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**BRIEF REPORT****PREVALENCE OF THE USE OF UNCONVENTIONAL REMEDIES FOR ARTHRITIS IN A METROPOLITAN COMMUNITY**

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Of 1,811 individuals sampled in a metropolitan community, 382 reported having a musculoskeletal complaint. Eighty-four percent of them had used an unconventional remedy within the previous 6 months. Most individuals used inexpensive, unharmed remedies such as exercise, prayer, and relaxation. This study indicates that people with musculoskeletal disorders often use unconventional remedies, but raises questions regarding the seriousness of this problem.

The use of unproven and unconventional remedies has been cited as a major public health and economic problem. In 1980, the national cost of unorthodox treatment usage was estimated to be 950 million dollars per year (1). The Arthritis Foundation estimated that nearly 2 billion dollars was spent on unproven remedies in 1982 (2), and the American Medical Association has estimated that the cost of unconventional remedies in all aspects of health care is 10 billion dollars annually.

Various studies have suggested that 90% of patients with arthritis use unconventional remedies (3,4). The number of subjects with arthritis using these remedies has been a cause for concern not only because of the economic impact of their use, but also

because of their potential for harm and the resultant delay in the use of appropriate health care measures. One study suggested that 83% of the general population support the use of bee venom as treatment, while 74% support the use of copper bracelets, and 54% support the use of DMSO (3). Another report stated that nearly half of the patients studied used diet to care for their arthritis and ~45% used copper bracelets (1). Because of the reported prevalence of unconventional remedy use, the Arthritis Foundation has created an Unproven Remedies Subcommittee of the Public Education Committee to monitor unusual and unorthodox therapeutic claims (5).

Although the concern about the use of unconventional and unproven remedies is justified, there are several problems with the currently available data. First, the majority of published studies used nonrandom samples, making an accurate estimate of the use of unconventional remedies in the community impossible. Second, most studies have asked whether patients ever used unconventional remedies, rather than focusing on current or recent use. For example, if a patient had used a copper bracelet for 1 week soon after diagnosis (perhaps many years ago), but had given it up as unhelpful, we probably would not consider this to be a serious health or economic problem. Studies that ask whether patients have ever used an unconventional remedy make the assumption that patients will continue to use these remedies and expend their resources on them and, therefore, may overestimate unconventional remedy use.

In the present study, we selected a random sample of people in the community, and those who reported having a musculoskeletal disorder were ques-

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tioned about their use of unconventional remedies in the previous 6 months.

### SUBJECTS AND METHODS

**Study population.** One thousand eight hundred eleven people in San Diego County were contacted by telephone. Of this sample, 382 individuals reported having a musculoskeletal complaint. Among those with a musculoskeletal complaint, 57% reported having arthritis, and 20% reported having either neck or back pain. The mean age of the participants was 52.2 years. Eighty-seven percent of the sample had finished high school, and 31% had a college degree or equivalent. The sample was composed of predominantly white (86%), married (53%) individuals. Although this sample appears to overrepresent white, well-educated individuals, it is not surprising, given the percentage of white individuals living in San Diego County (69.2%).

**Questionnaire.** The interview was based on a 90-item questionnaire that included the following: the type of musculoskeletal disorder, areas affected, severity (pain and disability) of the disorder, symptoms encountered in the past 6 months, and the types of both conventional and unconventional remedies used in the past 6 months. The questionnaire was pretested by interviews with arthritis patients and in preliminary telephone interviews to eliminate difficult or potentially ambiguous or troublesome questions.

**Interview procedure.** Random-digit dialing was used to contact the participants. Prefixes were selected in proportion to their known frequency of occurrence in the county. Using these prefixes, the last 4 digits were generated by a random number generator. When a business was contacted, it was excluded. When no one answered, the line was busy, or an answering machine was contacted, the number was called on 2 subsequent occasions. If, after 3 attempts, the interviewer was unable to contact the individual, no further attempts were made. Most initial calls were made during the evening; subsequent calls were also made during the morning and afternoon hours. Interviews were conducted by trained undergraduate psychology students. The interview was designed for use with an Apple II computer program, and data were recorded directly on diskettes.

Contacts who reported having 1 or more musculoskeletal disorders, and who agreed to participate, were interviewed. When the person contacted reported that another household member had a musculoskeletal disorder, an attempt was made to interview

that person instead of, or in addition to, the person originally contacted.

Participants were asked whether they had used any treatments not prescribed by a doctor in the previous 6 months. Some examples of these treatments were read to clarify the question. A list of 19 remedies was read, and the participant was asked whether each remedy used was not helpful, somewhat helpful, or very helpful. The remedies were divided into 4 categories. The dietary category was defined as the oral ingestion of foods, vitamins, or minerals. Cognitive/behavioral strategies were defined as changes in mental focus or behavior patterns that did not involve using medicines or devices. Examples of these include relaxation therapy, massage therapy, and prayer. Exotic, unconventional remedies were defined as remedies outside the array of methods typically endorsed by licensed health care providers. The fourth category ("other") included liniments, ointments, salves, or lotions, and copper bracelets or other jewelry.

### RESULTS

Eighty-four percent of the participants had used an unproven remedy in the previous 6 months. Table 1 presents the remedies included in the questionnaire, the number of people who answered each question, the percentage of people who used the remedies, and the percentage of users who rated these remedies to be very helpful. Commonly used remedies included prayer (44%), bed rest (33%), nonprescribed exercise or swimming (33%), relaxation (33%), and whirlpool or hot tub treatments (29%). Sixty-one percent of the people who used whirlpools or hot tubs reported that they were very helpful, and prayer was rated by 54% of the users as being very helpful.

Exotic remedies that have received attention as being dangerous or useless were used by a small proportion of the subjects. Only 2% of the participants reported using DMSO, and only 1 person reported using either WD-40 or injections of urine in the previous 6 months. Dietary remedies were used more often, but they were not perceived to be as efficacious as the behavioral/cognitive therapies. The behavioral/cognitive remedies were used most often and were perceived to be the most efficacious. Two percent of the participants had recently used copper bracelets or other jewelry, and 30% of those sampled had used liniments, ointments, salves, or lotions in the previous 6 months.

**Table 1.** Prevalence of unconventional remedies used by the study population

Type of unproven remedy	No. of respondents answering question	% using remedy in the previous 6 months	% of users who rated remedy as very helpful
<b>Dietary</b>			
Fish or cod liver oil	307	8	27
Alfalfa seeds or tablets	307	5	36
Vitamins	306	27	31
Herbs or seeds	307	5	47
Special diets or foods	306	9	39
Calcium	307	22	29
Zinc	307	6	21
Avoided certain food additives	306	9	38
<b>Behavioral/cognitive</b>			
Bed rest	305	33	45
Exercise or swimming (not prescribed)	304	33	53
Massage therapy or myotherapy	304	25	49
Prayer	304	44	54
Relaxation therapy	304	33	45
Whirlpool or hot tub	304	29	61
<b>Exotic</b>			
DMSO	305	2	50
WD-40	305	<1	100
Urine injections	304	<1	0
<b>Other</b>			
Copper bracelets or other jewelry	305	2	0
Liniments, ointments, salves, or lotions	304	30	38

### DISCUSSION

The results obtained from our random sample of the community suggest that most people with self-reported musculoskeletal complaints have recently used unconventional remedies. These data are consistent with previous results from US studies (1,6). Similar results have also been reported in the United Kingdom (7) and Australia (8). These data have led several authors to conclude that unconventional remedy use by patients with arthritis or other musculoskeletal conditions is a 1 billion-dollar problem (3).

Close inspection of our data suggests that the use of expensive unconventional remedies may be uncommon. Most patients reported using remedies that have little or no cost, such as prayer, exercise, and relaxation. Dietary changes and vitamin use are also commonly reported. More "exotic" unconventional remedies, including urine injections, DMSO, and WD-40, were rarely employed by our study population. Copper bracelets also were rarely used.

Other studies of the costs of using unconventional remedies have not confirmed the widely held belief that individuals devote large amounts of their personal resources to unconventional remedy use. When total expenditures on health care for patients with arthritis were examined, researchers found that

<1% of their health care costs were devoted to unconventional remedy use or to unorthodox providers (9). Similar data have been reported for cancer patients (10). In 1 study, only a small percentage of patients with metastatic cancer had used unconventional remedies or special diets. A recently completed study of minority subjects with musculoskeletal complaints also found a low frequency of use of dangerous, exotic, or expensive remedies (Bill-Harvey D. Rippey RM, Abeles M, Pfeiffer CA: unpublished observations).

One potential bias in studies of this type is that respondents may be hesitant to confess to acts that may be perceived as contrary to their physicians' wishes. We do not think that this is likely because the respondents were anonymous, and most of them reported using some nonprescribed treatment. Thus, the respondents appear to have been relatively uninhibited in discussing their use of unconventional remedies.

Another potential study bias is that the San Diego sample is disproportionately white and well educated. However, similar results have been obtained with urban-dwelling minorities (Bill-Harvey D. Rippey RM, Abeles M, Pfeiffer CA: unpublished observations). In addition, it is not certain that responses obtained in anonymous telephone surveys are com-

pletely truthful. In future work, we will evaluate the information that is collected using in-depth interviews.

One of our most intriguing findings is that commonly used cognitive/behavioral unconventional remedies show a greater perceived efficacy than do other unconventional remedies. A high proportion of the users believed that the remedies of prayer and exercise were very effective. In contrast, the dietary and exotic remedies did not show the same degree of perceived effectiveness. Most users did not perceive these remedies as effective. Perceived inefficacy of a remedy may lead to the discontinuation of its use. Although a larger number of patients may have used copper bracelets at one time, copper bracelet use is likely to be discontinued when it does not produce results. Thus, we would not expect long-term use of these remedies, and we would not expect patients to continue to devote their resources to obtaining them.

Use of unconventional remedies has been described as a widespread and costly problem for patients with arthritis and related musculoskeletal conditions. This study did not directly assess the subjects' expenditures for unconventional remedies, and more research is needed to determine whether there are serious economic consequences of using unconventional remedies. Since use of exotic remedies does not persist, expenditures may be lower than previously suggested.

Although the use of unconventional remedies may be widespread, our findings suggest that the most popular remedies are neither harmful nor expensive. It is possible that the high rates of unconventional remedy use may reflect an opportunity for physicians to be more thorough and creative in their management of arthritis. For example, in the behavioral/cognitive category, 33% of the respondents said that they had used bed rest and swimming or another form of exercise that had not been specifically prescribed, and >50% of the respondents indicated that this was *very* helpful. Thus, physicians may suggest that patients take advantage of low-cost, unharmed remedies that

others find helpful. Massage therapy was perceived by nearly half of the users to be very helpful, and relaxation therapy and whirlpool or hot tub treatments were perceived as very efficacious.

Although these approaches have not been shown to be efficacious in controlled clinical trials, many patients have received subjective benefits. In conclusion, rheumatologists may facilitate interactions with their patients by recognizing alternative or creative treatments like those used by the patients in the present study. The remedies perceived to be most efficacious may provide patients with a sense of control over their disease.

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#### Erratum

In the Letter to the Editor entitled "Cytokines and Immune Regulation in Patients with Fibrositis," which appeared on pages 1334-1335 of the October 1989 issue of *Arthritis and Rheumatism*, the authors' affiliations were identified incorrectly. Dr. Daniel J. Wallace is at Cedars-Sinai Medical Center in Los Angeles. Ralph L. Bowman, Susan B. Wormsley, and Dr. James B. Peter are at Specialty Laboratories, Inc. in Santa Monica. We regret the error.