

ORIGINAL RESEARCH

PHYSICIANS' ATTITUDES TOWARD COMPLEMENTARY AND ALTERNATIVE MEDICINE

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Background: To assess physicians' attitudes regarding the legitimacy of complementary and alternative medicine (CAM) in medical practice, as well as factors that affect referral or prescription of a complementary therapy.

Methods: Questionnaires were mailed to 380 physicians on staff at a local hospital in a mid-sized southeastern city in the United States; 138 were completed, for a 38% response rate.

Results: Physicians in practice for less than 10 years were significantly more likely to accept most CAM therapies as legitimate than those in practice greater than 10 years. Nearly two-thirds of the physicians surveyed (65%, $n = 88$) had prescribed or referred for at least one complementary therapy. More than one-third of the physicians (34.8%, $n = 48$) had personally utilized at least one of these therapies, and personal experience resulted in a higher level of acceptance of CAM as legitimate medical therapy.

Conclusions: It is likely that more positive attitudes regarding complementary therapies among more recently trained physicians is related to increased exposure during training and an increased awareness within the medical community of patient utilization of CAM. Despite a relatively positive attitude toward some CAM therapies, patients continue to use alternative medicine without notifying their primary care physicians. Unsupervised use of these therapies is potentially harmful and reflects a deficiency in the doctor-patient relationship. Open communication between physicians and their patients will continue to be hindered until physicians become knowledgeable in this area. (Int Med 1998;1:149-153) © 1999 Elsevier Science Inc.

Key Words: alternative medicine, physician attitude, physician utilization.

What is the state of the gap between patients' utilization of complementary and alternative medicine (CAM) and physicians' attitudes toward these therapies in the United States? Until recently, little was known about the prevalence of alternative medicine use in the US. In 1993, Eisenberg et al. [1] published a landmark study of unconventional medicine use in the *New England Journal of Medicine*, stunning many in the medical community. According to this study, Americans made an estimated 425 million visits to alternative healthcare providers in 1990, more than to all primary care physicians combined. Total amount spent on unconventional therapy was estimated at 13.7 billion, 10.3 billion of which was out of pocket. A more recent survey of family practice

patients in Oregon [2], and the attention unconventional medicine receives from the popular media indicate the public's appetite for alternatives to allopathic treatment has not waned since Eisenberg's data was collected in 1990.

Some proponents of alternative medicine claim these therapies are already considered mainstream within the healthcare system of the US [3]. The opening of the Office of Alternative Medicine in the National Institutes of Health in 1992, and the reimbursement by some third-party payers for selected alternative therapies are evidence of the integration of CAM. In addition, a sizeable number of US medical schools and residency training programs have started to offer instruction in a variety of CAM therapies [4,5]. However, the motivations behind these changes are diverse, and care must be taken not to confuse acceptance of the popularity of CAM with validation of its effectiveness.

Do physicians believe CAM therapies are useful or effective? A recent meta-analysis by Ernst et al. attempted to answer this question [6]. In general, physicians viewed com-

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plementary medicine as moderately effective, with younger physicians more optimistic about these therapies than their older counterparts. None of the 12 studies cited in this meta-analysis asked the views of American physicians. Two surveys of primary care physicians in the US found a high level of acceptance of less controversial complementary therapies such as diet and exercise, behavioral medicine, and biofeedback [7,8]. However, a more skeptical eye was cast upon such therapies as acupuncture, chiropractic, and homeopathy.

In our study, we surveyed physicians representing a broad variety of specialties in a mid-sized southeastern US city. The following issues were addressed: (1) physicians' attitudes toward complementary and alternative medicine, and (2) patterns of physician utilization of complementary and alternative medicine.

METHODS

The survey instrument was a questionnaire distributed to physicians representing a broad variety of specialties. The questionnaire was designed to assess the attitudes of physicians toward alternative therapies. Questions were asked concerning the respondents' opinions about the legitimacy of alternative therapies as medical treatments, patterns of prescribing alternative therapies for their patients, levels of personal utilization, and training in alternative medicine. The 17 alternative medicine therapies included in the questionnaire were:

1. Acupuncture,
2. Chiropractic,
3. Herbal medicine,
4. Hypnosis,
5. Homeopathic medicine,
6. Megavitamin therapy,
7. Massage,
8. Prayer,
9. Biofeedback,
10. Energy healing (e.g., therapeutic touch, psychic healing, sound therapy, reflexology, etc.),
11. Relaxation techniques (e.g., meditation, breathing exercises, etc.),
12. Imagery,
13. Spiritual healing,
14. Lifestyle diets (e.g. macrobiotics, vegetarian, allergy elimination, etc.),
15. Self-help groups,
16. Folk remedies, and
17. Lifestyle exercise (e.g. Tai Chi, Yoga, etc.).

Respondents were asked to rank the therapies on a 9-point Likert-type scale, from 1 (not legitimate) to 9 (very legitimate) for use in medical practice. A response of 5 was rated as somewhat legitimate.

Additionally, respondents were surveyed regarding the types of evidence they consider when utilizing a complementary therapy for their patients. They were asked to rate

the following areas on a 5-point Likert-type scale ranging from 1 (very important) to 5 (not at all important): proven mechanism, proposed mechanism, clinical trials, epidemiological data, published case studies, success in own practice, colleague recommendation, personal use, or patient report.

Demographic variables assessed included age, race, gender, medical specialty, geographic location of training, and years in practice. The number of years in practice was assessed separately from age, as there is not an absolute relationship between the two variables.

RESULTS

Questionnaires were mailed to 380 physicians. One hundred thirty-eight completed questionnaires were returned, for a 38% response rate. The respondents consisted of 108 men, 22 women, and 8 who did not state their sex. One hundred fifteen of the respondents were white, 5 were African-American, one was Asian, and 14 did not state their race. Ages ranged from 29 to 76 years, with the median age being 44 years. Nine respondents did not state their age. Slightly less than one-half of the respondents had been in practice for 10 years or less (45.7%, $n = 63$), whereas 54.3% had been in practice more than 10 years ($n = 75$). The greatest number of years in practice was 57 years. Thirty specialties were represented. However, for comparison, the specialties were collapsed into two categories: (1) primary care, which included family medicine, internal medicine, and general pediatrics; and (2) specialty care, which included all other areas of specialization. Under this grouping, 61 of the respondents were classified as being in primary care and 77 in specialty care.

Comparisons were made using the Pearson Chi-Square statistic. Significance levels were set at $p \leq .05$. East Tennessee State University Investigational Review Board (IRB) does not require informed consent for surveys.

Attitudes Toward Complementary and Alternative Therapies

More than 50% of the surveyed physicians viewed prayer, lifestyle exercise, self-help groups, and relaxation techniques as legitimate medical practice (see Table 1). Legitimate medical practice was defined as a ranking of 5 (somewhat legitimate) to 9 (very legitimate). More than 45% viewed massage, lifestyle diets, and biofeedback as legitimate medical practice. Less than a third of the surveyed physicians had favorable opinions about chiropractic and acupuncture. The remainder of the CAM therapies were considered legitimate medical practice by 25% or fewer of the respondents.

A statistically significant degree of greater acceptance of CAM therapies was noted among those physicians who had been in practice less than 10 years (Table 1). All 17 CAM therapies had a higher level of acceptance among more recently trained physicians, with statistical signifi-

Table 1. Percentage of responding physicians ($n = 138$) considering various alternative medicines legitimate

Type of alternative medicine	Legitimate medical practice	In practice less than 10 years	In practice more than 10 years	<i>p</i>
Prayer	64.5	73.0	57.3	NS
Lifestyle exercise	60.9	71.4	52.0	$p = .020$
Self-help groups	56.5	61.9	52.0	NS
Relaxation techniques	52.9	66.7	41.3	$p = .003$
Biofeedback	49.3	58.7	41.3	$p = .042$
Lifestyle diets	47.8	57.1	40.0	$p = .045$
Massage therapy	45.7	57.1	36.0	$p = .013$
Chiropractic	30.4	38.1	24.0	$p = .073$
Acupuncture	29.7	41.3	20.0	$p = .006$
Spiritual healing	25.4	30.2	21.3	NS
Hypnosis	23.9	34.9	14.7	$p = .005$
Herbal medicine	19.6	27.0	13.3	$p = .044$
Homeopathic medicine	16.7	22.0	12.0	NS
Megavitamin therapy	13.0	15.9	10.7	NS
Folk remedies	9.4	14.3	5.3	$p = .073$
Energy healing	9.4	15.9	4.0	$p = .017$

NS, not significant.

Therapies are listed in order of acceptance as a legitimate medical practice.

cance seen in the difference of opinion for all therapies except prayer, self-help groups, spiritual healing, homeopathy, and megavitamin therapy. With regard to training in CAM, approximately one-fifth (19.7%, $n = 27$) of respondents had received training, and 29% ($n = 40$) expressed interest in receiving training in the area.

No significant difference in attitude toward CAM was noted between primary care physicians and specialists. Also, no differences were observed for age, race, or gender. However, our sample consisted primarily of white men, with a mean age of 44 years.

Patterns of Utilization of Complementary and Alternative Therapy

Responding physicians were asked if they had utilized an alternative therapy in their practice, with utilization defined as prescribing or referring patients for the therapies in question. Nearly two-thirds of the physicians surveyed (65%, $n = 88$) had utilized at least one complementary therapy. The most commonly utilized modalities are listed in Table 2. Only energy and spiritual healing are not represented. Most referrals were to nonphysician providers (62.3%); 17% referred patients to physicians, and 20.8% referred to both physicians and nonphysicians. The most common condition for referral was management of pain. Other conditions mentioned included migraine headaches, anxiety, stress, depression, and insomnia.

Personal use of CAM modalities was not uncommon, with 48 of the 138 respondents (34.8%) having tried at

least one alternative therapy. Those physicians who personally utilized alternative therapies were more likely than their colleagues to consider alternative therapies legitimate, but no significant difference was noted in their prescription or referral for unconventional therapies. No significant differences in prescribing or referring for CAM were noted for any other variable, including years in practice, prior training in CAM, age, race, or gender.

Table 2. Percentage of responding physicians ($n = 138$) who have prescribed alternative treatments for their patients

Type of alternative medicine	Prescribing physicians
Chiropractic	21.0
Biofeedback	16.7
Massage	13.8
Relaxation techniques	13.0
Acupuncture	10.9
Lifestyle exercise	10.9
Prayer	7.2
Self-help groups	7.2
Lifestyle diet	7.2
Megavitamin therapy	5.1
Herbal medicine	3.6
Imagery	2.2
Homeopathic medicine	1.4
Folk remedies	1.4
Hypnosis	0.7

Therapies are listed in descending order of prescribing by physicians. Energy healing and spiritual healing were not prescribed by any physicians.

Table 3. Evidentiary rules valued by responding physicians (n = 138) for CAM therapies (modal responses are reported)

Evidence	Less than 10 years in practice	More than 10 years in practice
Proven mechanism	1	1
Proposed mechanism	2	2
Clinical trials	1	1
Epidemiology	2	2
Case studies	2	2
Success in practice	2	2
Colleague recommendation	2	2
Personal use	2	3
Patient report	2	2

Scoring: 1 = very important; 5 = Not important at all.

There were no differences noted among physicians in the types of evidence they considered prior to referring or prescribing CAM. Table 3 lists the modal responses for those physicians in practice less than 10 years, and their more experienced colleagues.

DISCUSSION

Physician attitudes in this survey appear consistent with previous studies. A modest degree of usefulness was perceived for some of the unconventional therapies, which agrees with the conclusions of Ernst et al. [6]. A more positive attitude toward CAM was consistently noted among more recently trained physicians. Previous studies by Reilly and Perkin [9–11] support this finding. These surveys showed a greater degree of optimism about CAM therapies among trainees and medical students. It would appear that the higher degree of acceptance by more recently trained physicians in our study was not the result of demanding different standards of evidence. Furthermore, attitudes were not influenced by the age of the practitioner or specialization.

There has been a rapid development of medical school and training program education in CAM over the past several years [12]. Therefore, the positive attitude toward CAM in more recently trained physicians is possibly the result of increased exposure to unconventional healing methods. Fifty-six percent of more recently trained physicians reported having some training in CAM therapies compared with 44% of their counterparts; however, this difference did not reach statistical significance. Interestingly, although recently trained physicians were more optimistic about the usefulness of most of CAM, no significant differences were noted in prescribing or referring patterns. We have no data regarding reasons for not utilizing CAM therapies.

Our survey did find a relatively high rate of usage of CAM. More than 65% of the physicians surveyed had utilized some form of alternative therapy in their practices. We do not find this rate of utilization alarming. The empirical use of a therapy has traditionally preceded the documentation of its efficacy, as long as safety has been assured.

For example, few physicians would view the use of massage or relaxation techniques as an adjunct in the treatment of chronic pain or anxiety as harmful, but many may withhold judgment concerning their effectiveness. Additionally, it should be recognized that few of our current allopathic treatments have been proven efficacious through extensive clinical research [13].

Should CAM therapies, then, be held to a higher standard than their allopathic counterparts? Some of the therapies in question (e.g., homeopathy and energy medicine) have no recognized physiological basis for effectiveness, at least in our western culture. The absence of a recognized scientific foundation demands documentation of safety and some efficacy before widespread integration of individual therapies into mainstream medicine. Conversely, therapies such as biofeedback and relaxation techniques have demonstrated efficacy through clinical trials [14–16]. Unfortunately, it appears many physicians are not aware of the research that exists in this area. In our study population, approximately one-half of the physicians surveyed recognized biofeedback or relaxation techniques as legitimate medical practice, and less than 20% had prescribed these effective therapies for their patients.

For the purposes of this study, we adopted the definition of unconventional medicine used by Eisenberg [1]. This definition is based on what the typical physician or hospital in the US offers as medical practice. It has little to do with what has been proven effective or safe as a medical therapy. For example, relaxation techniques are considered CAM because few physicians are taught or practice them. However, an abundance of research supports their beneficial effects and use as medical therapy. Therefore, we suggest for future studies that the definition of unconventional medicine refer to therapies for which there is no recognized scientific basis and little or no evidence of efficacy.

Of concern is the fact that two-thirds to one-half of patients who utilize CAM do not share this information with their allopathic physicians [1,2]. Unsupervised use of CAM therapies is potentially harmful [17], and this lack of open communication reflects a deficiency in the doctor–patient relationship. Ignorance about CAM makes open discussion

with patients extremely difficult for physicians and contributes to the lack of communication. Physician awareness of alternative therapies has likely increased since Eisenberg's survey in 1990. However, our study found only 19.7% of surveyed physicians had received any training in CAM therapies, and only 29% expressed an interest in further training. In this age of consumerism and patient autonomy, physicians need to be conversant in the area of CAM to garner the trust of patients who are using these therapies. The importance of trust and communication in the doctor-patient relationship makes the physician's level of knowledge of CAM an important area for further research.

Limitations of this study include the small sample size as well as the single geographic location. Despite the locale and small sample size, the results obtained are similar to those reported in other studies. Demographically, the sample was composed predominantly of white males and therefore may not represent the attitudes and behaviors of all physicians. Selection bias is also a concern. Other authors have found that a high response rate was indicative of a more favorable view of alternative medicine [6]. Our response rate was only 38%, and, therefore, may not be representative of the attitude toward or the utilization of CAM by the average physician. In retrospect, we recognize that we did not define training in our survey. Therefore, in future studies, we suggest asking respondents if they have any significant knowledge of individual therapies as a marker of familiarity with CAM.

Although certainly incomplete, an extensive body of literature does exist in a number of areas of alternative medicine [18], and publication of peer-reviewed articles related to alternative medicine is growing at a rate of 12% a year. This degree of research is encouraging and should be continued. Additionally, the University of Arizona has established a postgraduate training program in CAM, and this program should provide a cadre of knowledgeable physicians who can provide leadership in this area. It is imperative that physicians educate themselves in the field of alternative medicine in order to give sound advice to, and fully participate with, patients in their treatment.

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