

ORIGINAL ARTICLE

Use of complementary and alternative medicine by patients with arthritis

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Aims and objectives. The aims of this study were to determine the prevalence of complementary and alternative medicine use in patients with arthritis, the types of complementary and alternative medicine used, pertinent socio-demographic factors associated with complementary and alternative medicine use and its perceived efficacy.

Background. Arthritis is a major health issue, and the use of complementary and alternative medicine among patients with arthritis is common.

Design. This is a descriptive cross-sectional study.

Methods. Data were obtained from 250 patients with arthritis at the physiotherapy and immunology clinics Atatürk University Hospital in eastern Turkey between May–July 2005 using a questionnaire developed specifically for this study. The instrument included questions on socio-demographic information, disease specifics and complementary and alternative medicine usage.

Results. Seventy-six per cent of participants reported use of at least one form of complementary and alternative medicine in the previous year. Complementary and alternative medicine users and non-users were not significantly different in most socio-demographic characteristics including age, gender, marital status and education level with the exception of economic status. We categorised treatment into six complementary and alternative medicine categories: 62.6% of patients used thermal therapies; 41.5% used oral herbal therapies; 40.5% used hot therapies; 32.6% used externally applied (skin) therapies; 28.4% used massage and 12.6% used cold therapies. All forms of complementary and alternative medicine except thermal and oral herbal therapies were perceived as very effective by more than half of study participants.

Conclusions. Complementary and alternative medicine therapy is widely used by patients with arthritis and has perceived beneficial effects.

Relevance to clinical practice. It is important for nurses and other health care professionals to be knowledgeable about the use of complementary and alternative medicine therapies when providing care to patients with arthritis because of possible interactions with other treatments, delays in seeking care and the potential for poor quality products. It is also essential for health professionals to discuss treatment options with patients and to monitor treatment efficacy.

Key words: arthritis, complementary and alternative medicine, efficacy, nursing, patients, Turkey

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Introduction

Arthritis comprises over 100 different diseases and conditions, the most common being osteoarthritis, rheumatoid arthritis and gout. Common symptoms include pain, aching, stiffness

and swelling in or around the joints. Some forms of arthritis, for example rheumatoid arthritis, can affect multiple organs and cause widespread symptoms (CDC 2007, WHO 2008).

‘Complementary and alternative medicine (CAM) is a group of diverse health care practices and systems and

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products that are not considered to be part of allopathic/conventional medicine' (NCCAM 2008, 1). Complementary/alternative medicine has been described as 'diagnosis, treatment and/or prevention which complements mainstream medicine by contributing to a common whole, satisfying a demand not met by orthodoxy, or diversifying the conceptual frameworks of medicine' (Ernst *et al.* 1995, 506). In some countries, the legal standing of complementary/alternative medicine is equivalent to that of allopathic medicine, many practitioners are certified in both complementary/alternative medicine and allopathic medicine, and the primary care provider for many patients is a complementary/alternative practitioner (WHO 2001). According to the National Center for Complementary and Alternative Medicine (NCCAM), some patients with chronic health problems and health care providers practice both CAM and allopathic medicine (National Center for Complementary and Alternative Medicine (NCCAM) 2008). CAM use is generally highest among people with chronic syndromes such as musculoskeletal disorders (including back and neck problems), joint pain, recurrent pain and arthritis (Eisenberg *et al.* 1998, Guerrera 2007). Patients with arthritis are likely to use self-treatment through a variety of therapies; including CAM treatments because of the progressive nature of the disease (arthritis progression typically results in increasing pain and impaired motor function as the disease progresses). Although medications that are effective for some types of arthritis pain are currently available, cost, access and questions about product safety result in arthritis continuing to be a cause of diminished quality of life for many older adults (Quandt *et al.* 2005). Previous studies in Canada, Korea, UK and the USA have stated that more than 60% of patients with arthritis report CAM usage (Boisset & Fitzcharles 1994, Rao *et al.* 1999, 2003, Kaboli *et al.* 2001, Kim & Seo 2003, Artus *et al.* 2007, Katz & Lee 2007, Lee *et al.* 2008). To our knowledge, the current study is the first survey of CAM use in arthritis to be conducted in Turkey.

Thermal spring, balneotherapy or spa therapy has been widely used in classical medicine as a cure for joint disorder (Bellometti *et al.* 2007). They can mostly be used as a method of CAM by patients with arthritis. According to Masiero (2008), the thermal environment is a suitable place for providing rehabilitative and preventive treatment both in association with traditional spa therapy and as the sole means of treatment. There are many thermal springs in Turkey, and older people with arthritis traditionally visit thermal springs.

Herbal medicines, products and therapies are very popular worldwide; indeed, interest in herbal therapies has been growing rapidly in Turkey. Herbal combinations have been a part traditional Turkish medicine. In both Turkish and Asian

medicine, individual herbs, plants or mixtures thereof are commonly prescribed by traditional healers (who are mostly older women). Commonly used herbs in Turkey include stinging nettle and herbal teas (wild thyme water, sage, ginger, etc.) for the treatment of illnesses (Baytop 1999, Gözüm *et al.* 2003, 2007, Gözüm & Ünsal 2004). Oğuz and Pınar (2000) report the prevalence of medicinal herb usage in 550 healthy adults in Turkey to be 72.5%. There are currently no government standards on the quality of herbal products in Turkey, and some products are probably unsafe and/or little is known scientifically about them (Gözüm & Ünsal 2004).

Additionally, some herbal CAM therapies are known to interact with allopathic medical treatments or may carry risk of significant side effects (Bressler 2005, Setty & Sigal 2005). For example, ginkgo may cause bleeding when combined with aspirin or ibuprofen (Bressler 2005). In a 2004 study (Gözüm & Ünsal), it was reported that nine (4.8%) older women reported side effects from taking herbal medicines: five reported burning and irritation as a side effect after external application of a nettle poultice and four reported itching and stomach pain after oral administration of a mixture of several herbs. It is, therefore, important for health professionals to assess CAM usage in patients and to warn them about the possible side effects of herbal usage. If people present with problems that might be undesired effects of herbal use, nurses should warn them to stop use of the product.

CAM use is very common among patients with arthritis. Perlman *et al.* (2006) indicated that the massage therapy using the Swedish technique is safe and effective for reducing pain and improving function in patients with symptomatic osteoarthritis of the knee. Additionally, various oils have been traditionally used for massage treatments for many years. According to Snyder (2006), numerous studies have found that massage resulted in reduction in pain, and in fact, massage is one of the most widely used complementary therapies and has been part of nursing armamentarium for centuries. Ironically, however, at a time when massage is increasingly being used by the general public, nurses rarely administer massage. Other very common CAM practices are cold and/or hot therapies. In one study (Yip *et al.* 2007), most people with arthritis reported using locally and externally applied cold and hot therapies. Brosseau *et al.* (2003) indicated that the ice massage, compared with control, had a statistically beneficial effect on range of motion, function and knee strength.

Of significant concern is the safety of CAM methods and practices. Because many patients with arthritis are using CAM therapies, nurses must be knowledgeable about their use. Little is known, however, about the frequency and

patterns of the use of CAM therapies by patients with arthritis in Turkey.

The aims of this descriptive cross-sectional study were:

- To determine the prevalence of complementary/alternative medicine use among patient with arthritis
- To determine the types of CAM used
- To describe socio-demographic factors associated with the use of CAM and
- To assess the perceived effectiveness of CAM in eastern Turkey.

Materials and methods

Study design and subjects

This descriptive cross-sectional survey of patients with arthritis was carried out at the inpatient and outpatient physiotherapy and immunology clinics of Atatürk University Hospital in Erzurum, Turkey between May–July 2005. This institution is the one of the largest medical centres in eastern Turkey. Subjects included in the study were 18 years or older and able to speak, understand and communicate verbally in Turkish. Patients had been diagnosed with arthritis at least six months prior to conducting the study. After written informed consent was obtained, each patient was interviewed for 15–20 minutes by the researchers in the clinic examination room or in a quiet area in the outpatient clinic waiting room. The study used a convenience sample of 261 patients with arthritis seen at the clinics described earlier. Data from eleven subjects (4.2%) were excluded from this study for incomplete response; thus results include data from 250 (95.8%) patients with arthritis.

Instruments

Questionnaire

A semi-structured questionnaire was used for data collection. The questionnaire was developed by the researchers after a review of related literature (Rao *et al.* 1999, Kaboli *et al.* 2001, Kim & Seo 2003, Gözümlü & Ünsal 2004, Quandt *et al.* 2005). The proposed content of the interview tool was reviewed by four research experts for face validity and was piloted with ten patients with arthritis to estimate the time needed for administration and to test for clarity and logical flow. No changes were needed after pilot testing. Socio-demographic characteristics (age, gender, marital status, education level and economic status) were recorded for each patient. The type of arthritis, the disease duration, presence/absence of joint deformity and any special diet and exercise practice were obtained from the patient's chart. Participants'

economic status was described as income > expenditure, income = expenditure or income < expenditure using self-report by the subject. The perceived effectiveness of using CAM was evaluated by the subject as very effective, somewhat effective or ineffective.

CAM was explained to the patients by the researchers as an intervention not prescribed by physicians (National Center for Complementary and Alternative Medicine (NCCAM) 2008). Participants were asked about the use of CAM therapies. 'Please tell me (yes or no), have you used CAM therapy in the past 12 months?'. They were also asked about types of CAM therapies used, method of administration with open-ended questions. Using types of CAM in the study categorised by researchers considering their content and route of usage. Patients who confirmed that they had used CAM only for arthritis were asked about types of CAM used, the person who ordered/suggested CAM, status of CAM usage in concert with allopathic medical treatments and perceived benefits of CAM usage in the previous one-year period.

Ethical considerations

Atatürk University Hospital had Ethical Committees and when the author referred to them decided that there was no need for any ethics investigation as there were no invasive practices planned for humans during the research period. Therefore, this study was approved by the director of the Hospital, this being the sole approval needed to carry out human subject studies at this institution. Potential participants were informed about the aim of the study by the first researcher, and patients signed written informed consent to study participation. We told participants that they could withdraw from the study at any time and that all information would be kept strictly confidential by us.

Statistical analysis

Frequencies were tabulated for categorical data such as socio-demographic features, CAM prevalence, CAM type, mean value and SD was calculated for continuous data (i.e. participants' age). CAM usage rates were assessed for the sample as a whole and then analysed by socio-demographic categories. Participants were categorised into two groups: group 1, patients who used CAM and group 2, patients who did not. Chi-square tests and *t*-test were used to determine which of the socio-demographic variables were related to the use of complementary/alternative therapy. All data management and statistical analysis were performed using spss, Version 10.0 for Windows software (SPSS Inc.,

Chicago, IL, USA). For all the analyses, a $p < 0.05$ was considered to be statistically significant.

Results

Socio-demographic characteristics

The mean age of study participants was 51.9 (SD 14.7) years. A majority of participants were women (73.2%), most were literate or had at most a primary school education (72.0%); more than half were married (69.2%). The economic status of participants was predominantly 'income = expenditure' (44.0%) according to self-report of participants (Table 1).

The two study groups (CAM usage solely for arthritis; no CAM usage for arthritis) were not significantly different in terms of most socio-demographic characteristics, including age, gender, marital status, education level, but we did find statistically significant differences in economic status. As seen in Table 1, patients who used CAM interventions for treatment of their arthritis had lower perceived economic status than CAM non-users ($X^2(2) = 6.599$, $p < 0.05$).

Disease characteristics of the subjects

Diagnoses of study participants included 116 with osteoarthritis (46.4%), 76 with rheumatoid arthritis (30.4%), 58 with other diagnoses such as ankylosing spondylitis, fibrom-

yalgia, gout, systemic lupus erythematosus and/or other types of arthritis (23.2%). The range of disease duration for study participants was 1–5 years (45.6%; $n = 114$). Forty-four participants reported joint deformity (17.6%). Most participants reported difficulties with their knee and foot joints (75.2%; $n = 188$). Musculoskeletal pain was the most common complaint for which subjects were referred (92.4%; $n = 231$). The majority reported that they were not practicing any special diet (76.8%; $n = 192$) or exercise (82.0%; $n = 205$) programme related to their arthritis diagnosis (Table 2).

Frequency of CAM use

Data on CAM usage are shown in Table 3. One hundred and ninety patients (76.0%) reported using at least one form of CAM during the previous 12 months. The patients using CAM reported that they had most frequently heard about CAM from family members or relatives (49.2%; $n = 123$), neighbours or friends (31.6%; $n = 79$), people with the same diseases (20.8%; $n = 52$), health professionals (12.8%; $n = 32$) and/or media reports such as TV, radio, newspaper and magazine (4.0%; $n = 10$).

The most preferred form of CAM was the use of thermal therapies (62.6%; $n = 119$). Study participants reported high CAM usage of oral herbal therapies (41.5%; $n = 79$) including nettle, sheep sorrel, sugar beet leaf, wild thyme water,

	(CAM) users ($n = 190$) n (%)	Non-users ($n = 60$) n (%)	Total sample ($n = 250$) n (%)	p (t - or χ^2 -test)
Age (mean \pm SD)	51.7 \pm 14.6	52.6 \pm 15.0	51.9 \pm 14.7	NS
Gender				
Female	134 (70.5)	49 (81.7)	183 (73.2)	NS
Male	56 (29.5)	11 (18.3)	67 (26.8)	
Marital status				
Married	131 (68.9)	42 (70.0)	173 (69.2)	NS
Unmarried	28 (14.7)	10 (16.7)	38 (15.2)	
Widow	31 (16.3)	8 (13.3)	39 (15.6)	
Education level				
Literate	74 (38.9)	32 (53.3)	106 (42.4)	NS
Primary school	59 (31.1)	15 (25.0)	74 (29.6)	
Secondary school	15 (7.9)	2 (3.3)	17 (6.8)	
High school/University	42 (22.1)	11 (18.3)	53 (21.2)	
Economic status				
Income > expenditure	35 (18.4)	20 (33.3)	55 (22.0)	0.037
Income = expenditure	85 (44.7)	25 (41.7)	110 (44.0)	
Income < expenditure	70 (36.8)	15 (25.0)	85 (34.0)	

Table 1 Socio-demographic characteristics of the herbal therapy users, non-users, and total sample

NS, statistically no significant difference between the group of CAM users and the group of non-users ($p < 0.05$); CAM, complementary and alternative medicine.

p -value, $[\chi]^2$ -test (two-sided) between users and non-users within patients with arthritis for all variables except mean age (Student t -test).

Table 2 Disease characteristics of the patients ($n = 250$)

Variable	Per cent (n)
Arthritis type	
Osteoarthritis	46.4 (116)
Rheumatoid arthritis	30.4 (76)
Other (ankylosing spondylitis and gut, etc.)	23.2 (58)
Disease duration	
6 months–1 year	12.8 (32)
1–5 years	45.6 (114)
6–10 years	20.4 (51)
11 years and above	21.2 (53)
Presence of deformity in joints	
Present	17.6 (44)
Absent	82.4 (206)
Joints affected by the disease	Per cent (n)*
Knee	75.2 (188)
Foot	75.2 (188)
Hand	51.6 (129)
Waist	41.2 (103)
Arm or bend	39.6 (99)
Hip	33.2 (83)
Neck	30.8 (77)
Back	25.2 (63)
Shoulder	25.2 (63)
Complaints with the disease	Per cent (n)*
Pains in joints	92.4 (231)
Fatigue	70.0 (175)
Swellings in joints	47.2 (118)
Sleeplessness	30.4 (76)
Stiffness in joints	24.4 (61)
Numbs in joints	23.6 (59)
Redness in joints	17.6 (44)
Combustion in joints	16.4 (41)
Lassitude	14.0 (35)
Presence of a special diet for the disease	Per cent (n)
Following	18.8 (47)
Following sometimes	4.4 (11)
Not following	76.8 (192)
Presence of a special exercise programme for the disease	
Following	6.8 (17)
Following sometimes	11.2 (28)
Not following	82.0 (205)

*More than one answer. Percentage was taken accepting n as 250.

lemon, parsley, sage, ginger, codfish oil, polygonum aviculare, melise officinalis labiatae and senna. Oral therapies were administered in cooked, tea or crude (raw) form. Almost half 40.5% ($n = 77$) of CAM users reported using locally and externally applied hot therapies (except medical physiotherapy) including towel, hair dryer, brick and nylon sachet (either dry or wet); 32.6% ($n = 62$) used other externally applied therapies (on the skin directly) including nettle, leech, crude fish, jardinière okra and milk, sugar beet leaf, grapevine leaf, honey and red pepper flakes, black beaten olive, goat

Table 3 CAM therapies used by patients with arthritis

Variable	Per cent (n)
Patients using CAM	76.0 (190)
Patients non-using CAM	24.0 (60)
Source of information about CAM	Per cent (n)*
Families and relatives	49.2 (123)
Neighbours and friends	31.6 (79)
The other patients (people with the same diseases)	20.8 (52)
Health care professionals	12.8 (32)
Media reports (TV, radio, newspaper and magazine, etc.)	4.0 (10)

CAM, complementary and alternative medicine.

*More than one answer. Percentage was taken accepting n as 250.

milk and onion, olive oil, currant and aspirin (topically applied), while 28.4% ($n = 54$) used massage including application of olive oil, codfish oil, daisy-oil, lavender oil, camel oil, jasmine oil and 12.6% ($n = 24$) used externally and locally applied cold therapies including ice and cold water (dry or wet).

Table 4 shows types of CAM used, type of application (oral-cooked, tea, crude; local-dry, wet), person responsible for initial implementation of CAM and whether CAM use was in concert with allopathic medical treatments in the previous one-year period. Perceived benefits of CAM usage are also shown. This table demonstrates that heat therapies have the highest rates of perceived efficacy (79.2%; $n = 61$ vs. 15.5%; $n = 12$), followed by massage (64.8%; $n = 35$ vs. 11.1%; $n = 6$) and cold therapies (58.3%; $n = 14$ vs. 33.3%; $n = 8$). Study participants reported that approximately half of the CAM interventions used were reported to be somewhat or very effective (Table 4).

Discussion

We report here similar results to previously published studies in that the majority of patients with arthritis are middle-aged and female and also that osteoarthritis and rheumatoid arthritis are the most common forms of presenting arthritis. Also, similar to previous reports, we found that the most common arthritis-related complaint was joint pain, and joints affected by the disease were knee, foot, hand, waist, etc. (Gulanick *et al.* 1998, Kaboli *et al.* 2001, ACRSRAG 2002, Kim & Seo 2003, Quandt *et al.* 2005, Sleath *et al.* 2005, Centers for Disease Control and Prevention (CDC) 2007, Lind *et al.* 2007, Lee *et al.* 2008, Arthritis Foundation 2008, World Health Organization Department of Chronic Diseases and Health Promotion Chronic Respiratory Diseases and Arthritis (CRA) 2008).

Table 4 Types of complementary and alternative medicine (CAM) used, formal practice, implementing person of CAM, status use CAM together allopathic medical treatments, and perception of CAM benefit

Types of CAM	Use of this type of CAM Per cent (n)	Form of usage of this type of CAM	Implementing person of CAM		Status of CAM use together allopathic medical treatments		Perception of CAM benefit		
			Oneself Per cent (n)**	Someone else Per cent (n)**	With allopathic treatment Per cent (n)**	Not with allopathic treatment Per cent (n)**	Very effective Per cent (n)**	Somewhat effective Per cent (n)**	Ineffective Per cent (n)**
Thermal spring therapies	62.6 (119)*	G	100.0 (119)	-	13.4 (16)	86.5 (103)	37.8 (45)	15.9 (19)	46.2 (55)
Oral herbal therapies	41.5 (79)*	Cooked	40.5 (32)	2.5.3 (20)	12.6 (10)	53.1 (42)	37.9 (30)	10.1 (8)	20.2 (16)
Nettle	65.8 (52)	Crude 21- Crude 31	-	-	-	-	-	-	-
Sheep sorrel	6.3 (5)	Cooked	5.0 (4)	1.2 (1)	1.2 (1)	5.0 (4)	2.5 (2)	3.7 (3)	-
Sugar beet leaf	3.7 (3)	Cooked	2.5 (2)	1.2 (1)	1.2 (1)	2.5 (2)	1.2 (1)	-	2.5 (2)
Wild thyme water	3.7 (3)	Tea	3.7 (3)	-	-	3.7 (3)	2.5 (2)	-	1.2 (1)
Lemon	2.5 (2)	Crude	2.5 (2)	-	1.2 (1)	1.2 (1)	2.5 (2)	-	-
Parsley	2.5 (2)	Crude	2.5 (2)	-	-	2.5 (2)	1.2 (1)	-	1.2 (1)
Sage	2.5 (2)	Tea	2.5 (2)	-	-	2.5 (2)	1.2 (1)	-	1.2 (1)
Ginger	1.2 (1)	Tea	1.2 (1)	-	1.2 (1)	-	1.2 (1)	-	-
Codfish oil	1.2 (1)	Crude	1.2 (1)	-	1.2 (1)	-	1.2 (1)	-	-
Polygonum aviculare	1.2 (1)	Cooked	1.2 (1)	-	1.2 (1)	-	-	1.2 (1)	-
Melisse officinalis labiatae	1.2 (1)	Tea	1.2 (1)	-	1.2 (1)	-	-	-	-
Senna	1.2 (1)	Tea	1.2 (1)	-	-	1.2 (1)	1.2 (1)	-	-
Externally applied heat therapies	40.5 (77)*	LD 58-LW 19	84.4 (65)	15.5 (12)	27.2 (21)	72.7 (56)	79.2 (61)	5.1 (4)	15.5 (12)
Externally applied herbal and other therapies	32.6 (62)*	Local	-	-	-	-	-	-	-
Nettle	32.2 (20)	Local	20.9 (13)	11.2 (7)	9.6 (6)	22.5 (14)	19.3 (12)	4.8 (3)	8.0 (5)
Leech	17.7 (11)	Local	9.6 (6)	8.0 (5)	3.2 (2)	14.5 (9)	8.0 (5)	9.6 (6)	-
Crude fish	11.2 (7)	Local	11.2 (7)	-	1.6 (1)	8.0 (5)	8.0 (5)	-	3.2 (2)
Jardinière cabbage	9.6 (6)	Local	6.4 (4)	3.2 (2)	1.6 (1)	8.0 (5)	3.2 (2)	-	6.4 (4)
Lemon and mint	8.0 (5)	Local	6.4 (4)	1.6 (1)	3.2 (2)	4.8 (3)	6.4 (4)	-	1.6 (1)
Jardinière okra and milk	8.0 (5)	Local	8.0 (5)	-	-	8.0 (5)	4.8 (3)	-	3.2 (2)
Sugar beet leaf	3.2 (2)	Local	3.2 (2)	-	1.6 (1)	1.6 (1)	3.7 (2)	-	-
Grapevine leaf	3.2 (2)	Local	3.2 (2)	-	1.6 (1)	1.6 (1)	1.6 (1)	1.6 (1)	-
Honey and red pepper flakes	1.6 (1)	Local	-	1.6 (1)	-	1.6 (1)	1.6 (1)	-	-
Black beaten olive	1.6 (1)	Local	1.6 (1)	-	-	1.6 (1)	-	-	1.6 (1)
Goat milk and onion	1.6 (1)	Local	1.6 (1)	-	-	1.6 (1)	1.6 (1)	-	-
Olive oil, currant and aspirin	1.6 (1)	Local	1.6 (1)	-	-	1.6 (1)	1.6 (1)	-	-
Massage therapies	28.4 (54)*	Local	59.2 (32)	40.7 (22)	24.0 (13)	75.9 (41)	64.8 (35)	24.0 (13)	11.1 (6)
Massage with olive oil	37.0 (20)	Local	29.6 (16)	7.4 (4)	7.4 (4)	29.6 (16)	22.2 (12)	14.8 (8)	-
Massage with codfish	12.9 (7)	Local	12.9 (7)	-	3.7 (2)	9.2 (5)	9.2 (5)	-	3.7 (2)
Massage with daisy-oil	1.8 (1)	Local	-	1.8 (1)	-	1.8 (1)	1.8 (1)	-	-

Table 4 (Continued)

Types of CAM	Use of this type of CAM Per cent (n)	Form of usage of this type of CAM	Implementing person of CAM		Status of CAM use together allopathic medical treatments		Perception of CAM benefit		
			Oneself Per cent (n)**	Someone else Per cent (n)**	With allopathic treatment Per cent (n)**	Not with allopathic treatment Per cent (n)**	Very effective Per cent (n)**	Somewhat effective Per cent (n)**	Ineffective Per cent (n)**
Massage with lavender oil	1.8 (1)	Local	1.8 (1)	-	-	1.8 (1)	-	-	-
Massage with camel oil	1.8 (1)	Local	1.8 (1)	-	-	1.8 (1)	-	-	1.8 (1)
Massage with jasmine oil	1.8 (1)	Local	1.8 (1)	-	-	1.8 (1)	-	-	1.8 (1)
Externally applied cold therapies	12.6 (24)*	LD 19-LW 5	79.1 (19)	20.8 (5)	25.0 (6)	75.0 (18)	58.3 (14)	8.3 (2)	33.3 (8)

G, general; LD, local dry; LW, local wet; CAM, complementary and alternative medicine.

Percentage is calculated utilising $n = 190$.

*More than one answer.

**Percentage is percentage of line.

Another similarity in our study compared with previous reports (Rao *et al.* 1999, Kim & Seo 2003, Gözüml & Ünsal 2004, Tan *et al.* 2004, Lee *et al.* 2008) is that we found no significant association between the use of CAM therapies and socio-demographic characteristics. Comparing CAM users and non-users, we found that CAM users were more likely to be women and to have lower levels of formal education. There was significant association between the use of CAM therapies and economic status, a result supported by the findings of Boisset and Fitzcharles (1994) Anderson *et al.* (2000) and Kim and Seo (2003). In this study, most participants were in the lower- and middle-income groups (78%; $n = 195$). The most preferred form of CAM was the use of thermal spring therapies (62.6%; $n = 119$), probably because of the fact that thermal spring therapies are inexpensive and thus accessible for all income levels and are considered to be part of traditional bath culture in Turkey.

Past surveys have implied that the prevalence of CAM use varies between 30% and nearly 100% among rheumatology and/or patients with arthritis (Ernst 1998a): use of CAM by 219 Korean patients with arthritis (Kim & Seo 2003), 153 Korean rheumatoid arthritis (Lee *et al.* 2008) 480 older patients with arthritis in Iowa City (USA) (Kaboli *et al.* 2001), 612 patients with arthritis in New Mexico (USA) (Herman *et al.* 2004), 752 patients with arthritis in North Carolina (USA) (Sleath *et al.* 2005) and use by 1226 patients with arthritis in California (USA) (Katz & Lee 2007). Thus, the 76% prevalence of CAM use reported in this study accords line with the results of previous studies. In this study, CAM users stated that the most important source of information on CAM was their families, relatives, neighbours and/or friends, a result is supported by the findings from the studies of Gözüml *et al.* (2003), Gözüml and Ünsal (2004) and Tan *et al.* (2004) and Lee *et al.* (2008).

The high rate of usage that we report for thermal therapies, herbal medicine, externally applied hot or cold therapies and massage among patients with arthritis is no doubt connected to their traditional role in the cure of musculoskeletal complaints (Denisov *et al.* 1999, Chopra *et al.* 2000, Osborn *et al.* 2001, Cantarini *et al.* 2007, Dıraçoğlu 2007). The type of CAM used may also depend whether the study subject is suffering from arthritis or rheumatoid disease (Katz & Lee 2007). In a study (Herman *et al.* 2004), patients with osteoarthritis were found to use the nutritional supplement glucosamine (25.2%) more commonly than patients with rheumatoid arthritis (16.3%), whereas, the opposite was true for the mind-body therapy for relaxation, with the patients with rheumatoid arthritis employing this technique more frequently (16.3% rheumatoid arthritis vs. 10% osteoarthritis). The situation

was different again among individuals with fibromyalgia who commonly used breathing techniques (36.7%), relaxation (28.9%), meditation (27.6%), music therapy (22.8%) and glucosamine (20.7%) among others.

Participants reported that they were more likely to use pieces of natural plants, such as leaves and seeds, or to prepare herbs for use in tea, meal or pudding rather than to use a ready-made form, such as tablets and capsules. The most used commonly herbal products reported in this study, such as nettle (*Urtica dioica* and *urens*), sheep sorrel (*Rumex crispus*), sugar beet leaf (*Beta vulgaris altissima*), wild thyme water (*Thymus serpyllum*) and many herbal teas and mixture were consistent with previous studies (Baytop 1999, Yoon & Horne 2001, Gözüml & Ünsal 2004). The most commonly used externally applied plant therapies (applied on the skin directly) reported in this study were nettle, leech, crude fish, jardinière okra and milk. Three participants who used these externally applied therapies stated that they were experiencing burning and irritation. It is, therefore, important for health care providers to warn patients about the possible side effects of herbal application.

Massage was a commonly reported CAM practice and may involve a massage practitioner, although self-massage may have been included in this response. In the study, massage was defined as a practice which is done on painful parts of the body by non-professional family members or the person him/herself using the hands and fingers. Participants also reported that they practiced massage using olive oil, codfish, daisy-oil, lavender oil, camel oil and jasmine oil. Some oils previously reported to be at least somewhat effective are olive, fish and castor, coconut, camphor and eucalyptus oils (Perlman *et al.* 2006, Arthcare Oil 2008).

This study clearly demonstrates that patients with arthritis are using CAM therapies. Many patients with arthritis use herbal products, alone and in combination with allopathic medicines. Decisions to use herbals are based on the personal judgment of the patients about their health and about the perceived value of a particular herbal product. Despite the possible benefit of herbals as natural products, some problems were identified. Certain herbs might be dangerous when combined with allopathic treatment that patients are already using (Ernst 1998b, Cherskin 2000, Go *et al.* 2001, Yoon & Horne 2001). Therefore, health professionals working especially older patients with arthritis should be aware of danger such as toxicity, allergy and possible side effects.

We found that a high proportion of patients with arthritis use and frequently perceive benefit from CAM therapies, a result that is consistent with previous studies (American College of Rheumatology Subcommittee on Rheumatoid

Arthritis Guidelines (ACRSRAG) 2002, Rao *et al.* 2003, Quandt *et al.* 2005, Artus *et al.* 2007, Lind *et al.* 2007, Lee *et al.* 2008). This study suggests that external applied heat therapies, massage therapy and external applied cold therapies are efficacious in patients with arthritis.

We observed that many health care providers in the study hospital do not ask about the use of herbal products and, therefore, do not acknowledge or know about their use in their patient populations. As a result, it is possible for providers to make erroneous decisions in prescribing allopathic medications. While more than half of herbal products are believed to be effective by the patients who use them, there is no scientific basis for this belief. Also, the duration of use of herbal products varies greatly from patient to patient as many patients are themselves unsure about the efficacy of such products.

This study has two limitations. First, the study only included patients with arthritis in the physiotherapy and immunology clinics at Atatürk University Hospital, excluding those in other clinics. Second, the definition of arthritis is broad and there is no way to definitively distinguish different types of arthritis included in the interview question. It is likely that each of the conditions mentioned in the question would lead to slightly different CAM usage because of symptomatic and disease progression differences. Despite these limitations, this is the first survey of CAM use by patients with arthritis in Turkey. These study findings of variation in CAM usage behaviour among patients with arthritis may have implications for researchers and health care providers.

Conclusions

Many patients with arthritis in eastern Turkey use CAM therapies. Most patients believe that their used CAM therapies are effective. Family members, relatives, neighbours, friends and other patients are significant sources of information about CAM. Health care providers should determine what CAM therapies their patients use and provide education on the evidence-based efficacy and side effects of CAM to both patients and their families.

Relevance to clinical practice

It is important for nurses and other health care professionals to be knowledgeable about the use of complementary and alternative medicine therapies when providing care to patients with arthritis because of possible interactions with other treatments, delays in seeking care and the potential for poor quality products. It is also essential for health

professionals to discuss treatment options with patients and to monitor treatment efficacy.

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Contributions

Study design: AÜ, SG; data collection and analysis: AÜ, SG and manuscript preparation: AÜ, SG.

Conflict of interest

None.

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