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Complementary and alternative medications usage in patients attending rheumatology clinics: a cross-sectional study

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The usage of complementary and alternative medications (CAM) among rheumatologic patients has grown during recent years. The aim of this study was to determine the prevalence of CAM usage in rheumatologic patients in Kermanshah, Iran, and to investigate its related factors. The study population comprised 500 patients with different rheumatic diseases, from whom data on age, gender, marital status, education level, whether they have regular visits by rheumatologist, type of rheumatic or musculoskeletal disease, disease duration, whether they use CAM and type of CAM, and source of information for using these medications was collectedand compared between patients who used CAM and those who did not.The most common diseases were rheumatoid arthritis (32.8%) followed by systemic lupus erythematosus (18.8%) and osteoarthritis (14%). Of the 500 participants (mean age: 46.28, 426 female), 109 patients (21.8%) reported CAM usage,the most frequently reported of which were herbal supplements (42.67%) followed by bloodletting and cupping (29.05%),yoga and meditation (7.43%), and special dietary regimens (7.43%). This study identified a correlation between disease duration and usage of CAM, althoughother factors were not associated with CAM usage. The results showed that patients with longer disease duration had a greater tendency to use CAM. This result may be important for management of the increasing interest in CAM usage among rheumatologic patients.

Keywords: Alternative medicines; Complementary medicines; Herbal drugs; Rheumatic diseases; Rheumatic patients

Introduction

Complementary and alternative medications (CAMs) are frequently used worldwide. Previous studies have shown that CAMs are used by a signifi-cant proportion of patients with chronic diseases such as diabetes mellitus and hypertension [1]. Nonethe-less, little evidence has been found to prove the effectiveness of these medications. Some studies have revealed side effects of herbal medicines, one of the most popular types of CAM [2, 3], and possible drug interactions may occur between CAMs and conventional medicines [4]. Therefore, it could be important for healthcare providers to know about the prevalence of CAM usage among their patients and possible factors that predispose patients to CAM use. Rheumatologic diseases are chronic autoimmune diseases with a wide range of signs and symptoms including morning stiffness, pain, and arthritis [5]. Because of the chronic and insidious nature of rheumatologic diseasesas well as the lack of definite and effective therapies for some of them, some patients might try to use complementary and alternative medications along with conventional medications without the prescription of their physician. This study was designed to evaluate the frequency of CAM usage and factors associated with CAM utilization in rheumatologic patients in Kermanshah, Iran.

Materials and Methods

This cross-sectional study was conducted in 2019 and included 500 patients with different rheumatologic and musculoskeletal disorders who attended the rheumatologic clinics of Kermanshah Medical University in Kermanshah, Iran. Patients were asked to complete a questionnaire, which included questions about age, gender, marital status, education level, if they have regular visits by rheumatologist, type of rheumatic or musculoskeletal disease, disease duration, if they use complementary and alternative medications and type of CAM, and source of information leading to CAM use. The collected demographic

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and clinical data was compared between patients who used complementary and alternative medications and those who did not.

The Clinical Research Ethics Committee of Kermanshah Medical University approved the present survey (approval number: IR.KUMS.REC.980510), and participating patients providedinformed written con-sent.This study was performed according to the prin-ciples of the Declaration of Helsinki.

Statistical analsis

Collected data was inserted in SPSS version 25. We reported quantitative variables (age and disease duration) by mean and standard deviation, and we used independent T-test to compare age and disease duration between the two groups. Qualitative variables (sex, marital status, education level, presence of regular visits by rheumatologist, type of rheumatic or musculoskeletal disease and type of complementary and alternative medication) were expressed as number and percentage, and the two patient groups were compared by Chi square test or Exact Fisher test. A P-value < 0.05 was considered statistically significant.

Results

We studied 500 patients (mean age: 46.28). Of these, 426 patients (85.2%) were female, and 430 patients (86%) were married. The mean disease du-ration was 7.19 years. A large majority of the patients (473 patients (94.6%)) claimed to have regular visits with their rheumatologist. We restricted education levels to four levels (uneducated, less than high school, high school complete, college or university). Less than high school was the most frequently re-ported level of education (170 (34%)), followed by high school complete 119 (23.8%). We found that 109 patients had used at least one type of complementary and alternative medications. Table 1 reports the age, gender, marital status, disease duration, presence of regular visits by rheumatologists and education levels of the patients and compares the information between patients who used complementary and alternative medicine and those who did not. No significant difference was observed for the compared data except for disease duration, which was longer in patients who used complementary and alternative medications. The most frequently observed type of disease was rheumatoid arthritis (164, 32.8%), followed by systemic lupus erythematosus (94, 18.8%), osteoarthritis (70, 14%) and spondyloarthropathies (57, 11.4%). Table 2 shows the number of different types of rheumatic and musculoskeletal diseases in the total population of the study, users of CAM, and patients who did not use CAM. A comparison the mentioned groups revealed no association between type of disease and CAM usage. Table 3 shows the different types and alternative

Table 1: Demographic and clinical characteristics of the patients reported as number (percent) or mean, SD and compared between the two groups (users and non-users of alternative and complementary medications).

Demographical and clinical variables	Total	Alternative & complementary medication users	Alternative & complementary medication non-users	P-value
Age (mean, SD)	46.28	47.01, 14.01	45.55, 13.88	0.33
Gender (N, %)				
Female	426 (85.2%)	91 (83.49%)	335 (85.68%)	0.68
Male	74 (14.8%)	18 (16.51%)	56 (14.32%)	
Marital status (N, %)				
Married	430 (86%)	98 (89.91%)	332 (84.91%)	0.24
Single	70 (14%)	11 (10.09%)	59 (15.08%)	
Disease duration (mean, SD)	7.19	8.32, 7.79	6.07, 5.53	**0.001**
Regular visits by rheumatologist (N, %)				
Yes	473 (94.6%)	102 (93.58%)	371 (94.88%)	0.77
No	27 (5.4%)	7 (6.42%)	20 (5.12%)	
Education level (N, %)				
Uneducated	103 (20.6)	22 (20.18)	81 (20.72)	0.99
Less than high school	170 (34)	35 (32.11)	135 (34.53)	0.72
High school complete	119 (23.8)	28 (25.69)	91 (23.27)	0.69
College or University	108 (21.6)	24 (22.02)	84 (21.48)	0.94

Table 2: Type of rheumatic diseases reported by number (percent) and compared between the two groups (users and non-users of alternative and complementary medications).

Type of disease	Total	Alternative & Complementary medication users	Alternative & Complementary medication non-users	P-value
Rheumatoid arthritis	164 (32.8)	40 (36.70)	124 (31.71)	0.38
Systemic Lupus Erythematosus	94 (18.8)	15 (13.76)	79 (20.20)	0.17
Osteoarthritis	70 (14)	18 (16.51)	52 (13.29)	0.48
Spondyloarthropathies	57 (11.4)	10 (9.17)	47 (12.02)	0.51
Ankylosing spondylitis	28 (5.6)	9 (8.26)	19 (4.86)	0.26
Systemic Sclerosis	27 (5.4)	6 (5.50)	21 (5.37)	0.85
Behcet disease	12 (2.4)	2 (1.83)	10 (2.56)	>0.99
vasculitis	11 (2.2)	1 (0.92)	10 (2.56)	0.47
Discopathy	5 (1)	1 (0.92)	4 (1.02)	>0.99
Polymyositis	4 (0.8)	0	4 (1.02)	0.58
Juvenile rheumatoid arthritis	4 (0.8)	1 (0.92)	3 (0.77)	>0.99
Other diseases *	24 (4.8)	6 (5.50)	18 (4.60)	0.89

*Other diseases include Sjogren's syndrome, Sarcoidosis, mixed connective tissue disorders, undifferentiated connective tissue disorders, polymyalgia rheumatic, anti-phospholipid syndrome, gout and other crystallopathies like CPPD. Each of these diseases included three or less than three patients so they were categorized as other diseases

cations used by the patients. The most popular type of CAM was herbal supplements, which was used by 63 of the 109 CAM users (42.67%). Bloodletting and cupping of was used by 43 patients (29.05%) of CAM users). Both yoga and meditation, and special dietary regimens were used by 11 patients (43%)

Table 3: Different types of alternative and Complementary medications used by the patients

Different types of alternative and Complementary medications	Number (Percent)
Herbal supplements	63 (42.67)
Bloodletting and Cupping	43 (29.05)
Yoga and Meditation	11 (7.43)
Special dietary regimens	11 (7.43)
Other	20 (13.51)

Table 4 presents data about the source of information for using CAM. Among participants, 45 (41.28%) claimed that friends and neighbors encouraged them to use CAM. Family members were the source of information for 30 patients (27.52%), and 18 patients (16.51) used CAM because of personal beliefs. Only 5 patients (4.59%) used CAM because of their physician's recommendation.

Table 4: Source of information for using alternative and complementary medications

Source of information	Number (Percent)
Friends and Neighbors	45 (41.28)
Family members	30 (27.52)
Personal belief	18 (16.51)
Stores selling alternative and complementary medications	11 (10.09)
Physicians	5 (4.59)

Discussion

This study investigated a total of 500 patients with different rheumatologic and musculoskeletal disorders. Among the participants, 109 patients claimed to have used at least one type of complementary and alternative medication, so the prevalence of CAM

usage was 21.8%, a figure lower than reported by most previous studies [6-20]. Differences in prevalence of CAM usage between our study and previous studies may be ex-plained by the availability of CAM modalities in different parts of the world. Some popular types of CAM, such as acupuncture, homeopathy and special kinds of herbal supplement, are not available or are presented by few centers and at high costs in Kermanshah, and still, they are not well recognized for most patients. Further-more, the definition of CAM differed among studies, leading to different prevalence rates of CAM usage. For example, in contrast to the current study, some previous surveys also considered vitamins and nutritional sup-plements as CAMs [6, 9, 17]. In the present study, the most frequently used CAMs were herbal supplements (42.67%), followed by blood-letting and cupping (29.05%). This result was consistent with a previous study from Turkey, which reported 54.5% usage of herbs in rheumatoid arthritis patients [6]. Dietary supplements and vitamins have been found to be the most common type of CAM in many previous studies [9, 12, 15, 19]. As mentioned, however,the cur-rent study did not consider these supplements as CAMs. Acupuncture was reported as the most frequently ap-plied CAM in previous articles from Korea and Israel [11, 18].

The present study compared demographic and clinical characteristics, including age, gender, marital status, disease duration, education level, and type of rheumatic disease, between patients who used CAM and those who did not. No significant differences were detected other than disease duration,which was longer in users of CAMs. Consistent with the current results, a previous study from Spain [9] included 800 rheumatologic pa-tients and reported osteoarthritis as the main disease, followed by rheumatoid arthritis. The authors found no significant difference inthe compared variables except for disease duration. A cross-sectional study on 438 rheumatoid arthritis patients in Saudi Arabia obtained the same results about a correlation between disease duration and CAM usage [8]. Other previous articles have shown different and distinct results about the risk factors of CAM utilization. A multi-centric analysis from Turkey [6] reported no difference for age, gender, marital status, educational level, and economic situa-tion. Female sex was recognized as a risk factor in many previous articles [7, 8, 11, 12, 13, 15]. A descriptive survey that studied 140 ankylosing spondylitis pa-tients revealed a higher rate of CAM usage in married and older patients [7], while a previous study from Sweden [13] investigated 200 rheumatologic patients attending outpatient clinics and found correlations between female sex and younger age and CAM usage. Acohort study on rheumatoid arthritis patients in Korea [11] included 2175 patients and found that female sex and depression were associated with higher rates of CAM utilization. A previous study from Israel [18] studied 350 patients with different rheumatologic conditions. The authors reported a higher rate of CAM usage in patients with advanced educations and a lower rate of CAM usage in rheumatoid arthritis patients compared to patients with other rheumatologic disease. In contrast, a cross-sectional survey from Shiraz, Iran [20], that enrolled 500 rheumatoid arthritis patients and 500 healthy controls revealed higher rates of herbal medi-cine usage in RA patients compared to the control group, and lower education level was a risk factor for herbal medicine usage.

The strength of the present study is the large number of patients that comprised the study population. Most pre-vious studies considered only one or two types of rheu-matologic diseases, while the current study included various types. Moreover, the current study compared various demographical and clinical factors between two groups to find the possible risk factors for CAM usage. The limitations to this study can be the unavailability of some popular and recognized types of CAM in Kermanshah.

Conclusion

The current results lead to the conclusion that the prevalence and possible risk factors of complementary and alternative medication usage in rheumatic patients differ from country to country and city to city, based on culture, beliefs, and the availability of CAM modalities. The prevalence of CAM usage is 21.8% in rheumatic patients in Kermanshah, Iran. Disease duration is a potential risk factor for CAM usage.

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Conflict of interest

The authors have no conflicts of interest.

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