

Use of Complementary Therapies for Arthritis among Patients of Rheumatologists

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Background: Use of complementary and alternative medicine (CAM) is common among persons with chronic conditions.

Objective: To identify correlates of and describe patients' perspective on use of CAM for rheumatologic conditions.

Design: Telephone survey.

Setting: Three university practices and three private rheumatology practices.

Patients: 232 of 428 eligible consecutive patients (54%) with scheduled appointments.

Measurements: Patients answered questions on CAM use, functional status, pain, provider satisfaction, and health services utilization. Chart reviews provided demographic information and rheumatologic diagnoses. Bivariate analyses identified correlates of four CAM outcomes (history, magnitude, and frequency of CAM use and communication about CAM use with a physician), and multiple logistic regression identified independent correlates of regular CAM use.

Results: Approximately two thirds of the respondents ($n = 146$) had used CAM. Of these 146 respondents, 82 (56%) currently used CAM and 132 (90%) regularly used CAM or had done so in the past. Fifty-five respondents (24%) had used three or more types of CAM. In multivariate analyses, persons who used CAM regularly were more likely to have osteoarthritis (odds ratio, 5.6 [95% CI, 1.9 to 16.8]), severe pain (odds ratio, 2.5 [CI, 1.4 to 4.8]), and a college degree (odds ratio, 2.6 [CI, 1.3 to 5.4]) than patients who had never used CAM. Nearly half of the respondents discussed CAM use with their physicians. The most common reasons for not disclosing CAM use were that the physician had not asked about it and that the patient forgot to tell the physician; fear of disapproval was rarely cited. Discussions about CAM use between patient and physician occurred more frequently among patients with fibromyalgia and persons who regularly used CAM or used several types of CAM.

Conclusions: Patients with rheumatologic conditions frequently use CAM. Severe pain and osteoarthritis predict regular use of CAM but do not predict a greater likelihood of discussing CAM use with physicians. Routine inquiry by physicians will probably detect CAM use.

Complementary and alternative medicine (CAM) has recently attracted national attention in the United States because of its widespread use, associated costs, and unknown effects. A population-based survey (1) indicated that 4 out of 10 Americans used CAM for chronic conditions in 1997 and made an estimated 629 million visits to practitioners of alternative medicine, far exceeding the 388 million visits that were made to primary care physicians during the same year. In addition, the total out-of-pocket expenditures related to CAM use in 1997 were an estimated \$27 billion; this figure is comparable to the out-of-pocket expenditures for all physician services (1).

Because CAM use may have potential risks (for example, interaction with prescribed therapies or deferral of effective treatments) (2–5), the medical community has become interested in learning more about CAM from the patient's perspective (2, 6–8). Despite previous descriptive studies (1, 9–16), several clinically important questions remain. First, many studies report on whether patients have ever used CAM but do not report on current use or the frequency and magnitude of use. Second, our knowledge of patient factors that predict CAM use is limited. Third, although most persons use CAM along with conventional therapy (1, 9, 17, 18), many choose not to disclose CAM use to their physicians. Several studies suggest that some patients perceive that physicians would disapprove (11, 18, 19), but little is known about additional communication barriers. Finally, patients' reasons for using CAM are not understood but may be complex. The lack of a cure for and the unpredictable nature of some chronic illnesses may lead to a sense of personal helplessness in some patients (20, 21); these patients may consider CAM to be a "risk-free supplement" to conventional therapy (22–24). For other patients, the costs or side effects of conventional therapies may be additional concerns (23, 25).

Rheumatologic conditions, such as osteoarthritis, rheumatoid arthritis, and fibromyalgia, provide an optimal disease framework in which to examine patients' reasons for using CAM and for discussing this use with their physicians. These conditions are prevalent (26), have no known cause or cure, are characterized by chronic pain and a variable disease course, and often adversely affect functional status.

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Previous studies indicated that 60% to 90% of persons with arthritis, particularly those with rheumatoid arthritis, have used CAM (10, 12, 18, 19, 27–35). Because some conditions (for example, rheumatoid arthritis) are treated with immunosuppressive drugs that may adversely interact with CAM, it is important to have a better understanding of decision making about CAM use in patients who have these conditions.

We surveyed a representative clinical sample of patients who were currently receiving allopathic care for rheumatologic conditions to determine the prevalence and types of CAM used, patients' perceptions about CAM's efficacy, reasons for using CAM, potential patient–physician communication barriers about CAM use, and correlates of CAM use and discussion of CAM with a physician.

Methods

Setting and Patient Enrollment

The institutional review board of Indiana University–Purdue University at Indianapolis, Indiana, approved our study. Patients were recruited from six outpatient sites: three university practices and three private rheumatology practices. The university sites included a municipal hospital that provides care for medically vulnerable and socioeconomically disadvantaged patients, a Veterans Affairs Medical Center, and a fee-for-service specialty care practice. Consecutive outpatients who kept a scheduled appointment with a rheumatologist during a 2-week period in 1997 were potentially eligible. Patients were excluded if they were new to the practice, were younger than 18 years of age, had dementia, or resided in a nursing home.

Before each clinic session, two research assistants reviewed medical charts and attached brightly colored cards that contained a description of the survey to the charts of eligible patients. During the clinic visit, the rheumatologist handed these cards to the patients and briefly introduced the study. The research assistants approached patients after their visits to invite their participation in a health practices survey. Those who agreed to participate were given an appointment for a telephone survey, which was scheduled to take place within 2 weeks. All patients were blinded to the intent of the study.

Definition of Complementary and Alternative Medicine

We defined *complementary and alternative medicine* as any intervention not usually prescribed by physicians (for example, herbal remedies, chiropractic manipulations, high-dose vitamins, and elimination

diets). Relaxation techniques, exercise programs, or over-the-counter salves (for example, Aspercreme) were not included because they are sometimes prescribed for pain management (36–38). Because we were interested in interventions with costs attached, we did not consider prayer a type of CAM.

Study Procedures

In the developmental phase of our study, we convened focus groups of patients who had rheumatoid arthritis and osteoarthritis to elicit beliefs about arthritis, reasons for using or not using CAM, and patient–physician communication about CAM (39). These data were used to develop a survey instrument that was pilot-tested among 75 patients who attended the rheumatology clinic at the Veterans Affairs Medical Center.

During enrollment, two research assistants audited charts to obtain demographic information and all rheumatologic diagnoses for every eligible patient. Survey respondents answered questions on educational level, functional status (using the modified Stanford Health Assessment Questionnaire [40]), pain (using a 10-point numerical pain scale [41]), medications prescribed for rheumatologic conditions, psychological status (four questions on sleep, anxiety, stress, and depression) (42), learned helplessness (a psychological state in which persons expect their efforts to be ineffective, measured by using the helplessness subscale of the Rheumatology Attitudes Index) (43), number of visits to the rheumatologist in the previous 6 months, and satisfaction with care (44). Finally, patients were asked whether they used any treatment for their rheumatologic condition that their physician had not prescribed. The questionnaire contained a structured list of 12 types of CAM (Table 1), examples of each type, and open-ended questions to elicit information about other treatments that were not on the list. To maintain a nonjudgmental tone, we specifically avoided using the terms *alternative*, *unconventional*, or *complementary* when describing CAM.

Patients who reported using CAM for rheumatologic conditions were asked 1) whether they currently used CAM or had used CAM in the past, 2) their perceptions of its efficacy (that is, whether CAM worsened their condition, made no difference, helped somewhat, or helped substantially), and 3) whether they used CAM occasionally (once or twice) or regularly (daily, weekly, or monthly). We did not elicit further details about CAM use, such as number of visits or doses, lifetime use, or expenditures, because of respondent burden and concerns about the validity of this information. Finally, we gave each patient a list of possible reasons (each with a yes–no response) for using CAM and for discussing or not discussing CAM use with their physicians; patients

were asked to indicate all applicable reasons. In addition, we asked open-ended questions to elicit any other reasons not contained on the lists.

Definition of Persons Who Used Complementary and Alternative Medicine

We defined persons who used CAM as those who reported ever using CAM at least once. Patients who reported using CAM at the time of the survey were classified as “current users”; patients who were not using CAM at the time of the survey were classified as “past users,” even if they had used CAM in the past year. Patients who reported regularly using at least one type of CAM (currently or in the past) were classified as “regular users.” Therefore, according to our definition, a patient who had regularly visited a chiropractor in the past but still occasionally applied topical therapies was considered a regular user. Magnitude of CAM use was categorized according to the number of individual treatments ever used: none, one or two, or three or more.

Classification of Rheumatologic Diagnoses, Prescribed Therapies, and Other Variables

We examined the relation between CAM use and disease-related factors (for example, rheumatologic diagnoses, immunosuppressive therapy, and severe pain). Because patients could have several rheumatologic diagnoses, we categorized patients by using a four-level hierarchical disease variable based on the rheumatologist’s diagnosis: rheumatoid arthritis, fibromyalgia, osteoarthritis, or other rheumatologic conditions. In this model, patients with rheumatoid arthritis were considered to have rheumatoid arthritis even if they had another diagnosis (for example, fibromyalgia or osteoarthritis). Patients with a diagnosis of fibromyalgia but not of rheumatoid arthritis were classified as having fibromyalgia. Finally, patients with osteoarthritis but not fibromyalgia or rheumatoid arthritis were classified as having osteoarthritis. Patients were classified as receiving immunosuppressive treatment if they reported taking gold salts (any form), corticosteroids (any form), methotrexate, hydroxychloroquine, azathioprine, sulfasalazine, cyclosporine, cyclophosphamide, or penicillamine. Severe pain was defined a priori as a score of 5 or greater on a 10-point numerical pain scale.

Statistical Analysis

All analyses were performed by using PC-SAS, version 6.12, for Windows (SAS Institute, Inc., Cary, North Carolina). We compared the background characteristics of respondents and nonrespondents by using chi-square tests for categorical variables and *t*-tests for continuous variables.

We examined bivariate associations between candidate variables and four outcomes of interest: his-

tory of CAM use (current or never), frequency of CAM use (regularly or never), magnitude of CAM use (three or more types, one or two types, or none), and discussion of CAM use with a physician (yes or no). The following variables were included in these four analyses: patient demographic characteristics (age, sex, ethnicity, and education), rheumatologic diagnosis, functional status, immunosuppressive therapy, disease duration, learned helplessness, severe pain, psychological status, provider satisfaction, health care utilization, and site of care. For communication about CAM with a physician, we also examined relations with regular CAM use and use of several types of CAM. For magnitude, we performed two sets of analyses; “never used CAM” was the referent category to examine possible dose–response relations for each level of CAM use.

In forced-entry multivariate logistic regression analyses, regular CAM use was the outcome. We focused on regular CAM use because of its clinical relevance to physicians caring for patients who may use CAM in addition to conventional therapy. Because patient populations may differ across clinical sites, we included site of care (university compared with private) in this analysis; of the remaining variables, we included only those that showed a bivariate association ($P \leq 0.10$) with regular CAM use. Therefore, when we modeled regular CAM use, we included site of care, rheumatologic diagnosis, severe pain, education, disease duration, and immunosuppressive therapy. For diagnosis, we constructed dummy variables for rheumatoid arthritis, osteoarthritis, and fibromyalgia and used “other rheumatologic conditions” as the referent category. We calculated the odds ratio and the 95% CIs for each independent predictor.

Results

Characteristics of the Study Sample

Of 587 patients with scheduled appointments during the study period, 159 were ineligible (89 were new to the practice, 9 had dementia or were residents of a nursing home, 57 missed their clinic appointment, and 4 were <18 years of age). Of 428 potentially eligible patients, 68 were missed by the research assistants, 48 declined to participate, 80 agreed to participate but could not be contacted by telephone despite several attempts, and 232 (54%) responded to the survey. Compared with respondents, the 196 nonrespondents were more likely to be nonwhite (26% compared with 12%; $P = 0.001$), to be seen in a university clinic (61% compared with 48%; $P = 0.01$), and to not have a diagnosis of rheumatoid arthritis (31% compared with 41%;

Table 1. Types, Frequency, and Perceived Efficacy of Individual Treatments in 146 Patients Who Used Complementary and Alternative Medicine*

Treatment	Patients Who Ever Used CAM	Patients Who Currently Used CAM	Patients Who Regularly Used CAM†	Patients Who Found CAM Helpful‡
	<i>n</i>	<i>n</i> (%)		
Chiropractic	45	11 (24)	37 (82)	33 (73)
Copper bracelets or magnets	42	9 (21)	35 (83)	9 (21)
Herbal therapies	41	17 (41)	38 (93)	21 (51)
Electrical stimulators	37	12 (32)	32 (86)	23 (62)
Vinegar preparations	36	7 (19)	25 (69)	8 (22)
Diet supplements	32	16 (50)	31 (97)	11 (34)
Salves	30	11 (37)	23 (77)	19 (63)
Special diets	29	18 (62)	28 (97)	20 (69)
Minerals or megavitamins	24	13 (54)	24 (100)	12 (50)
Natural healing	16	2 (13)	8 (50)	8 (50)
Acupuncture	11	2 (18)	9 (82)	7 (64)
Spiritual healing	8	3 (38)	4 (50)	6 (75)
Other treatments	32	16 (50)	31 (97)	28 (88)

* CAM = complementary and alternative medicine.

† Includes patients who currently used CAM or had done so in the past.

‡ Includes responses of "somewhat helpful" and "very helpful."

$P = 0.04$). Respondents and nonrespondents did not differ with respect to age or sex.

For respondents, the mean age was 55.5 years; 72% were women, 88% were white, and 48% were

seen in a university-based clinic. The most common rheumatologic diagnoses were rheumatoid arthritis (41%), fibromyalgia (19%), and osteoarthritis (16%); an overlap of less than 5% was seen among these three disorders. Overall, the mean duration of disease was 10.8 years. Fifty-three percent of respondents reported severe pain, and 165 respondents (71%) received immunosuppressive therapy.

Table 2. Patient-Reported Reasons for Using Complementary and Alternative Medicine or Disclosing Use of Complementary and Alternative Medicine to Their Physicians*

Variable	Respondents, <i>n</i> (%)
Reasons for using CAM (<i>n</i> = 136)†	
To control pain	118 (87)
I heard CAM will help my condition	117 (86)
CAM is safe and will not hurt me	98 (72)
CAM helped someone else with same condition	84 (62)
Prescribed medication is not working	63 (46)
I heard CAM will cure my condition	13 (10)
Other	6 (4)
Reasons for telling the physician about CAM use (<i>n</i> = 66)‡	
Physician needs to know everything I am taking	61 (92)
Physician knows about interactions with prescribed treatment	45 (68)
Physician may know whether CAM works	44 (67)
To help someone else with same disease	30 (46)
To ensure documentation of CAM use in the medical record	26 (39)
The physician asked	20 (30)
Other	4 (6)
Reasons for not telling the physician about CAM use (<i>n</i> = 69)‡	
Physician did not ask	38 (55)
Forgot to tell physician	34 (49)
Used CAM before seeing physician	21 (30)
Fear that physician would disapprove	10 (15)
Physician did not need to know because type of CAM is not taken orally	5 (7)
Physician was too busy to discuss	3 (4)
Physician did not need to know	3 (4)
Physician's reaction to CAM use (<i>n</i> = 66)	
Physician said it was okay to continue using CAM	47 (71)
Physician had no reaction	15 (23)
Physician told me I was crazy to use CAM	9 (14)
Physician told me to stop using CAM	9 (14)
Physician told me something else	3 (5)

* CAM = complementary and alternative medicine.

† Ten patients did not provide reasons for using CAM.

‡ Eleven patients did not remember whether they discussed CAM use with their physicians.

Patient Use of Complementary and Alternative Medicine

Of 146 patients (63%) who reported trying at least one type of CAM for their rheumatologic condition (Table 1), 82 currently used CAM and 64 had used CAM in the past. On average, patients had used 2.6 types of CAM (range, 1 to 11); 55 patients had used three or more types of CAM. Most of these patients (132 of 146) currently used CAM regularly or had done so in the past. Among patients who used an individual CAM method, 73% reported that chiropractors were helpful, 75% reported that spiritual healers were helpful, 21% reported that copper bracelets were helpful, and 22% reported that vinegar preparations were helpful. Half of the patients who used megadose vitamins or herbal remedies found these treatments to be helpful. Of the 32 patients who reported using dietary supplements, 15 were using glucosamine or chondroitin sulfate; only 5 patients found these treatments to be helpful.

The most frequently reported reasons for using CAM were to gain control of pain and to help a rheumatologic condition (Table 2). Nearly 50% of respondents reported using CAM because their prescribed medications were ineffective. Ten percent of respondents reported that they used CAM in hopes that it would cure their condition. Almost half (45%) of patients who used CAM informed their physician

of this use, usually because they believed that their physician needed to know everything about their treatment (92%), would be knowledgeable about potential interactions with prescribed treatments (67%), and could provide information on efficacy of CAM (67%). Surprisingly, 71% of respondents reported that their physicians supported continued use of CAM. Patients who did not inform their physicians most frequently reported that their physician did not ask about CAM use (55%) or that the patient forgot to discuss it (49%). Of note, only 15% of patients reported fearing physician disapproval, and 4% did not believe that the physician needed to know about CAM use.

Correlates of Use of Complementary and Alternative Medicine

Compared with nonusers (Table 3), patients with osteoarthritis (23%) used CAM more often than did those with fibromyalgia (19%), rheumatoid arthritis (38%), or other rheumatologic conditions (20%) ($P = 0.01$). Regular use of CAM was also more common in patients reporting severe pain (60% compared with 44%; $P = 0.02$) and patients who were college graduates (34% compared with 20%; $P = 0.02$). Among persons who used CAM regularly, trends were seen for longer disease duration (11.9 compared with 9.1 years; $P = 0.06$) and less immunosuppressive therapy (66% compared with 78%; $P = 0.06$); these trends, however, were not significant. Regular use of CAM was not associated with age, sex, ethnicity, functional or psychological

status, learned helplessness, satisfaction with care, health care utilization, or site of care.

Similarly, history and magnitude of CAM use were associated with diagnosis, severe pain, and education. Compared with nonusers, use of three or more types of CAM was more frequent among patients with a longer disease duration (13.6 years compared with 9.1 years; $P = 0.02$), severe pain (62% compared with 44%; $P = 0.04$), a college degree (40% compared with 20%; $P = 0.009$), and osteoarthritis (25%) ($P = 0.004$).

In multivariate analyses, severe pain, a college degree, and osteoarthritis remained significantly associated with regular CAM use. Compared with patients who had other rheumatologic conditions, patients with osteoarthritis were more likely to use CAM regularly (odds ratio, 5.6 [CI, 1.9 to 16.8]). In addition, patients with severe pain (odds ratio, 2.5 [CI, 1.4 to 4.8]) or a college degree (odds ratio, 2.6 [CI, 1.3 to 5.4]) were more likely to use CAM regularly.

Correlates of Patient-Physician Communication about Complementary and Alternative Medicine

Female sex, ethnicity, education, learned helplessness, rheumatologic diagnosis, regular use of CAM, and use of several types of CAM were associated with physician-patient communication about CAM (Table 4). Compared with patients who did not discuss CAM use, such discussions occurred more frequently in patients with fibromyalgia (30%) than in those with rheumatoid arthritis (38%), osteo-

Table 3. Patient Characteristics According to Use of Complementary and Alternative Medicine*

Variable	Patients Who Never Used CAM (n = 86)	Patients Who Currently Used CAM (n = 82)	Patients Who Regularly Used CAM (n = 132)	Patients Who Used 1 or 2 Types of CAM (n = 91)	Patients Who Used ≥ 3 Types of CAM (n = 55)
Mean age, y	56.6	54.5	54.4	55.4	53.9
Women, n (%)	59 (69)	64 (78)†	99 (75)	68 (75)	41 (75)
White ethnicity, n (%)	77 (90)	71 (87)	116 (88)	77 (85)	50 (91)
College graduate, n (%)	17 (20)	26 (32)‡	45 (34)§	25 (28)	22 (40)§
University-based care, n (%)	42 (49)	42 (51)	64 (48)	46 (51)	24 (44)
Mean functional status score	1.6	1.6	1.6	1.6	1.7†
Mean psychological status score	1.9	2.0†	2.0	2.0	2.1
Mean learned helplessness score	3.0	3.2	3.1	3.1	3.2
Mean provider satisfaction score	1.7	1.7	1.7	1.6	1.7
Mean disease duration, y	9.1	11.4†	11.9‡	10.8	13.6§
Severe pain, n (%)	38 (44)	48 (59)‡	79 (60)§	51 (56)†	34 (62)§
Receiving immunosuppressive therapy, n (%)	67 (78)	51 (62)§	87 (66)‡	57 (63)§	41 (75)
Physician visits during the past 6 months, n (%)					
1 visit	9 (11)	9 (11)	16 (12)	12 (13)	6 (11)
2 visits	36 (42)	38 (46)	58 (44)	42 (46)	22 (40)
≥ 3 visits	41 (48)	35 (43)	58 (44)	37 (41)	27 (49)
Diagnosis, n (%)					
Rheumatoid arthritis	37 (43)	25 (31)§	50 (38)§	37 (41)‡	20 (36)§
Osteoarthritis	6 (7)	22 (27)	30 (23)	17 (19)	14 (25)
Fibromyalgia	15 (17)	20 (24)	25 (19)	16 (18)	13 (24)
Other rheumatologic conditions	28 (33)	15 (18)	27 (20)	21 (23)	8 (15)

* Total number of patients = 232; total number of patients who used CAM = 146. CAM = complementary and alternative medicine.

† $0.10 < P \leq 0.20$.

‡ $0.05 < P \leq 0.10$.

§ $P \leq 0.05$.

Table 4. Correlates of Patient-Physician Communication about Use of Complementary and Alternative Medicine*

Variable	Discussed CAM Use (n = 66)	Did Not Discuss CAM Use (n = 69)	P Value
Mean age, y	54.1	55.1	>0.2
Women, n (%)	54 (82)	48 (70)	0.10
White ethnicity, n (%)	61 (92)	57 (83)	0.09
College graduate, n (%)	27 (41)	18 (26)	0.07
Mean functional status score	1.7	1.6	>0.2
Mean psychological status score	2.1	1.9	0.20
Mean learned helplessness score	3.3	3.0	0.03
Physician visits during the past 6 months, n (%)			
1 visit	5 (8)	13 (19)	0.15
2 visits	31 (47)	30 (44)	
≥3 visits	30 (46)	26 (38)	
Mean provider satisfaction score	1.6	1.7	>0.2
Diagnosis, n (%)			0.01
Rheumatoid arthritis	25 (38)	27 (39)	
Osteoarthritis	14 (21)	15 (22)	
Fibromyalgia	20 (30)	8 (12)	
Other rheumatologic conditions	7 (11)	19 (28)	
Mean disease duration, y	11.5	11.3	>0.2
Severe pain, n (%)	40 (61)	37 (54)	>0.2
Received immunosuppressive therapy, n (%)	45 (68)	47 (68)	>0.2
Regularly used CAM, n (%)	64 (97)	57 (83)	0.01
Used ≥3 types of CAM, n (%)	37 (56)	18 (26)	0.001
University-based care, n (%)	30 (45)	32 (46)	>0.2

* CAM = complementary and alternative medicine.

arthritis (21%), or other rheumatologic conditions (11%) ($P = 0.01$); those who used CAM regularly (97% compared with 83%; $P = 0.006$); and those who used several types of CAM (56% compared with 26%; $P = 0.001$). Surprisingly, no statistically significant differences were seen in provider satisfaction, use of health care resources, disease duration, pain level, or site of care between patients who communicated about CAM and those who did not.

Discussion

Our study extends previous investigations of CAM use in several important ways. First, we studied a clinically representative sample of patients from community- and university-based rheumatology practices. Second, we collected information on physicians' rheumatologic diagnoses for all patients to examine relations between CAM use and specific diagnoses. Previous studies have focused on patients with self-reported arthritis (45, 46) or with specific diagnoses (30, 33, 35); therefore, such comparisons were limited. Third, although most studies have described prevalence of CAM use in patients with arthritis (12, 30, 32-34), few provide insights on the associations between CAM use and other important clinical factors (for example, functional status, learned helplessness, and satisfaction) (34, 35, 46). We used well-validated measures to understand these potential relations. Fourth, we systematically obtained

data on the history, frequency, and efficacy of each type of CAM used as well as on patients' reasons for using CAM or discussing it with their physicians.

Nearly two thirds of patients reported having used at least one type of CAM for their rheumatologic condition; 56% were using CAM at the time of the survey, and 24% had used three or more types of CAM. These data are remarkable given that our definition of CAM excluded biofeedback, exercise, meditation, or prayer, which were considered types of CAM in other investigations (1, 9, 12, 15, 32-34). Most patients used CAM regularly and found CAM to be helpful. They most frequently reported using CAM to relieve pain, and nearly half reported that they used CAM because their prescribed medications were ineffective. Half of the respondents discussed their CAM use with their physicians, most often because they believed that their physicians needed to know everything they were taking for their conditions. The most commonly reported reason for not discussing use of CAM was that the physician did not ask about it. Severe pain and a diagnosis of osteoarthritis were significantly associated with history, frequency, and magnitude of CAM use. Of interest, however, patients with fibromyalgia and those who used several therapies were most likely to discuss CAM use with a physician.

Several investigations have suggested that persons with poor functional status (15, 34, 46) or those who are hopeless about their condition (10) are likely to use CAM, but these factors did not predict CAM use in our study. Our findings may relate to our sample of patients, who were seen by rheumatologists and may have had more severe disease. We were surprised that no relation was seen between use of CAM and a diagnosis of fibromyalgia or rheumatoid arthritis. For patients with fibromyalgia, our findings may relate to our definition of CAM, which, unlike that of some other studies (1, 9, 15, 33), did not include biofeedback, relaxation techniques, or exercise because these approaches are often used to treat symptoms of fibromyalgia. For rheumatoid arthritis, our findings may relate to treatment factors because many patients with rheumatoid arthritis are treated with combinations of immunosuppressive drugs, which require intensive monitoring. These patients are often cautioned against ingesting alcohol or other substances that may adversely interact with these medications. In bivariate analyses, we found that patients who received immunosuppressive treatment used CAM less frequently. Finally, as was seen in a recent study of HIV-infected patients (16), patients in our sample most frequently reported that they used CAM for symptom relief rather than as a cure for their condition.

We expected to find physician-patient communication barriers to discussing CAM because several

studies (9, 14, 18) indicated that patients do not always disclose CAM use to physicians. Although we found no relation between communication about CAM and satisfaction with health care or health care utilization, the increased discussion of CAM with physicians among patients with fibromyalgia is interesting and warrants further investigation. Patients who used CAM most frequently reported that their physicians needed to know about their CAM use. Patients using several types of CAM may have discussed CAM with physicians because they were concerned about potential interactions with their prescribed therapy. It may also be that increasing awareness of CAM among both health care providers and the public has lowered the patient threshold for disclosing CAM use to physicians. The most commonly reported reason for not discussing CAM use with physicians was that physicians did not inquire about it, not that patients were afraid of physician disapproval. This finding is particularly noteworthy because some physicians may perceive that obtaining information on CAM use is difficult or time-consuming (25). Information on CAM use could be routinely obtained during clinic visits as part of the review of treatments taken by the patient (25).

Our study has several limitations. Although we studied patients with rheumatologic conditions, the nature of arthritis makes it an ideal model in which to examine patients' perspectives of CAM use in chronic disease. We included only patients who had established relationships with rheumatologists, and therefore our findings may not be applicable to persons who entirely avoid conventional treatment for arthritis. However, previous studies indicate that many persons use CAM to supplement conventionally prescribed therapy. We did not obtain information on comorbid conditions that may influence CAM use because doing so was beyond the scope of our study. We had a 54% response rate without use of incentives, which is comparable to the rate in a previous CAM survey that used incentives (1). We did not ask detailed questions on frequency of CAM use, lifetime CAM use, or expenditures relating to CAM use. The latter may be important because CAM use often involves out-of-pocket costs that are not reimbursed by third-party payers. Finally, our results may be subject to underreporting biases because some patients might have been reluctant to reveal their use of CAM. We tried to limit these potential biases by blinding patients to the intent of the study and conducting a telephone survey.

Our results indicate that patients with arthritis who receive conventionally prescribed therapy often use CAM, find it helpful, and discuss its use with their physicians. Such factors as type of rheumatologic disorder, severity of pain, and level of educa-

tion may help to identify patients who are more likely to use CAM. Physician inquiry may elicit further patient disclosures of CAM use. To allow medical providers to better understand the patient's perspective of CAM, patient-centered CAM research should continue in other clinical venues (for example, primary care practices or other specialty settings) and in patients with other chronic conditions. More important, future studies should describe the natural history of CAM use and its effect on patient-centered outcomes, such as health status, satisfaction with care, and use of health care resources. Such investigations will complement rigorous efficacy trials of CAM and provide a complete picture to health care providers, policymakers, and patients.

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