

ORIGINAL ARTICLE

Non-prescription complementary treatments used by rheumatoid arthritis patients attending a community-based rheumatology practice

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Abstract

Background: Over 80% of rheumatoid arthritis (RA) patients have used some type of complementary medicine (CM) at some time. Little is known about RA patients' perceptions of the efficacy, hazards and costs associated with CM use relative to physician-prescribed medicine. These data may be helpful in better understanding patients' needs and in improving their care.

Aims: To determine the prevalence and features of CM use among RA patients attending a community-based private rheumatology practice. CM was defined as treatment that was initiated by the patient, excluding treatment that had been prescribed or specifically recommended by their doctor.

Methods: A telephone-administered questionnaire was used to survey a stratified random sample of 200 RA patients who had attended the practice within the preceding year. The main outcome measures were: (i) CM use in the past year, (ii) patient expenditure on CM, (iii) patients' perceptions of CM and (iv) characteristics of patients using CM.

Results: One hundred and six patients responded (response rate 53%) and 101 completed the interview. Seventy-four patients (73.3%) had used some form of CM in the past year. There were 68 (67.3%)

patients who had utilized complementary therapies and 32 patients (31.7%) who had consulted a complementary practitioner for their RA. The most commonly used treatments were dietary (64 instances) and behavioural/cognitive therapies (45 instances). Prescription medicine was considered more beneficial than either form of CM, and users and non-users of CM held a similar perception of the efficacy of prescription medicine. The median amount spent on RA treatment per month was \$A7 (range 0–91) for complementary treatments, \$A26 (1–270) for complementary practitioners and \$A7 (0–80) for prescription medicine. Women were more likely to have consulted a CM practitioner (OR = 1.5; 95% CI : 1.2–1.9), as were patients who were not receiving a pension (OR = 1.7; 95% CI : 1.1–2.6).

Conclusions: This study confirmed that CM use is prevalent among RA patients attending a community-based private rheumatology practice. Despite lesser perceived benefit, patients spent at least as much money on CM as they did on prescription medicine. These findings suggest that there are other factors motivating the use of alternative treatments. (Intern Med J 2002; 32: 208–214)

Key words: alternative medicine, community medicine, complementary medicine, rheumatoid arthritis, rheumatology.

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INTRODUCTION

Rheumatoid arthritis (RA) is a chronic multisystem disease, principally characterized by an inflammatory synovitis, that affects 1–2% of the adult population.¹ It causes pain and disability and may also produce

considerable psychological burden. For example, the prevalence of depression among RA patients is estimated to be 17–27%, which is higher than in the general population.² While conventional pharmacological treatments can produce clinical improvements or remission in some patients, their onset of action is often slow, they may only be partially effective and they may have potentially severe adverse effects.³ It is therefore not surprising that patients may seek other avenues of treatment.

There are numerous forms of complementary medicine (CM) available to RA patients. These include dietary interventions, herbal products (such as ginger and celery seed), homoeopathy, acupuncture, massage, topical creams and other remedies.^{4,5} Previous studies show that over 80% of RA patients use CM at some time in the course of their disease.^{6,7} None of these studies has distinguished between use of CM therapies in the home and consultations with CM practitioners. Few studies have examined patients' perceptions of the efficacy and hazards associated with the use of CM or their cost relative to physician-prescribed medicine.

The objectives of this study were: (i) to determine the use of CM among a population of RA patients managed in a community-based private rheumatology practice, (ii) to detail the perceived benefits and adverse effects of CM and (iii) to determine patients' monthly expenditure for both complementary and prescription medicine.

METHODS

Study design

A cross-sectional survey of a random sample of RA patients attending a community-based rheumatology practice was performed using a telephone interviewer-administered questionnaire in 1998.

Setting and patients

Inclusion criteria were: (i) RA diagnosis by attending rheumatologist, (ii) age greater than 18 years, (iii) attendance in the preceding year and (iv) residence within metropolitan Melbourne.

The rheumatology practice provides services to two geographical locations in Melbourne: (i) Malvern (a middle-to-upper-class inner suburb) and (ii) Dandenong (a working-class outer suburb). Assuming a 50% response rate, computer-generated random numbers were used to identify a stratified random sample of 200 patients, comprising 100 from each of the two locations.

Introductory letters were sent inviting participation in the study. Patients were informed that the study was investigating current treatment trends in RA. This was done to minimize any response bias with respect to CM. Patients were also assured of the confidentiality of their responses and that their treating doctors would not have access to comments made during the interview. Respondents gave verbal consent prior to completing the interview. The Monash University Standing Committee on Research in Humans approved the study.

Definitions

For the purpose of this study, CM was defined as treatment that is initiated by the patient outside that which had been prescribed or specifically recommended by their doctor. A priori, this meant that some treatments for which there may be evidence of benefit (for example, fish oils and exercise), were included as a CM. The CM was categorized either: (i) as a complementary therapy (CT) or (ii) as a complementary practitioner (CP), who facilitated the use of a particular treatment.

Instrument

A standardized questionnaire sought information about the patients' demographic details including: (i) age, (ii) sex, (iii) education and employment, (iv) marital status, (v) income and pension, (vi) history of RA, including duration of disease and previous prescription treatment and (v) use of prescription and CM in the preceding year. Patients were asked to specify their prescribed treatment regimen and then asked about any 'other' treatments for RA that they were using or that they had used in the preceding year. After this open-ended approach, patients were specifically prompted about CM, using standardized probes within the categories of: (i) behavioural/cognitive therapy, (ii) dietary, (iii) topical and other therapies and (iv) CP.

Patients were asked whether treatment (using either prescription medicine or CM) was effective in relieving arthritis symptoms according to a four-point adjectival scale ('no benefit'; 'slightly helpful'; 'moderately helpful' and 'extremely helpful'). They were also asked to specify any perceived adverse effects of treatments. The average monthly expenditure for all treatments was also elicited.

Statistical analysis

Each different form of CM use was counted. For example, one patient using two therapies was counted as two separate instances of CT use. For perceived

efficacy and adverse effects, prescription medicine was considered as a whole. For CM, this was considered for each individual treatment.

Descriptive statistics were used to determine: (i) the number and percentage of patients currently using CM, (ii) the number and percentage of patients who used CM in the past year, (iii) the most commonly used CT and CP, (iv) perceived benefits and hazards of CT, CP and prescription medicine and (v) monthly expenditure on each form of medicine.

Users and non-users of CM were compared. Factors that might predict CM use were examined, calculating odds ratios for categorical variables (i.e. gender, pension status, health-care card status, practice attended) and *t*-tests for continuous variables. All analyses were carried out using the Statistical Package for the Social Sciences (SPSS) for Windows Release 10.0.5 (Maija J Norusis/SPSS, Chicago IL, USA, 1999).

RESULTS

One hundred and six patients responded to the introductory letter, which constituted a 53% response rate. Five patients could not be contacted for the interview. The following results are for the 101 participants who completed the interview.

Demographic details and CM use over the preceding year are outlined for the entire study population in Table 1. There were 65 female patients (64.4%), the mean age was 61.1 years (standard deviation 13.0) and median disease duration was 9 years (range 2–50). Forty-four patients (43.6%) were using non-steroidal anti-inflammatory drugs and 91 patients (90.1%) were taking at least one disease-modifying anti-rheumatic drug. Of the 101 participants, 58 patients (57.4%) attended the Malvern clinic and 43 patients (42.6%) attended the Dandenong clinic. As expected, participants from the Dandenong clinic were more likely to have a lower gross yearly income ($P = 0.01$) and receive a pension (30/43, 69.8% *vs* 28/58, 48.3%; $P = 0.03$) but no other differences were noted (data not shown).

Seventy-four patients (73.3%) had used some form of CM in the preceding year. Sixty-eight patients (67.3%) had used at least one CT in the previous year and 32 patients (31.7%) had visited at least one CP. Twenty-six patients (25.7%) had used at least one CT and consulted at least one CP in the previous year. Specific details about CT use and CP consultation are listed in Table 2. Dietary therapies (comprising dietary alterations, herbal products and supplements) were the most common type of CT

Table 1 Demographic and clinical characteristics of the study population: all ($n = 101$), respondents who had used complementary medicine in the preceding year ($n = 74$) and those who had not ($n = 27$).

Characteristic	All ($n = 101$)	Complementary medicine use ($n = 74$)	No complementary medicine use ($n = 27$)
Age in years mean (SD)	61.1 (13.0)	60.3 (12.1)	63.4 (15.0)
Duration of rheumatoid arthritis in years; median (range)	9 (2–50)	9 (2–37)	8 (2–50)
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Attendance at Malvern clinic	58 (57.4)	36 (48.6)	22 (81.5)
Female	65 (64.4)	49 (66.2)	16 (59.3)
Australian born	63 (62.4)	45 (60.8)	18 (66.7)
Gross yearly income			
< \$15 000	38 (37.6)	24 (32.4)	14 (51.9)
\$16–30 000	32 (31.7)	27 (36.5)	5 (18.5)
\$31–50 000	12 (11.9)	10 (13.5)	2 (7.4)
\$51–100 000	11 (10.9)	2 (2.7)	3 (11.1)
> \$100 000	6 (5.9)	4 (5.4)	2 (7.4)
Unavailable	8 (7.9)	7 (9.5)	1 (3.7)
Receiving a pension	60 (59.4)	41 (55.4)	19 (70.4)
Current non-steroidal anti-inflammatory drug use	44 (43.6)	35 (47.3)	9 (33.3)
Current disease-modifying anti-rheumatic drug use	91 (90.1)	68 (91.9)	23 (85.2)
Methotrexate	69 (68.3)	51 (68.9)	18 (66.7)
Salazopyrine	19 (18.8)	16 (21.6)	3 (11.1)
Hydroxychloroquine	17 (16.8)	11 (14.9)	6 (22.2)
Current corticosteroids use	52 (51.5)	42 (56.8)	10 (37.0)

Table 2 Use of complementary therapies and complementary practitioners consulted in the preceding year

Type of complementary therapy or complementary practitioner	Total (n)
Complementary therapies	158
Behavioural/cognitive	45
Exercise	26
Prayer	8
Positive thinking	5
Meditation	4
Rest	1
Tai chi	1
Dietary	64
Omega fish oils	13
Avoiding certain foods	7
Ginger extract	6
Celery seed extract	6
Vitamins	6
Including certain foods	4
Green-lipped sea mussel extract	3
Special arthritis diets	3
Undefined herbal remedy	2
Evening primrose oil	2
Ginkgo-bilboa, manganese supplement, linseed oil, 'Vita'Liv', swamp wort (<i>Centella cordifolia</i>), slippery elm bark, garlic, dandelion root, deer antler cartilage, zinc, chondrosamine, 'Arthi-eze'	1 each
Topical	38
Creams, lotions (e.g. Dencorub)	15
Oils, ointments (e.g. goanna oil)	15
Heat	8
Other	11
Magnetic products	8
Copper bracelets	3
Complementary practitioners	45
Hydrotherapy	13
Massage (all types)	10
Chiropractor	5
Water exercise	4
Acupuncture	3
Traditional Chinese medicine	2
Naturopath	2
Homeopath, iridologist, meditation (class), osteopath, yoga (class), Reiki practitioner	1 each

used. The most popular individual therapies were: (i) exercise ($n = 26$), (ii) topical creams ($n = 15$), (iii) topical oils ($n = 15$) and (iv) fish oils ($n = 13$). Hydrotherapy was the most common of the CP-facilitated treatments ($n = 13$), followed by massage ($n = 10$).

Prescription medication was considered more efficacious in relieving symptoms, and 91.1% of patients found prescription medication to be 'moderately' or 'extremely' helpful compared with 75.5% for CP and 64.6% for CT use. Users and non-users of CM had similar perceptions of the efficacy of prescription medication. The majority of users of CM (93.2%) found prescription medication 'moderately'

or 'extremely' helpful compared with 85.2% of non-users of CM (chi-squared = 1.8; $P = 0.6$).

Among the 158 instances of CT use, there were eight (5.7%) reported instances of side-effects. Four patients described soreness with exercise, two patients described 'fishy burps' with fish oil, and gastrointestinal upsets were reported with ginger extract ($n = 1$) and with a herbal remedy of unspecified content ($n = 1$). Six (13.3%) consultations with CPs were reported to result in side-effects. These included soreness after chiropractic treatment ($n = 3$), bruising after massage therapy ($n = 2$) and gastrointestinal upset with treatment prescribed by a naturopath ($n = 1$). Almost one-quarter of patients (23.8%)

reported side-effects as a result of their prescription medication. These were most commonly gastrointestinal, with nausea reported by seven patients and peptic ulcers reported in three patients.

The median cost to the patient per month of treatment was: (i) \$A7.00 (range 0–80) for prescription medicine, (ii) \$A7.00 (range 0–91) for CT and (iii) \$A26.00 (range 0–270) for CP.

There were no predictors of CT use among the demographic and clinical characteristics that were considered (i.e. gender, age, disease duration, education, socioeconomic status or practice attended). But female gender (OR = 1.5; 95% CI 1.2–1.9) and no pension (OR = 1.7; 95% CI 1.1–2.6) were predictive of CP use.

DISCUSSION

Almost three-quarters of the RA patients attending the community-based rheumatology practice in our study had used CM in the preceding year. Two-thirds of patients had used a CT and one-third of patients had attended a CP. The most common forms of CM were: (i) exercise ($n = 26$), (ii) topical lotions and ointments ($n = 30$), (iii) hydrotherapy ($n = 13$), (iv) fish oils ($n = 13$) and (v) massage ($n = 10$).

Like the studies of both Cronan *et al.*^{7,8} and Higham *et al.*,⁹ we defined CM in our study as treatment that was initiated by the patient, excluding treatment that had been prescribed or specifically recommended by their doctor. Consequently, there is some evidence of efficacy of these therapies. For example, exercise has been demonstrated to have benefits in terms of aerobic capacity and muscle strength¹⁰ as well as self-efficacy, disease management knowledge and morning stiffness.¹¹ Similarly, hydrotherapy has been shown to have positive effects in most trials, but the methodological weaknesses of these studies preclude making any inferences about its efficacy.¹² There is now also consistent evidence that fish oils have definite but modest benefits in RA.¹³ They have been shown to improve morning stiffness and joint pain and tenderness.¹³

This raises several issues. First, previous studies have also noted a high prevalence of use of interventions that specifically focus on the affected joint, such as direct application of creams or lotions, massage or mobilization.^{9,14,15} Their popularity attests to the appeal of treatments specifically targeting the site of the pain.¹⁴

Second, fulfilment of our definition of 'complementary' raises questions about the extent to which these treatments are discussed as part of routine management of the patient with RA. The term 'complementary' is often used interchangeably with terms such as 'alternative', 'non-orthodox', 'non-conventional', 'unproven' or 'non-prescribed', yet its meaning may not necessarily concur with the meanings of these terms. For example, some therapies may be prescribed but their benefits may be unproven, and others may be proven to be of benefit but are not prescribed. As more alternative treatments are tested and shown to be of benefit, the distinction between 'mainstream' and 'alternative' blurs.

Some definitions of CM reflect attitudes towards their use. For example, two large surveys in North America used the definition: 'medical interventions not widely taught in North American medical schools or generally available...in hospitals'.^{5,16} 'Alternate medicine' may imply that CM use is a substitute for conventional medicine. In contrast, the term 'complementary' implies its use as an adjunct to conventional medicine. The results of our study indicate that this is true for the study population, but may not be generalized to all settings.

Complementary medicine users did not differ from non-CM users in their perception of the efficacy of prescription medicine. Furthermore, CM users continued to use CM despite recognizing its lesser effect. The perceived lack of efficacy of CM did not deter RA patients from spending as much per month on CT as they did on out-of-pocket expenses for prescription medication, and spending more money on CP than on either of the other categories of therapy. This suggests that factors other than perceptions of effect drive CM use. Proposed factors include: (i) a desire to take control of their own treatment,¹⁴ (ii) a lack of empathy, counselling and time in consultations with orthodox practitioners,¹⁷ (iii) deficiencies in doctor-patient communication¹⁶ and (iv) the slow onset of action and necessity for long-term compliance of traditional therapies.¹⁸ The appealing nature of CM may also drive CM use. They may promote hope, provide the patient with a sense of control and, by proclaiming that they are 'natural', imply that they are less toxic than other treatments.^{18–20}

This study showed that female gender and receipt of a pension were both associated with the use of CP. No particular demographic characteristics were associated with CT use. Some past studies have shown that users and non-users of CM among arthritis

patients differ according to gender, ethnicity and socioeconomic status.^{8,15,21} Others have shown that CM use among RA patients is not related to age, gender, education, socioeconomic status or other demographic variables.¹⁴ Although these studies were carried out on varying populations of people with arthritis, the results obtained in this study did not serve to strengthen any theory regarding significant differences between the users and non-users of CM among RA patients.

These findings pertain to RA patients in a community-based private rheumatology practice. The study only examined CM use among patients who actually sought medical care from a rheumatologist and, as such, cannot be extrapolated to people attending hospital outpatient clinics or to patients with arthritis who do not receive conventional medical care. Furthermore, the tested patients were all residents of metropolitan Melbourne, and these results can only be applied to patients in a similar health-care setting. Nevertheless, data regarding geographical location can act as a guide to the socioeconomic composition of the sample and patients were selected from these different clinics with the intention of achieving a cross-section of the general population.

In order to minimize the response bias stemming from preconceptions about CM, participants were blinded to the purpose of the study. Other potential sources of bias include social desirability, where the patient may feel uncomfortable relating their true practices with regard to CM use. This was minimized by emphasizing the confidentiality of all responses and assuring respondents that the rheumatologists had no access to their identity. Our study was based upon the self-report of patients and the extent to which treatments had been discussed with their doctor. It is possible that, in at least some instances, some of these treatments may have been discussed during the course of the consultation. However, we made no attempt to validate patient responses from either chart review or discussion with the treating rheumatologist in order to maintain our assurance of respondent confidentiality. Similarly, costs of treatment were based upon self-report and these may have been either under- or overestimated. Blinding respondents to the true purpose of the study is likely to have minimized any differences in responses regarding prescribed *vs* complementary treatments.

We cannot discount the possibility that non-respondents differed in some unidentified way from respondents. Due to the design of the study and assur-

ance of confidentiality, we were unable to make any comparisons between them. However, we attempted to minimize potential bias by several methods. Due to time restraints arising from the study's inclusion in a BMedSci project, we planned to send one invitation to participate with no reminder letters or follow-up telephone calls. We therefore identified 200 patients, expecting a 50% response rate. We achieved a 53% response rate. Patients were blinded to the study purpose, which limited the likelihood that respondents would differ from non-respondents in their views about CM. We also considered the possibility that patients attending the Malvern and Dandenong clinics would differ with respect to CM use. This was controlled by inviting an equal number of patients from both clinic sites to participate.

In addition to highlighting the high prevalence of CM use among RA patients, the present study elicited several issues that may help to understand why RA patients use CM. There was no indication that patients were 'driven' away from conventional medicine through lack of efficacy of prescribed medication, although we sampled a group who had attended for review in the previous year, so there may have been a sampling bias. The role of personal background characteristics, such as age, socioeconomic status and duration of disease, in determining whether RA patients use CM is also questionable. In addition, the high prevalence of topical products, hydrotherapy and massage may indicate a desire for immediate symptomatic relief from RA.

Independent clinical trials are required to assess the positive and negative impact of certain CM techniques. However, it is equally important to further explore the problems identified in this study and to identify other issues that may motivate RA patients to use CM. This would allow doctors and other health professionals caring for arthritis patients to better understand their patients' needs and provide their patients with optimum care. We plan to examine the health-seeking behaviours of RA patients and their motivation for using CM in a qualitative, in-depth, interview-based follow-up study to address these issues.

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