

Perceived efficacy among patients of various methods of complementary alternative medicine for rheumatologic diseases

G.S. Breuer¹, H. Orbach²,
O. Elkayam³, Y. Berkun²,
D. Paran³, M. Mates¹,
G. Neshet¹

¹Rheumatology Service, Department of Internal Medicine, Shaare-Zedek Medical Center and the Hebrew University Medical School, Jerusalem; ²Rheumatology Service, Bikur Cholim Hospital, Jerusalem; ³Department of Rheumatology, Sourasky Medical Center and Sackler Faculty of Medicine, Tel-Aviv University, Tel-Aviv, Israel.

Gabriel S. Breuer, MD, Lecturer; Michal Mates, MD, Lecturer; Gideon Neshet, MD, Clinical Associate Professor; Hedi Orbach, MD (now at Dept. of Medicine B, Wolfson Medical Center, Holon); Yaakov Berkun, MD (now at Dept. of Pediatrics B, Safra Children's Hospital, Sheba Medical Center); Ori Elkayam, MD, Senior Lecturer; Dafna Paran, MD, Instructor.

Please address correspondence to: Gideon Neshet, MD, Department of Internal Medicine, Rheumatology Service, Shaare-Zedek Medical Center, P.O.Box 3235, Jerusalem 91031, Israel. E-mail: rheum@szmc.org.il

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ABSTRACT

Objective. *The purpose of this cross-sectional survey was to obtain and analyze data on self-perceived efficacy of different types of complementary alternative medicine (CAM) by patients with various rheumatologic conditions.*

Methods. *Patients followed in rheumatology outpatient clinics were screened for the use of CAM. Patients reporting the use of CAM were asked to participate in face-to-face structured interviews, specifying the various CAM types they used, and grading their subjective impression of efficacy of each CAM type on a scale of 1-10.*

Results. *350 consecutive patients were screened and 148 reported using CAM. In general, homeopathy and acupuncture were the most commonly used CAM types (44% and 41% of the CAM users, respectively). The mean number of different CAM methods used by a CAM user was 1.9 ± 1.1 . Patients with fibromyalgia used significantly more CAM methods (2.7 ± 1.4 , $p = 0.005$). On patients' self-perceived efficacy scale of 1-10, the mean score of the whole group was 5.3 ± 3.2 . Acupuncture and homeopathy achieved significantly higher self-perceived efficacy scores in CAM users with spondyloarthropathies and osteoarthritis, respectively, when compared to some of the other disease groups. Satisfaction was lowest among CAM users with rheumatoid arthritis, vasculitis and connective tissue diseases.*

Conclusion. *In general, CAM users were less than moderately satisfied with self-perceived efficacy of CAM therapies. However efficacy of specific CAM methods differed significantly among patients in different disease groups.*

Introduction

Complementary alternative medicine (CAM) is used by a large number of patients with rheumatologic disorders to supplement the conventional treatment (1,2). Several studies have described CAM treatments among patients with rheumatic diseases: most of these studies focused on the epidemiological aspects in different populations and different age groups (3,4), on the extent of use of CAM for defined conditions

such as rheumatoid arthritis (RA), systemic lupus erythematosus (SLE) or fibromyalgia (FM) (5-7), and on the use of specific CAM therapies for defined conditions, such as acupuncture for FM, chiropractic for back pain, or food supplements for osteoarthritis (OA) (summarized in ref. 8)

With regard to efficacy, only a few CAM therapies have been individually evaluated by randomized controlled trials, with conflicting results (8). Patients' grading of self-perceived efficacy of therapies is less scientifically sound when compared to randomized controlled trials. However, patients choose CAM therapies based on their beliefs and hopes; thus it is of interest to evaluate the self-perceived impression of the efficacy of CAM therapies. Reports on self-perceived efficacy of various CAM types among patients with rheumatologic diseases are scarce and unrelated to defined rheumatologic conditions (9,10). The purpose of this cross-sectional survey was to obtain and analyze data on self-perceived efficacy of different CAM methods by patients with various defined rheumatologic conditions.

Patients and methods

350 adult patients with rheumatologic conditions, followed in three hospital-based, university-affiliated rheumatology outpatient clinics, were screened for the use of CAM for their rheumatologic diseases. 148 patients reported the use of CAM, and all agreed to be interviewed regarding their use of CAM. In each of these cases, after giving consent, a face-to-face structured interview was conducted in the office by the treating rheumatologist. The interview was based on pre-defined questions regarding past or present use of CAM and the specific method of CAM that was used.

Several types of CAM were mentioned as potential forms of therapy: acupuncture, homeopathy, diet therapy (either elimination diet or the use of vitamins, herbs, or food supplements such as glucosamine and chondroitin), spiritual healing, Shiatsu, chiropractic, the use of magnets or copper bracelets, reflexology, and "other methods". The CAM

users were asked to specify the various CAM therapies they used and to grade their subjective impression of the efficacy of each individual CAM method on a scale of 1-10 (1 = no response and 10 = excellent response). CAM treatments were given by providers outside the hospital set-up. Data on the specific rheumatologic condition of each patient were added by the treating rheumatologists.

Analysis was performed by descriptive statistics, and further by 2 analysis of contingency tables for categorical variables, and by one-way analysis of variance for continuous variables, followed by the t-test with Bonferroni correction for multiple comparisons.

Results

148 patients (42% of all screened patients), 124 females and 24 males, reported using CAM for their rheumatologic conditions. All were living in urban areas. Their mean age was 54 ± 15 . The mean duration of their rheumatologic conditions was 9 ± 9 years, and the mean duration of CAM therapy was 1.3 ± 2.3 years. There were no significant differences between CAM users and other patients with regard to their age, sex, and disease duration. These 148 CAM users were divided

into 6 groups according to their disease: there were 39 patients with RA, and 38 patients with connective tissue diseases or vasculitis (CTDV) – including SLE, polymyositis, Sjögren's syndrome, scleroderma, mixed connective tissue disease, giant cell arteritis-poly myalgia rheumatica, Behçet's disease, polyarteritis nodosa, microscopic polyangiitis, Wegener granulomatosis and Churg-Strauss syndrome.

28 CAM users had osteoarthritis (OA), 15 had seronegative spondyloarthropathies (SNSA) – including psoriatic arthritis, arthritis related to inflammatory bowel diseases and ankylosing spondylitis, and 14 had FM. 14 CAM users had various conditions (tendonitis, bursitis, gout, pseudogout, familial Mediterranean fever and palindromic rheumatism), mostly transient or paroxysmal in nature, and thus were included as "other conditions".

Eight major types of CAM were used. Table I shows the use of these various CAM therapies by patients with specific rheumatologic diseases. 74 CAM users (50%) reported using more than one type of CAM. FM patients tried more methods of CAM (2.7 ± 1.4 compared to 1.8 ± 1.1 in patients without FM, $p = 0.005$). In general, the most commonly used CAM types were acu-

puncture and homeopathy, by 65 (44%) and 61 (41%) of CAM users, respectively. With regard to the use of different CAM methods in specific rheumatologic conditions, acupuncture was tried by 71% of FM patients, a significantly higher rate when compared to CAM users with other diseases (41%, $p = 0.003$). Homeopathy was also tried by most FM patients (71% compared to 38% of CAM users with other diseases, $p = 0.002$), while diet therapy was most popular among RA patients (38% compared to 21% of CAM users with other diseases, $p = 0.003$), and spiritual healing was mostly popular among CTDV CAM users (45% compared to 18%, $p < 0.001$). There were no significant differences among patients in the three medical centers regarding the use of the various CAM therapies.

Patients' self-perceived efficacy of various CAM types in different rheumatologic diseases is elaborated in Table II. 74 (50%) of CAM users used more than one CAM method. Each CAM was individually graded on a 1-10 scale. For the total self-perceived efficacy score (bottom of Table II), it was decided to consider the best response of each patient to any CAM (highest score given by each patient to any CAM). On this self-perceived efficacy scale of 1-

Table I. Frequency of use of various CAM therapies by patients, in relation to specific rheumatologic diseases. Results are number (%) of patients in each disease category.

n	All 148	RA 39	CTDV 38	OA 28	SNSA 15	FM 14	Others* 14
Number of CAM methods per patient (mean \pm SD)	1.9 ± 1.1	2.0 ± 1.3	1.8 ± 1.1	1.5 ± 0.8	1.9 ± 0.9	2.7 ± 1.4	1.4 ± 0.5
Acupuncture	65 (44)	15 (38)	10 (26)	17 (61)	6 (40)	10 (71)	7 (50)
Homeopathy	61 (41)	17 (44)	17 (45)	6 (21)	5 (33)	10 (71)	6 (43)
Diet therapy**	38 (26)	15 (38)	11 (29)	3 (11)	4 (27)	3 (21)	2 (14)
Spiritual healing	37 (25)	8 (20)	17 (45)	1 (4)	4 (27)	5 (36)	2 (14)
Shiatsu	19 (13)	4 (10)	5 (13)	3 (11)	2 (13)	4 (29)	1 (7)
Chiropractic	19 (13)	5 (13)	4 (10)	5 (18)	1 (7)	4 (29)	0
Reflexology	16 (11)	4 (10)	6 (16)	0	3 (20)	3 (21)	0
Magnet / copper	16 (11)	6 (15)	5 (13)	0	1 (7)	2 (14)	2 (14)
Other therapies [^]	15 (10)	4 (10)	2 (5)	6 (21)	3 (20)	0	0

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

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

[^] Bee venoms, snake venoms, aromatherapy, Feldenkrais method, Alexander technique, crystal therapy, Bach flower remedies.

CAM: complementary alternative medicine; CTDV: connective tissue diseases (systemic lupus erythematosus, Sjögren's syndrome, polymyositis-dermatomyositis, systemic sclerosis, mixed connective tissue disease) and vasculitis (giant cell arteritis-poly myalgia rheumatica, Behçet's disease, polyarteritis nodosa, microscopic polyangiitis, Wegener granulomatosis, Churg-Strauss syndrome); FM: fibromyalgia; NS: not significant; OA: osteoarthritis; RA: rheumatoid arthritis; SNSA: seronegative spondyloarthropathies.

Table II. Patients' self-perceived efficacy of various CAM therapies in different rheumatologic diseases, on a scale of 1-10. Results are mean \pm standard deviation of 148 CAM users.

	All	RA	CTDV	OA	SNSA	FM	Others*	P**
Acupuncture	4.2 \pm 2.9	3.6 \pm 2.8	3.4 \pm 3.4	5.4 \pm 2.7	7.0 \pm 0.9	2.1 \pm 1.4	5.0 \pm 3.0	0.005
Homeopathy	3.7 \pm 3.2	3.4 \pm 3.3	2.2 \pm 1.9	6.7 \pm 3.2	4.6 \pm 2.6	4.3 \pm 3.7	4.0 \pm 3.5	0.05
Diet therapy [^]	4.2 \pm 3.2	4.3 \pm 3.3	4.4 \pm 3.8	3.0 \pm 1.7	4.7 \pm 2.9	4.7 \pm 3.5	NC	NS
Spiritual healing	4.5 \pm 3.7	2.7 \pm 3.2	4.0 \pm 3.6	NC	8.0 \pm 1.6	5.6 \pm 4.5	NC	NS
Shiatsu	4.2 \pm 2.8	4.5 \pm 4.0	3.8 \pm 2.6	3.0 \pm 2.6	NC	4.8 \pm 2.9	NC	NS
Chiropractic	4.8 \pm 3.6	3.6 \pm 3.2	3.7 \pm 4.3	7.4 \pm 3.6	NC	4.0 \pm 4.2	NC	NS
Reflexology	6.0 \pm 3.4	4.2 \pm 3.8	5.5 \pm 3.7	NC	7.3 \pm 2.1	7.0 \pm 2.6	NC	NS
Magnet / copper	3.1 \pm 2.7	1.3 \pm 0.8	3.4 \pm 3.6	NC	NC	NC	NC	NS
Other methods ^{^^}	5.9 \pm 3.0	6.0 \pm 3.4	NC	4.8 \pm 2.8	7.0 \pm 4.4	NC	NC	NS
Any CAM, best score of each patient	5.3 \pm 3.2	4.6 \pm 3.4	4.6 \pm 3.5	5.9 \pm 2.9	7.4 \pm 1.8	6.1 \pm 3.2	4.9 \pm 3.2	0.034

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

** For acupuncture, differences in self-perceived efficacy were significant between OA/SNSA and FM. For homeopathy, there was a significant difference in score between OA and CTDV. Differences in best score of any CAM were significant between SNSA and RA/CTDV.

[^] Dietary supplements or elimination diet.

^{^^} Bee venoms, snake venoms, aromatherapy, Feldenkrais method, Alexander technique, crystal therapy, Bach flower remedies.

CAM: complementary alternative medicine; CTDV: connective tissue diseases (systemic lupus erythematosus, Sjögren's syndrome, polymyositis-dermatomyositis, systemic sclerosis, mixed connective tissue disease) and vasculitis (giant cell arteritis-polymyalgia rheumatica, Behçet's disease, polyarteritis nodosa, microscopic polyangiitis, Wegener granulomatosis, Churg-Strauss syndrome); FM: fibromyalgia; NC: not calculated, due to the low number of patients (< 3) in this category; NS: not significant; OA: osteoarthritis; RA: rheumatoid arthritis; SNSA: seronegative spondyloarthropathies.

10, the mean score of those values for the whole group was 5.3 \pm 3.2. There were no significant differences among patients in the three medical centers regarding the self-perceived efficacy of CAM therapy.

When specific diseases were considered, the lowest self-perceived efficacy scores were achieved in RA and CTDV CAM users, and the highest by SNSA CAM users ($p=0.034$). Acupuncture and homeopathy achieved statistically significant higher self-perceived efficacy scores by CAM users with SNSA and OA, respectively, when compared to some of the other disease groups (Table II). Other differences between groups were not statistically significant.

Discussion

The aim of this study was to answer whether patients with various defined rheumatic diseases, followed in rheumatology clinics, were satisfied with the results of defined methods of CAM. The average CAM satisfaction score of the best response of each CAM user was less than moderate, however better response was reported by SNSA CAM users. Certain CAM therapies achieved significantly higher satisfaction scores in certain conditions (such as acupuncture for SNSA and homeopathy for

OA). In addition, OA CAM users also had high self-perceived satisfaction scores for chiropractic medicine, and reflexology achieved relatively high scores by CAM users with SNSA and FM, but the number of CAM users in these categories was too low to reach statistical significance. It was calculated that in order to achieve statistical significance at those differences, using a power of 0.8, we will need several hundreds of OA or SNSA patients.

When divided according to satisfaction scores into 3 groups (high, moderate and low), only 22% of the treatments in this group of patients achieved high scores (≥ 8 on a scale of 1-10). The background Israeli population is more satisfied with CAM therapy in general: 59% had high satisfaction scores (11). Interestingly, almost half of that general population used CAM for either joint pain (15%) or back pain (29%), but the satisfaction scores in these specific subgroups were not reported. Thus, it is difficult to conclude whether patients with rheumatologic conditions are less satisfied with the results of CAM compared to patients using CAM for other conditions.

Patients' self-perceived efficacy of various CAM therapies was reported in only a few studies (5, 9, 10, 12). How-

ever there were no attempts to evaluate it as disease-specific or CAM type-specific, or to use a scale for grading individual satisfaction. In one study, Rao *et al.* (9) reported that among patients with rheumatic diseases in general, 75% reported that spiritual healers were helpful, and 73% reported that chiropractors were helpful. 50% of patients who used mega-dose vitamins or herbal remedies, and 21% of those who used copper bracelets thought they were helpful. Pioro-Boisset *et al.* (5) also reported that among their patients the satisfaction ratings were highest for spiritual interventions. From a recent study of Rao *et al.* (13), it can be calculated that 60% of patients using chiropractic medicine discontinued because therapy did not help or made the situation worse. The same was true for 60% of patients using acupuncture, 70% of patients on all variants of diet therapy, and 89% of patients using copper bracelets or magnets. We do not have data on reasons for discontinuing CAM among our group of patients, but when data on patients with low satisfaction scores (≤ 5 on a scale of 1-10) are calculated, the figures are very similar to those reported by the other studies: low scores were reported by 53% of patients on chiropractic therapy, 64% of

patients using acupuncture, 58% of patients on diet therapy, and 81% of patients using copper bracelets or magnets. The results of this study could be biased in some aspects. Some patients may be reluctant to disclose the use of CAM to their treating physicians for various reasons (9). Moreover, it is likely that patients who continue follow-up with conventional care are likely to be less satisfied with CAM (12). In addition to that, self-perception of treatment efficacy is likely to be biased, as patients are unlikely to isolate the response to a certain type of therapy from other concomitant therapies, and do not have an objective impression on their disease status. Nevertheless, even if subjectively biased, there is a value in evaluating those patient perceptions since, in most instances, the patients themselves initiate this type of therapy and decide on continuation or discontinuation. In conclusion, this survey showed that patients followed in rheumatology clinics had low-moderate satisfaction with

the efficacy of CAM therapies. Certain types of therapy achieved higher satisfaction scores for some of the rheumatologic diseases, but larger-scale prospective studies are needed to evaluate the statistical significance of these findings.

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