Use of Complementary and Alternative Medicine among Patients Attending Rheumatology Clinics in Israel

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Abstract

Background: Complementary and alternative medicine has recently attracted attention due to its widespread use. In a recent study in Israel, almost a half of CAM users in the general population used it for joint diseases or back pain.

Objective: To evaluate the prevalence of CAM use among patients with defined rheumatic diseases, and analyze the demographic features of CAM users, their reasons for using CAM and the use of specific CAM methods.

Methods: We conducted face-to-face structured interviews of 350 patients attending rheumatology clinics, regarding past or present use of CAM, specifying the various CAM types they used, and reasons for using CAM. Demographic data including age, gender, country of birth and origin, and level of education were also collected

Results: Altogether, 148 patients reported using CAM (42%). In general, homeopathy and acupuncture were the most commonly used types (44% and 41% of the patients, respectively). The mean number of CAM methods per patient was 1.9 ± 1.1. CAM was more commonly used by patients with advanced education (52% vs. 37% of patients with lower education, $P = 0.007$). Patients with rheumatoid arthritis used CAM significantly less than patients with other rheumatologic conditions (32% vs. 48%, $P = 0.008$).

Conclusion: CAM use is influenced by level of education. The choice of the preferred CAM method among patients with rheumatic diseases seemed to follow the popular CAM methods in the general population, and was not specific to rheumatic diseases.

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Complementary and alternative medicine has recently attracted attention due to its widespread use. In 1999 the U.S. National Institutes of Health announced the funding of five specialized centers of research in CAM [1]. This anouncement gave a boost to the scientific investigation of CAM on one hand, and to the recognition of CAM as a therapeutic option on the other.

It was estimated that 42% of the American population used CAM in 1997, and by extrapolation, the total number of visits to CAM practitioners exceeded the number of visits to primary care physicians [2]. Many physicians nowadays refer patients to CAM practitioners. A study that included American and Israeli primary care physicians reported that 60% of those physicians made referrals to CAM providers at least once in the preceding year [3].

One of the most frequently cited reasons for using CAM is to aid in the management of chronic pain [2]. In Israel, 15% of CAM users in the general population used it for joint diseases, and an additional 29% for back pain [4]. However surveys of patients with rheumatic diseases show a wide range of prevalence of CAM use, 18–94% [5].

CAM use may have several potential risks. Defferal of effective therapy and interaction with prescribed medications are two examples, in addition to CAM's own potential adverse effects [6,7]. Patients tend not to report or discuss CAM use with their physicians, and some discontinue their prescribed treatment without consulting their physician [2,6,8,9] – possibly due to their perception that physicians would disapprove of CAM use. If patients with rheumatic diseases use CAM, it is crucial that they notify their primary care physicians and rheumatologists, who should actively communicate with their patients regarding CAM therapy.

The aim of this study was to evaluate the true prevalence of CAM use among patients with defined rheumatic diseases followed in rheumatology clinics in Israel. In addition, the demographic features of CAM users, their reasons for using CAM and the use of specific CAM methods were analyzed.

Patients and Methods

Three hospital-based rheumatology outpatient clinics in Jerusalem and Tel Aviv participated in this survey. The 350 adult patients (aged 18 or older) followed in these clinics were asked to participate in the survey, and all agreed. Patients were primarily referred by their primary care physicians or were self-referred.

In each case, after giving consent, a face-to-face structured interview was conducted in the clinic by the treating rheumatologist. The interview was based on predefined questions regarding past or present use of CAM and the specific methods of CAM that were used. Several types of CAM were mentioned as methods of therapy: acupuncture, homeopathy, diet therapy (either

CAM = complementary and alternative medicine

elimination diet or the use of dietary supplements, such as glucosamine, chondroitin, vitamins and herbs), Shiatsu, chiropractic medicine, reflexology, the use of magnets or copper bracelets, spiritual healing (including prayers, blessings and amulets), and "other methods." Another line of questions dealt with the reasons for using CAM, again with predefined options: adverse-effects of conventional therapy, insufficient response to conventional therapy, previous experience of friends or other patients, recommendation by a primary care physician, advertisement, or "other reasons." Demographic data – including age, gender, country of birth and origin, and number of years at school – were also noted.

Information about the specific rheumatologic diagnoses was taken from the patients' charts. Disease activity was evaluated for each patient by the treating rheumatologist on a scale of 0–3. Data were analyzed using descriptive statistics, by chi-square analysis of contingency tables for categorical variables, and by *t*-test for continuous variables.

Results

Altogether, data from 350 consecutive patients, 280 females and 70 males, were collected and analyzed. Of these patients, 148 (42%) used CAM for their rheumatic conditions. One half of them were current users. CAM users tended to be younger, with a mean age of 54 ± 15 years, compared to 57 ± 18 years among non-users of CAM. CAM users also tended to have longer disease duration (9 ± 11 years compared to 7 ± 7 years) and increased disease severity (1.85 ± 0.71 compared to 1.71 ± 0.71, on a scale of 0–3). All these differences did not reach statistical significance. The average number of specific CAM methods per patient was 1.9 ± 1.1 (range 1–6), and 22% of CAM users experienced treatment with at least three different CAM methods. Other features of these patients are elaborated in Table 1.

There was no significant difference in the frequency of CAM use between males and females, although other gender differences did exist (see below). Patients with advanced education (>12 years of school education) used CAM more frequently than patients with ≤ 12 years education (52% and 37%, respectively, $P = 0.007$). In addition, CAM users with advanced education tried more CAM methods: 33% of them tried three or more CAMs, compared to 14% of the patients with ≤ 12 years of education ($P = 0.01$).

Patients were further divided according to their rheumatologic conditions [Table 2]. Interestingly, the rate of CAM use among patients with rheumatoid arthritis was the lowest: only 32% of rheumatoid arthritis patients used CAM, compared to 48% of patients with all other rheumatologic conditions ($P = 0.008$). The highest rate of CAM use was observed among fibromyalgia patients (58%).

The patients' reasons for choosing CAM therapy are given in Table 3. Of the 148 patients 16 had more than one reason for choosing CAM. The most common reason was previous experience of friends or other patients (51%), while insufficient response to conventional therapy was given as a reason less frequently (26%). Recommendation by the primary care physician, an advertisement in the media, and adverse effects of medical therapy did not play a major role in the patients' decision to try CAM.

Eight major methods of CAM were predefined [Table 4]. The most commonly used were acupuncture and homeopathy (by 65% and 61% of the patients, respectively). Other forms of CAM treatment were less commonly used.

Men and women differed in the use of several CAM methods: homeopathy was the most frequently used method by men (62% compared to 37% of women, $P = 0.037$), while acupuncture was the most frequently used by women. Men also tried diet therapy more commonly (46% compared to 22% of women, $P = 0.027$).

Table 1. Demographic features of 350 rheumatology patients, including 148 patients using CAM

	Patients (n)	CAM users (%)	*P*
All	350	148 (42)	
Males	70	24 (34)	
Females	280	124 (44)	NS
Born abroad	200	84 (42)	
Born in Israel	150	64 (43)	NS
Education ≤ 12 yrs	230	85 (37)	
Education >12 yrs	120	63 (52)	0.007 vs. education ≤ 12 yrs

Table 2. Rheumatologic diseases in 350 patients participating in the survey

	Patients (n)	CAM users (%)	*P*
RA	121	39 (32)	0.008 vs. non-RA patients
CTDV	85	38 (45)	
OA	53	28 (53)	
SNSA	27	15 (55)	
FM	24	14 (58)	
Others*	40	14 (35)	

CTDV = connective tissue diseases (systemic lupus erythematosus, Sjogren's syndrome, polymyositis dermatomyositis, systemic sclerosis, mixed connective tissue disease) and vasculitis (giant cell arteritis-polymyalgia rheumatica, Behcet's disease, polyarteritis nodosa, microscopic polyangiitis, Wegener's granulomatosis, Churg-Strauss syndrome).

FM = fibromyalgia, OA = osteoarthritis, RA = rheumatoid arthritis, SNSA = seronegative spondyloarthropathy (ankylosing spondylitis, reactive arthritis, psoriatic arthritis, arthritis related to inflammatory bowel diseases)

* Tendinitis, bursitis, gout, pseudogout, palindromic rheumatism, familial Mediterranean fever.

Table 3. Reasons for CAM use by 148 patients with rheumatologic diseases

Previous experience of friends or other patients	76 (51%)
Insufficient response to conventional therapy	38 (26%)
Recommended by primary care physician	24 (16%)
Adverse effects of conventional therapy	17 (11%)
Advertisement	9 (6%)

Values given are the number (percentage) of patients. Some patients gave more than one reason (see text)

Table 4. Frequency of the use of different CAM types by 148 patients with rheumatic diseases

Type of CAM	No. of patients (%)*
Acupuncture	65 (44)
Homeopathy	61 (41)
Diet**	38 (26)
Spiritual healing	37 (25)
Shiatsu	19 (13)
Chiropractic	19 (13)
Magnet/bracelet	16 (11)
Reflexology	16 (11)
Other therapies***	15 (10)

* 74 patients (50%) were treated with more than one CAM method.

** Either elimination diet or the use of dietary supplements (including vitamins, herbs and supplements such as glucosamine and chondroitin)

*** Bee venom therapy, snake venom treatment, aromatherapy, therapeutic enema, Feldenkrais method, Alexander technique, crystal therapy, Bach flower remedies.

These differences were not related to education level, since the frequency of high education was similar among men and women who were CAM users (46% and 42%, respectively).

There were no significant differences between patients in Tel Aviv and patients in Jerusalem with regard to the frequency of CAM use, average number of CAM methods used by patients, reasons for using CAM, and the types of CAM that were used. The education effect was observed in both cities.

Discussion

A position statement issued by the American College of Rheumatology defined CAM as therapies "outside of the prevailing scientific mainstream but [which] still may be safe and effective, unsafe and ineffective, or questionable" [10]. Nevertheless, it is difficult at times to define which therapies are considered "outside of the prevailing scientific mainstream." For example, some may consider the use of chondroitin-glucosamine preparations for osteoarthritis as conventional therapy. However, we elected to include it under CAM as it is still "outside of the prevailing scientific mainstream," and in addition, many patients use it for rheumatologic conditions other than osteoarthritis, without any study having proved efficacy. On the other hand we elected not to include balneotherapy as CAM and consider it a conventional therapy, since this form of therapy for various rheumatologic conditions has been substantiated by several reports [10,11]

We have shown that the use of CAM is frequent among patients in hospital-based outpatient rheumatology clinics. Compared to the rate of CAM use by the general Israeli population (10%), by patients in primary care (19%) and by patients admitted to internal medicine wards (26%), CAM use among rheumatology patients in our study was more frequent (42%) [4,9,12]. Other studies, using different methodologies, reported the use of CAM in 18–94% of patients with rheumatic diseases [5,7]. This wide range in rates of CAM use in studies of different populations could be related to cultural differences, availibility of CAM providers, advertisement efforts by CAM providers, and satisfaction with conventional medicine. In addition, methodology differed among the various surveys: some were population-based while others were rheumatology clinic-based, some used patients' self-definition of arthritis while in others the diagnosis of a rheumatologic condition was based on physicians' assessments, and some studies used self-administered questionnaires in the office or telephone or mail surveys while others conducted face-to-face interviews.

Education beyond 12 school years was significantly more common among CAM users in our survey. In a study of Israeli primary care patients, academic education was associated with a higher CAM utilization rate [12]. Rao et al. [8] also reported a significant correlation between a university degree and CAM use among patients with rheumatic diseases. Similarly, a large nationwide Canadian survey [13] reported that 57% of CAM users had post-secondary education. In another study however, CAM use was associated with lower education [6].

This influence of higher education could be attributed to a number of reasons. In most western countries citizens are covered by medical insurance, so that appointments with rheumatologists and the prescribed medications require only a minor co-payment. This is in contrast to CAM, which is not covered for the most part [2]. Since advanced education commonly results in larger income, these patients have the financial ability to use CAM. Indeed, in the Canadian survey [13] the houshold income of CAM users was higher than the income of non-users. Recently, some health management organizations have included CAM in their coverage, and it would be interesting to note if this changes the demographics of CAM users. Another association of CAM use and higher education may be related to the fact that high education is often accompanied by knowledge of more languages and more exposure to information in the media, internet, etc.

A half of CAM users in our study tried more than one CAM method, with an average of 1.9 CAM methods per patient. This is comparable to the data reported by Rao et al. [8], where on average patients used 2.6 types of CAM.

Patients with rheumatoid arthritis were significantly less likely to use CAM. This finding is consistent with the data reported in another study [14]. The reasons for this difference are not clear, but it is possible that the availability of effective combination therapies for rheumatoid arthritis is a possible reason for these patients not to seek alternative therapies and adhere to conventional therapies.

We found that for the whole group of patients, the most common reason for using CAM was "word of mouth" – recommendations by friends, relatives or other patients who had experience with CAM. Recommendation by a physician was an uncommon reason for trying CAM. Very few studies addressed the specific reasons for using CAM in patients with rheumatic diseases [8,15].

Most of the patients in these reports used CAM after they heard it would help their condition (86%), but it was not clear if this message was conveyed by other patients, friends, advertisement in the media or physicians.

Acupuncture and homeopathy were the most popular CAM methods used by this group of patients. Interestingly, in an Israeli survey of CAM use in the general population that included 2505 individuals, these two CAM methods were also the most frequently used [4]. Thus the choice of the preferred CAM method seemed to follow the popular CAM methods in the general population and was not disease-specific.

In other surveys of rheumatologic patients, there seemed to be geographic variability in the use of different CAM types. In the Canadian survey [13], chiropractic medicine was the most common type of CAM (59%), while acupuncture and homeopathy were less common (25% and 21%, respectively). In other North American studies chiropractic was also the most commonly used CAM method (31%) while acupuncture was less commonly used (7%) [8,16]. In Europe, diet therapies (including herbs, vitamins and other supplements) were most popular in Britain, while homeopathy and acupuncture were more popular in Holland [7]. It seems that this "European pattern" of CAM use is similar to the one described in our group of patients.

Our study has a few limitations. We conducted face-to-face interviews in the clinic, which could have caused a bias in the reliability of reporting CAM use. Patients may perceive that they are "expected" not to use CAM, resulting in under-reporting. Another potential bias is based on the fact that this study involved patients followed in rheumatology clinics. It is possible that patients with rheumatic diseases who are content with the results of CAM therapy might not be seen and followed in this setting. A study performed among CAM providers on patients with rheumatologic conditions could shed more light on CAM use among patients with rheumatic diseases.

Conclusion

Close to 50% of patients followed in rheumatology clinics have used CAM. CAM use was more common among patients with advanced education, while patients with rheumatoid arthritis tended to use CAM less than patients with other rheumatologic conditions. CAM preferences differed between men and women. Acupuncture and homeopathy were the most commonly employed CAM methods. The choice of the preferred CAM method seemed to follow the popular CAM methods in the general population, and possibly by gender differences, and was not specific to rheumatic disease.

References

1. Berman BM, Hartnoll S, Bausell B. CAM evaluation comes into the mainstream: NIH specialized centers of research and the University of Maryland Center for Alternative Medicine Research in Arthritis. *Complement Ther Med* 2000;8:119–22.
2. Eisenberg DM, Davis RB, Ettner SL, et al. Trends in alternative medicine use in the United States, 1990-1997: results of a follow-up survey. JAMA 1998;280:1569–75.
3. Borkan J, Neher JO, Anson O, Smoker B. Referrals for alternative therapies. J *Fam Pract* 1994;39:545–50.
4. Shmueli A, Shuval J. Use of complementary and alternative medicine in Israel: 2000 vs. 1993. IMAJ 2004;6:3–8.
5. Ramus-Remos C, Gotierraz-Urefia S, Davis P. Epidemiology of complementary and alternative practices in rheumatology. *Rheum Dis Clin North Am* 1999;25:789–804.
6. Ramos-Remus C, Gamez-Nava JI, Gonzalez-Lopez L, et al. Use of alternative therapies by patients with rheumatic disease in Guadalajara, Mexico: prevalence, beliefs, and expectations. *Arthritis Care Res* 1998;11:411–18.
7. Ernst E. Complementary and alternative medicine in rheumatology. *Bailliere's Clin Rheum* 2000;14:731–49.
8. Rao JK, Mihaliak K, Kroenke K, Bradley J, Tierney WM, Weinberger M. The use of complementary therapies for arthritis among patients of rheumatologists. *Ann Intern Med* 1999;131:409–16.
9. Azaz-Livshits T, Muszkat M, Levy M. Use of complementary alternative medicine in patients admitted to internal medicine wards. *Int J Clin Pharmacol Ther* 2002;40:939–47.
10. Panush RS. American College of Rheumatology position statement: complementary and alternative therapies for rheumatic diseases. *Rheum Dis Clin North Am* 2000;26:189–92.
11. Sukenik S, Flusser D, Abu-Shakra M. The role of spa therapy in various rheumatic diseases. *Rheum Dis Clin North Am* 1999;25:883–97.
12. Kitai E, Vinker S, Sandiuk A, Hornik O, Zeltcer C, Gaver A. Use of complementary and alternative medicine among primary care patients. *Fam Pract* 1998;15:411–14
13. Fautrel B, Adam V, St. Pierre Y, Joseph L, Clarke A, Penrod JR. Use of complementery and alternative therapies by patients self-reporting arthritis or rheumatism: results from a nationwide Canadian survey. J *Rheumatol* 2002;29:2435–41.
14. Rao JK, Kroenke K, Mihaliak KA, Grambow SC, Weinberger M. Rheumatology patients' use of complementary therapies: results from a one-year longitudinal study. *Arthritis Rheum* 2003;49:619–25.
15. Anderson DL, Shane-McWhorter L, Crouch BI, Anderson SJ. Prevalence and patterns of alternative medication use in a university hospital outpatient clinic serving rheumatology and geriatric patients. *Pharmacotherapy* 2000;20:958–66.
16. Kaboli PJ, Doebbeling BN, Saag KG, Rosenthal GE. Use of complementary and alternative medicine by older patients with arthritis: a population-based study. *Arthritis Rheum* 2001:45:398–403

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When a thing is funny, search it carefully for a hidden truth

George Bernard Shaw (1856-1950), Irish playwright and author, and active socialist. He won the Nobel Prize for Literature in 1925.