June 1996–September 1997 and December 1998–December 1999, two surveys about HIV care/support related issues were carried out in Europe among persons living with HIV infection, using an anonymous questionnaire. The methodology of both surveys has previously been described<sup>8,9</sup>. Questionnaires were distributed by

HIV reference centres and HIV support organizations in Antwerp and Brussels (Belgium), München (Germany), Athens (Greece), Rome and Milan (Italy), Lisbon (Portugal), Madrid and La Coruña (Spain), London and Manchester (United Kingdom). In France, a patient organization distributed questionnaires in 13 different locations. Adults, diagnosed with HIV infection for at least one year, who were able to complete the questionnaire on their own, were eligible to participate. The questionnaires included questions about the use of antiretrovirals (ARVs), CAM, and the cost of such treatments. As complementary medicine we considered only the use of vitamins, minerals and dietary products. As alternative treatment we considered the use of homeopathy or herbal products. Comparisons between groups were made using the Pearson  $\chi^2$  statistic. If a cell had an expected count less than five, the Fisher's exact test was used. Comparisons were made between the two surveys but also within each survey. For multiple regression analyses, the data from both surveys were combined. The following potential covariates for the use of CAM were considered: socio-demographic characteristics (age, sex, educational level, region of Europe, HIV transmission category), immunological and virological characteristics (CD4<sup>+</sup> lymphocyte count, time elapsed since HIV diagnosis and clinical stage of HIV disease), ARV therapy regimen and time of survey.

**Table 1.** Comparison of the participants in the 1996–97 and the 1998–99 survey

	n	Males (%)	Mean age (years)	Reported mode of transmission			Secondary or higher education (%)	Mean time since HIV diagnosis (years)	CD4+ lymphocyte count < 200 cells/mm <sup>3</sup> (%)
				MSM* (%)	IVDU** (%)	Hetero (%)			
1996–97 survey	1161	81	38	66	12	20	80	6	43
1998–99 survey	899	79	39	63	8	24	75	7	22
P-value		NS	0.05	NS	0.02	0.003	0.05	<0.0001	<0.0001

\*MSM=men who have sex with men

\*\*IVDU=intravenous drug users

## Results

Population characteristics are shown in Table 1. Six hundred and seventy-seven (75%) of the 1998–99 participants were taking ARV therapy compared to 726 (63%) of the 1996–97 participants ( $P < 0.0001$ ); 589 (87%) of the 1998–99 respondents versus 354 (49%) of the 1996–97 respondents were taking HAART ( $P < 0.0001$ ). Vitamins/minerals were taken by 528 (58%) of the 1996–97 participants compared with 326 (63%) of the 1998–99 participants ( $P = 0.06$ ). Homeopathy was taken by respectively 176 (21%) and 55 (14%) ( $P = 0.003$ ) participants and herbal products respectively by 213 (25%) and 77 (20%) ( $P = 0.06$ ). In multiple regression analysis (Table 2), a more advanced stage of HIV disease and being on ARV therapy were associated with the intake of vitamins and minerals. A longer time since HIV diagnosis, having a higher education level and having a lower CD4+ lymphocytes count were associated

with the use of homeopathy. A longer time since HIV diagnosis and a more advanced stage of disease was associated with the use of herbal products.

Only a minority of the 1998–99 participants reported that alternative treatment was a reason for not being on an ARV-therapy (1%) or to stop ARV therapy (2%). The monthly costs for dietary products/food supplements, including vitamins/minerals were estimated at €100, for alternative medication including homeopathy at €135, and for other alternative forms of therapy at €335 (data obtained only in the 1996–97 survey).

## Discussion

This study shows that in Europe a large percentage of persons with HIV infection use CAM, even after the availability of HAART. Patients on HAART often complain they have

**Table 2.** Factors associated with the use of complementary/alternative medicine: multiple regression analysis, combined data of the 1996–97 and the 1998–99 survey

	Taking the following complementary/alternative medicine					
	Vitamins/minerals		Homeopathy		Herbal products	
	OR	95% CI	OR	95% CI	OR	95% CI
Clinical stage						
Asymptomatic	1				1	
Symptomatic	1.52	1.14–2.05			1.6	1.12–2.28
AIDS	1.54	1.07–2.24			1.63	1.06–2.49
CD4+ count						
< 200 cells/mm <sup>3</sup>			1			
200–500 cells/mm <sup>3</sup>			0.83	0.57–1.19		
> 500 cells/mm <sup>3</sup>			0.46	0.27–0.77		
Education level						
Primary school			1			
High school/university			1.76	1.06–2.92		
Survey						
1996–97			1			
1998–99			0.66	0.45–0.97		
Taking ARV*						
No	1					
Yes	1.35	1.02–1.78				
Time since HIV diagnosis						
			1.05	1.00–1.09	1.07	1.03–1.11

Only significant parameters are shown in the table

\*ARV=antiretroviral treatment, CI=confidence interval, OR=odds ratio

to take too many medicines, therefore it is surprising that many patients take additional therapies, for which there is no proof of antiviral activity<sup>10,11</sup>. The relatively large expenditures for CAM as observed in our study has also been noted in other studies: e.g., in a centre in Boston, US, the mean yearly out-of-pocket expenditure for CAM was estimated at US\$938, for all therapies<sup>12</sup>. It has been shown that St John's wort<sup>13</sup> and garlic supplements<sup>14</sup> decrease the drug levels of protease inhibitors. Not many other alternative drug interaction studies have been performed. In a European survey among HIV seropositive CAM users on HAART, a very low perception of HAART-herbs interaction risk was observed<sup>7</sup>. It is important that physicians ask their patients whether they are using CAM. Patients may not disclose the use of these therapies because they fear that physicians will not approve of them. In 2001, in a large cohort study in the US, 89% of the women did not report their use of herbal treatment to their primary medical provider<sup>6</sup>. A good patient-physician relationship and a non-judgmental attitude of the physician will improve communication about this issue. However, physicians should advise their patients about the high cost of certain CAM and advise against potentially toxic CAM that may interact with the use of certain ARVs<sup>13,15</sup>.

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