

Use of Complementary and Alternative Therapies by Patients Self-Reporting Arthritis or Rheumatism: Results from a Nationwide Canadian Survey

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ABSTRACT. Objective. Arthritis or rheumatism (A/R) often leads patients to experiment with complementary and alternative medicine (CAM); we investigated the factors associated with use of CAM.

Methods. The source of the data is the cross sectional household component of the 1996-97 National Population Health Survey of the health status and behaviors of Canadians. The survey sample is based on 66,000 persons aged 20 years and older, representing 21 million adults. Cross tabulations were used to estimate the percentage of adults with A/R who used CAM. Multivariate logistic regression was used to identify those characteristics associated with the use of CAM in the year preceding the survey.

Results. In 1996-97, among the 3.3 million Canadian adults aged 20 years or older who self-reported arthritis, 22% utilized CAM in the past year. CAM users tended to be younger and with higher education and household income. They reported more pain, consumed more analgesics, and tended to be more depressed. The coexistence of back or bowel disorders, cancer, sinusitis, or food allergies with arthritis was also related to CAM use. Moreover, CAM users also used more traditional health resources.

Conclusion. Our results indicate that patients with A/R consulting CAM providers self-report more intense symptoms than nonusers and often have other chronic conditions. They do not seem to reject the traditional health care system, but supplement it with CAM, possibly to fulfill needs insufficiently satisfied by traditional health care providers. (J Rheumatol 2002;29:2435-41)

Key Indexing Terms:

ARTHRITIS

ALTERNATIVE MEDICINE

RHEUMATISM

HEALTH RESOURCE USE

COMPLEMENTARY MEDICINE

CHRONIC ILLNESS

The use of complementary and alternative medicines (CAM) has experienced considerable growth in the last 25 years, and they are now widely used all over the world. Despite this increase, prevalence of use by the general population is highly variable in the countries where it has been studied, ranging from 11 to 73%¹⁻⁶. Cross-country variation

can be partly explained by differences in cultural or socioeconomic characteristics, health care organization and public or private insurance coverage, and the design of the studies⁶. It may also reflect the heterogeneity of CAM and the complexity of defining what belongs to CAM and what belongs to conventional medicine. Eisenberg, *et al* defined CAM as therapies not commonly taught in medical schools or not commonly available in university hospitals⁷. Other authors have classified as CAM "all interventions not usually prescribed by physicians"⁸ or have proposed to replace the terms "conventional" and "alternative" by: "medicine proven to be reasonably effective and safe" and "medicine not proven to be"⁹; or "medicine proven to be effective and safe" and "medicine proven to be ineffective or unsafe" and "questionable medicine"¹⁰. In most studies, the definition is quite broad, including lifestyle diets, high dose vitamins, acupuncture, homeopathy, folk remedies, herbal medicine, massage, exercise programs, relaxation techniques, chiropractic, biofeedback, imagery, hypnosis, art/music therapy, self-help groups, energy healing, spiritual healing, and prayer (nonexhaustive list)^{3,5,7,8,11,12}.

The mechanism of action and the efficacy of these therapies are often largely unclear^{9,10,13,14}. However, there is some evidence that CAM consumption has little to do with

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demonstrated efficacy and that the negative results of randomized controlled trials often do not influence patients' propensity to use CAM^{15,16}. Indeed, the most common motivations for their use are: the absence of treatments available in traditional medicine, dissatisfaction with conventional treatment or care, desire to control one's own health and to play a more active role in the treatment of a disease, and congruence with an "alternative" way of life^{15,17-21}. The type of medical condition affecting the patient also seems to influence CAM use. For example, CAM use seems to be more frequent for painful disorders, especially arthritis and back problems^{3,5,7,8,11,12,22-24}, life-threatening diseases, such as cancer and AIDS^{25,26}, and other chronic conditions, such as allergies, migraines, and anxiety or depression⁷. CAM users usually have a better ability to pay^{1,5}. Moreover, they also tend to have a higher level of education, which may reflect better access to health information, more concern about health issues, and greater skepticism towards physicians' knowledge^{1,5,7,12}.

The National Population Health Survey (NPHS), a Canadian nationwide population based study, provides the opportunity to characterize this usage in a sample of 66,000 respondents. That data collection, independent of any medical contact in the NPHS, is perhaps an advantage for studying CAM, since up to 50% of CAM users do not inform their regular physician of this usage^{8,27-29}. Our study uses data from the 1996-97 wave of the NPHS to identify patients self-reporting arthritis or rheumatism (A/R) and addresses 2 main questions: (1) In this patient population, which health status characteristics and socioeconomic factors are associated with CAM use? (2) How do attitudes towards conventional health care differ between CAM users and nonusers?

MATERIALS AND METHODS

NPHS design. The NPHS is a nationwide longitudinal survey, begun in 1994 and conducted every second year, that provides information on health status and utilization of health care system resources in Canada^{3,30-33}. Respondents are a sample of Canadian noninstitutionalized residents randomly selected by a random digit dialing process; individuals living in Indian reserves and the northern territories have been excluded. More than 80,000 Canadians responded to the questionnaire, administered by phone to one randomly selected member of each household contacted between 1996 and 1997. This sample included most of the 1994 participants as well as supplemental respondents; moreover, specific questions on the Alberta health care system were added to the questionnaire. Data corresponding to respondents aged 20 years and older who provided complete responses to the questions about CAM use and the presence of chronic conditions were included in this study. All information was self-reported.

Definition of A/R population. Respondents were asked if they were suffering from a chronic condition diagnosed by a health professional. In cases of an affirmative response, they were asked to indicate the nature of this condition(s) by choosing from the following categories: food allergies, other allergies, asthma, arthritis or rheumatism, back problems, high blood pressure, migraine headaches, chronic bronchitis or emphysema, sinusitis, diabetes, epilepsy, heart diseases, cancer, stomach or intestinal ulcers, effects of a stroke, urinary incontinence, bowel disorders, Alzheimer disease or dementia, cataracts, glaucoma, thyroid condition, or other

chronic problem. Based on their responses, we stratified the subjects into 4 groups: (1) persons reporting chronic arthritis or rheumatism (regardless of any other chronic conditions mentioned); (2) persons reporting back problems, but no arthritis or rheumatism; (3) persons with other chronic conditions different from arthritis or rheumatism or back problems; and (4) persons not mentioning any chronic condition.

Definition of CAM. The CAM definition in the NPHS is rather restrictive, limiting CAM to the use of various providers and self-help groups, while excluding information regarding diets and supplementation regimens. The utilization of CAM in the past 12 months was evaluated by considering responses to 3 items in the NPHS. First, participants were asked: "In the past 12 months, have you seen or talked to an alternative health care provider, such as an acupuncturist, homeopath, or massage therapist, about your physical, emotional, or mental health?" If yes, respondents were asked to specify which type of CAM they used from the 7 following categories: massage therapist, acupuncturist, homeopath or naturopath, relaxation therapist, herbalist, reflexologist, or spiritual healer. Second, the respondents were asked if they attended a self-help group for a medical problem. Third, they were asked if they consulted a chiropractor. A respondent was classified in the CAM user group if he/she answered yes to at least one of these 3 questions.

Explanatory variables. Socioeconomic data included variables related to age, sex, marital status, province of residence, education background, and household income of the respondent.

Health variables. In addition to the presence of chronic conditions, respondents were queried on their general health ("In general, how would you say your health is?", stated as poor, fair, good, very good, or excellent); level of pain (derived Likert scale, in 4 categories — none, mild, moderate, or severe); physical activities (derived variable in 3 categories — active, moderately active, inactive); and signs of distress or depression (index derived from the Composite International Diagnostic Interview).

Drug consumption was evaluated by asking the respondents if they used certain categories of medications in the past 2 months or if they had received or taken a specific treatment for a chronic condition. Respondents also provided additional information concerning smoking and alcohol consumption.

Use of health care system resources. Respondents were asked if they had a family doctor. The number of consultations with medical doctors or other health professionals, the different types of care they received in the previous 12 months, and their adherence to immunization or preventive medicine programs were also elicited. Although this was a nationwide survey, Statistics Canada invited the provincial governments to attach supplemental questions to the questionnaire. The sample from Alberta responded to a few items concerning their perception of the quality of the health care system in general and of the health care they had received in the past 12 months. Thus, some information about the perceptions of the quality of the health care system is available for a subset of the Canadian population.

Statistical analysis. Statistical analysis employed the population weights provided by Statistics Canada. Analyses were performed using STATA 6.0 software (Stata Corp., College Station, TX, USA) and S-plus 4.0 (MathSoft, Seattle, WA, USA). All parameters and confidence intervals reported here were estimated using the survey commands in STATA 6.0, which allowed us to account for the stratification and clustering in the NPHS sample^{33,34}.

Comparisons between the 4 diagnostic groups. The prevalence of CAM use was studied in the 4 predefined diagnostic groups. Comparisons between groups were based on percentage of CAM users within the different groups and their 95% confidence intervals.

Examination of the A/R group. The univariate analysis used 95% confidence intervals to compare the distribution of explanatory variables between CAM users and nonusers. Multiple logistic regression was employed to determine factors associated with CAM use in patients with

arthritis; approximate Bayes factors, as calculated with the Bayesian information criterion (BIC), were used to select the best model. In our multivariate analyses, we first constructed a correlation matrix of all dependent and independent variables to check for possible confounders. Then a variety of plausible models were estimated. In each case, we examined how the model coefficients and standard errors changed as independent variables entered or exited the model to check for possible confounding effects. We used the BIC to select our final models. The BIC provides an approximate Bayes factor for assessing which of several regression models is best supported by the data. A Bayes factor provides the probability of obtaining the data set given that the model (say, Model 1) is correct, divided by the same probability for another model (say, Model 2). If Model 1 fits the data better, then the Bayes factor will be greater than 1, and otherwise it will be less than 1. An exact Bayes factor requires input of prior distributions for every unknown variable in the model, but this requirement is removed by the BIC approximation. Therefore, the BIC represents an asymptotic Bayes factor, where the prior information is negligible compared to the information in the data. This is similar to using likelihood ratio tests, which are also based on asymptotic approximations. Using the BIC for model selection is preferred to the usual backwards and forwards model selection techniques, since it avoids overfitting of the model to the data associated with the latter techniques, and the final model is selected independently of the order in which the models are tested^{35,36}.

The candidate variables eligible to be selected by the BIC procedure were: a series of age-range indicators, sex, marital status, indicators for education level, indicators for household income ranges, province of residence (Quebec, Ontario, Atlantic provinces, prairie provinces, and British Columbia), health status rating, presence of moderate or severe pain, physical activity index, derived depression and distress scales, social involvement index, drug consumption (analgesics, opiates, antidepressants, tranquilizers, sleeping pills, cough remedies, laxatives, others), presence of a regular family doctor, number of medical visits (with family doctor or specialists), number of health professional visits (physiotherapists, social workers, psychologists), smoking and alcohol consumption, number and type of comorbid chronic conditions (food allergy, other allergy, asthma, high blood pressure, migraine, chronic bronchitis, chronic sinusitis, diabetes, epilepsy, heart disease, cancer, digestive ulcer, consequences of stroke, urinary incontinence, bowel disease, Alzheimer disease, cataract, glaucoma, thyroid disease, others).

RESULTS

Comparison of A/R patients to other groups. Table 1 reports CAM use by 4 mutually exclusive groups: (1) those with A/R; (2) those with back problems (but no A/R); (3) those with a chronic illness other than A/R or back problems; (4) those free of chronic illness. More than 22% of 1996 NPHS respondents who self-reported A/R on a chronic basis had used CAM during the year preceding the survey; this percentage was higher than that observed either for patients in the broad category of nonrheumatic chronic conditions or for people with no such condition (Table 1). Among specific chronic conditions, only patients self-reporting back problems or bowel disorders displayed a higher rate of CAM use. Some differences in CAM use were observed across Canadian regions: A/R patients from western provinces (Alberta, Manitoba, Saskatchewan, British Columbia) seemed more likely to use CAM (ranging from 26.2% in Alberta to 37% in BC), and A/R patients from the Atlantic provinces (Newfoundland, Nova Scotia, New Brunswick, Prince Edward Island) seemed less likely to do so (ranging from 5.6% in Newfoundland to 15.5% in PEI).

Table 1. Use of complementary and alternative medicine by Canadians aged 20 and older.

Health Problems	CAM Users	
	%	95% CI
1. Chronic arthritis or rheumatism, n = 12,971	22.7	21.1–24.4
2. Chronic back problems, n = 7536*	41.9	39.6–44.3
3. Other nonrheumatic chronic condition**, n = 21,155	15.2	14.2–16.2
Allergies, n = 10,043	18.1	16.5–19.7
Bowel disorders, n = 573	21.4	14.2–28.5
Cancer, n = 609	14.5	9.6–19.4
Cardiovascular diseases†, n = 5205	11.2	9.4–13.1
Diabetes, n = 1284	9.5	7.0–12.1
Migraine, n = 2903	18.3	15.0–21.7
Respiratory diseases††, n = 4600	18.7	16.3–21.2
4. No chronic condition, n = 24,591	11.6	10.8–12.5
Total, n = 66,253	17.8	17.2–18.4

* Patients with concomitant arthritis or rheumatism are excluded from these categories and only taken into account in the first group. ** Patients with arthritis or rheumatism or back problems are excluded. In these categories, patients may have several nonrheumatic chronic conditions. † Included high blood pressure, heart diseases (coronary diseases or cardiac insufficiency), strokes, and their consequences. †† Included asthma, chronic bronchitis, emphysema, and chronic sinusitis.

Characteristics of CAM use in A/R patients. A breakdown of the main CAM used by A/R patients is presented in Table 2, including chiropractic, massage therapy, acupuncture, naturopathy or homeopathy, and self-help groups. Although there were some differences for these specific therapies between A/R patients, patients with other nonrheumatic chronic conditions, and healthy individuals, no specific profile of CAM use could be associated with the A/R patients.

Table 3 compares how A/R patients who used CAM differed in several socioeconomic and health characteristics from nonusers. Users were younger (–5.8 years of age), more often female (+ 4.4%) and had more frequently pursued post-secondary education. Moreover, they displayed a greater ability to pay, as shown by a higher household annual income (+ 7344 CAD).

Health characteristics. Although self-report of general health status did not differ significantly between users and nonusers, CAM users reported more pain than nonusers. This is consistent with the greater use of analgesics and opiates among users. CAM users were also more likely to state some restriction of their physical activity; nonetheless, they remained active and complete inactivity was more frequent in nonusers.

Questions related to psychological health revealed that CAM users had higher scores on depression and distress indices, indicating greater levels of psychological disturbance. This observation was corroborated by a more frequent use of antidepressants in CAM users in the 2 months preceding the survey. However, CAM users displayed higher scores in the social involvement index,

Table 2. Experience of CAM by CAM users.

	CAM Users Self-reporting							
	Arthritis or Rheumatism, n = 2911		Chronic Back Problems, n = 3259		Other Nonrheumatic Chronic Conditions, n = 3546		No Chronic Condition, n = 3230	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI
Chiropractic	59.5	55.3–63.6	75.6	71.9–79.0	49.9	46.2–53.6	59.5	55.4–63.6
Massage therapy	48.4	41.2–55.6	58.1	51.1–64.9	45.0	39.3–50.9	46.5	39.7–53.4
Acupuncture	25.0	19.7–31.1	19.6	14.9–25.2	14.4	10.9–18.7	15.2	10.8–21.0
Homeopathy or naturopathy	20.9	15.5–27.5	15.9	11.8–21.2	26.5	21.5–32.3	22.3	17.1–28.7
Self-help groups	20.4	17.4–23.8	8.5	6.8–10.6	19.6	16.8–22.7	13.1	10.7–15.9
Herbal therapy	5.5	4.0–7.5	6.8	4.4–10.4	8.3	5.8–11.7	9.1	5.2–15.4
Reflexology	3.9	2.3–6.5	2.1	1.4–3.2	4.6	2.7–7.9	3.0	1.8–5.1
Spiritual healing	0.9	0.3–2.6	0.1	0.0–0.5	1.0	0.5–1.8	1.3	0.8–2.2
Relaxation	0.6	0.3–1.2	0.6	0.2–1.4	0.5	0.3–1.1	0.7	0.2–2.6

Table 3. Univariate analysis of the differences between patients with arthritis or rheumatism on a chronic basis having used CAM in the past year and those who did not use CAM. 95% CI in parentheses.

	Patients Reporting Chronic Arthritis or Rheumatism		Difference, Users/Nonusers
	Using CAM, n = 2911	Not Using CAM, n = 10,060	
Socioeconomic factors in the past year			
Age, yrs	55.3 (53.8–56.8)	61.1 (60.5–61.7)	–5.8 (–7.4– –4.2]
Female sex, %	68.8 (64.4–72.9)	64.4 (62.5–66.3)	+4.4 (–0.3–9.1)
Post-secondary education, %*	57.5 (53.2–61.7)	41.5 (39.6–43.4)	+16.0 (11.4–20.7)
Household income, \$ CAD	41,106 (38,552–43,661)	33,762 (32,675–34,850)	+7344 (4568–10,120)
Self-reported health factors in the past year			
Fair or poor health, %	27.3 (24.0–30.9)	28.1 (26.3–30.0)	–0.8 (–4.7–3.2)
Mod or severe pain, %	38.5 (34.3–42.9)	29.1 (27.2–31.1)	+9.4 (4.7–14.2)
Restriction of activity, %	52.3 (48.0–56.6)	43.9 (41.6–46.3)	+8.4 (3.5–13.3)
Derived distress index, scale 0–8	0.7 (0.5–0.9)	0.4 (0.3–0.4)	+0.3 (0.1–0.5)
Derived distress index, scale 0–24	3.5 (3.3–3.8)	3.0 (2.8–3.2)	+0.5 (0.2–0.8)
Smoking			
Never smoker, %	37.4 (33.4–41.6)	39.6 (37.5–41.7)	–2.2 (–6.8–2.4)
Past smoker, %	41.6 (37.3–45.9)	34.8 (32.9–36.9)	+6.8 (2.0–11.5)
Current smoker, %	21.1 (17.9–24.6)	25.6 (23.9–27.4)	–4.5 (–8.4– –0.7)
Treatments in past 2 mo			
Analgesics, %	83.6 (80.9–86.1)	75.9 (73.8–77.8)	+7.7 (4.5–11.0)
Opiates, %	12.3 (10.1–15.0)	7.1 (6.2–8.0)	+5.2 (2.7–7.9)
Tranquilizers, %	6.9 (5.3–8.9)	5.7 (4.8–6.6)	+1.2 (–0.7–3.2)
Antidepressants, %	11.2 (8.4–14.9)	6.5 (5.6–7.5)	+4.7 (1.4–8.1)
Health care system use in past year			
Regular family doctor, %	96.8 (95.5–97.7)	94.8 (93.5–95.8)	+2.0 (0.5–3.6)
Number of visits to			
Medical doctor	7.7 (7.1–8.3)	6.2 (5.9–6.4)	+1.5 (0.9–2.2)
Family doctor	6.2 (5.7–6.7)	5.2 (5.0–5.4)	+1.0 (0.5–1.6)
Specialist	1.5 (1.3–1.8)	1.0 (0.9–1.1)	+0.5 (0.2–0.8)
Physiotherapist	2.2 (1.7–2.6)	1.2 (1.0–1.3)	+1.0 (0.5–1.5)
Psychologist	0.4 (0.2–0.6)	0.1 (0.0–0.1)	+0.3 (0.1–0.6)

* Post-secondary education includes some post-secondary education through PhD and MD degrees.

which seems to indicate that either distress or depression did not lead to a substantial reduction in social contact.

The proportion of past smokers was higher in users, in contrast to current smokers, who were less represented in this category. Alcohol consumption was not different

between users and nonusers. Besides treatments for pain or mood symptoms, there were no statistically significant differences between users and nonusers for widely used drugs such as sleeping pills or stomach remedies.

Use of health care system resources. The data on utilization

of health care system resources revealed that CAM users were more likely to have a regular family doctor; they also more often consulted family doctors, specialists, physiotherapists, and psychologists. Moreover, CAM users visited their dentist significantly more frequently, and female CAM users were more adherent to cervical (PAP smear) and breast cancer (self or physician breast examination and mammogram) screening than female nonusers. However, there were no differences in the number or length of hospitalizations and in the adherence to influenza immunization or routine medical checkups.

Multivariate analysis of variables associated with CAM use in A/R patients. The BIC was used to determine the best predicting model for the use of CAM by A/R patients (Table 4). All socioeconomic and demographic variables, except female sex, were associated with CAM use: younger age, post-secondary education, and higher incomes are associated with CAM use. Pain, analgesic use, and depression index were also linked to higher use. Complete inactivity and current smoking decreased the likelihood of CAM use, while some additional nonrheumatic chronic conditions associated with arthritis increased the likelihood of use (back problems, bowel disorders, cancer, sinusitis, food allergy). Finally, having a regular family doctor and consulting a physician more often are also associated with CAM use.

Perception of the health care system in Alberta. Additional information on Albertans' perceptions of the health care system is presented in Table 5. Although there was no difference in the respondents' evaluation of the provincial health care system in general, CAM users were less satisfied with the care they received during the year preceding the survey. This result may not be generalizable to the whole Canadian population, since the demographic and socioeconomic characteristics of respondents from Alberta differed from the rest of the survey respondents. Moreover, each province administers its own health care system. Thus, perceptions of health care system performance in the other 9 provinces may differ from those in Alberta.

DISCUSSION

This study confirmed that Canadian patients self-reporting arthritis or rheumatism are among the most frequent users of CAM. The main strength of this study is its size and representativeness. One of its limitations, as in many other epidemiological surveys, is the lack of medical assessment of health information. However, the NPHS questions are designed to be easily understood by the general population and the presence of a chronic condition required that the diagnosis be made by a health professional. Moreover, other investigators have shown that self-report was fairly accurate for the diagnosis of chronic conditions, such as diabetes or high blood pressure, based on physician diagnosis recorded in insurance administrative databases³⁷. In addition, the

Table 4. Multivariate analysis with model selected by the Bayesian information criterion. Variables associated with the use of complementary and alternative medicine in the past year by patients self-reporting chronic arthritis or rheumatism.

	Odds Ratio (95% CI)
Socioeconomic factors in past year	
Age, yrs	
<55*	1.0 —
55 to 64	0.8 (0.6–1.0)
≥ 65	0.5 (0.4–0.7)
Secondary education	
Non completed *	1.0 —
Completed	1.4 (1.1–1.7)
Household annual income, \$ CAD	
< 15,000*	1.0 —
15,000 to 39,999	1.7 (1.2–2.3)
≥ 40,000	2.1 (1.5–3.1)
Missing income	1.4 (1.0–1.9)
Province of residence	
Quebec, Ontario*	1.0 —
Atlantic	0.4 (0.3–0.6)
Prairies	1.6 (1.3–1.9)
British Columbia	2.0 (1.4–2.8)
Self-reported health variable in past year	
Moderate or severe pain	1.3 (1.1–1.7)
Inactivity	0.7 (0.6–0.9)
Depression index†	1.0 (1.0–1.1)
Current smoker	0.6 (0.5–0.8)
Comorbid chronic conditions	
Back problems	1.9 (1.5–2.4)
Bowel disorders	1.4 (1.0–2.2)
Cancer	1.5 (0.9–2.3)
Chronic sinusitis	1.6 (1.2–2.1)
Food allergy	1.4 (1.1–1.8)
Treatments in past 2 mo	
Analgesics	1.3 (1.0–1.6)
Health care system use in past year	
Regular family doctor	1.6 (1.0–2.4)
Number of consultations with MD††	1.02 (1.00–1.03)

* Reference category. † Odds ratio for each additional unit on depression index scale. †† Odds ratio for each additional MD consultation. Atlantic provinces are New Brunswick, Nova Scotia, Newfoundland, Prince Edward Island. Prairies are Manitoba, Saskatchewan, Alberta.

administration of questionnaires by Statistics Canada professionals rather than members of the treating health care team may lead to more accurate responses, since several authors have noted that patients are often reluctant to disclose CAM use to their regular doctor^{7,8}.

The observed rate of use was lower than that found in previous studies^{8,22,38}. A possible explanation is the restricted definition used for CAM, which was limited to users of CAM providers and self-help groups. Patients were not queried on lifestyle diets, exclusion or supplementation regimens, or megavitamins. However, it would perhaps be preferable to investigate these items in a separate study, since lifestyle diets and vitamins may represent a generic lifestyle choice rather than treatments targeted to specific

Table 5. Opinion of patients with arthritis or rheumatism on the health care system (respondents are from Alberta only). 95% CI in parentheses.

	Patients Reporting Chronic Arthritis or Rheumatism Using CAM, n = 583	Not Using CAM, n = 1627	Difference, Users/Nonusers
Evaluation of health care system*			
Fair or poor opinion of the system in general, %	46.7 (41.7– 51.8)	47.0 (44.0–50.1)	–0.3 (–6.2–5.6)
Fair or poor satisfaction with care received in past year, %	22.8 (18.7–27.5)	15.7 (13.5–18.2)	+7.1 (2.1–12.1)

* Indicates percentage of patients displaying the characteristics among users or nonusers of CAM.

chronic conditions or to specific pathologies or symptoms. Another possible determinant is the type and extent of the health care system. In countries with publicly funded health care systems, patients are accustomed to complete coverage for health care and may be less likely to see pay-per-service CAM providers than patients acquainted with privately funded systems such as in the United States. Within Canada, the British Columbia health care plan covers some CAM, which may explain the higher rate of CAM use by the residents of this province. Whatever the health care system characteristics, given that CAM use potentially represents considerable costs for the patients, the ability to pay is an important determinant of CAM use. This finding was observed in previous studies^{1,5,7,12,39}.

According to the NPHS data, A/R patients who used CAM seemed to suffer more than nonusers, as indicated by more pain, depression, and distress. Both pain and depression were significantly associated with CAM use, in agreement with studies conducted in the general population^{7,12}. Since depression is often masked or distorted by pain or functional impairment, physicians may fail to recognize it or to include it in their therapeutic approach. This may be a source of disagreement between patients' and physicians' perceptions and lead patients to seek additional care from CAM. For example, a study on CAM use by patients with systemic lupus erythematosus (SLE) has shown that patients using CAM reported poorer levels of self-rated health status than nonusers, although physicians' ratings of the overall illness severity of the 2 groups did not differ³⁸.

Our results also indicate that some comorbidities, considered independently of A/R status, seem to increase the use of CAM by patients with arthritis. One study has shown that the number of chronic conditions is associated with CAM use³. One can anticipate that patients with several chronic diseases are more distressed by their health problems and more likely to seek more care. However, in the case of patients with multiple conditions, it can also be argued that this increased need for CAM comes from dissatisfaction with traditional providers, whose care is often fragmented into organ-specific disciplines. A recent study on the quality of care for patients with rheumatoid arthritis emphasized

this idea, arguing for a reassessment of the roles and relations between primary care physicians and specialists⁴⁰. Since CAM are often described by their supporters or providers as more holistic, with providers dedicating more time and attention to the patient, patients with multiple problems may be attracted to these treatments, which, moreover, are often perceived as risk-free therapies¹⁵. This may explain, in part, why users usually report high rates of satisfaction with CAM^{28,29,41}. The NPHS provides information about satisfaction with the health care received in only one province; the same pattern of higher dissatisfaction with conventional care in CAM users is observed. However, as conventional physicians themselves are increasingly adopting a more holistic approach, this tendency may lessen in the future. In a study investigating outpatients' satisfaction in an Australian rheumatology clinic, the patients who had consulted CAM providers (43% of the study patients) rated the conventional care they received more favorably (77% considered it beneficial or very beneficial) than CAM (considered beneficial or very beneficial by only 45.6%)⁴². Quality of care may be an important determinant in the search for CAM⁴⁰.

Although they seek help from CAM, A/R patients using CAM consulted physicians more frequently and seemed to use more drugs than nonusers; this indicates that they were not rejecting the traditional health care system, but employed both traditional and complementary remedies at the same time^{7,8,12,38,43}. The better adherence of CAM users to recommended preventive medicine practices, as well as their lower frequency of smoking, may also indicate greater concerns about their health. In that context, CAM use may be interpreted as a willingness of these patients to play a more active role in their own health management, as reported¹².

This study provides a comprehensive view of arthritis patients using CAM. Challenged by disabling and painful conditions, patients with rheumatic disease want to participate actively in the management of their diseases. Providers of conventional care should be able to engage patients in the control of their disease as effectively as providers of CAM.

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