

# Physicians' Attitudes Toward Complementary Or Alternative Medicine: A Regional Survey

Brian M. Berman, MD, B. Krishna Singh, PhD, Lixing Lao, PhD, Betsy B. Singh, PhD, Kevin S. Ferentz, MD, and Susan M. Hartnoll

**Background:** A survey exploring attitudes toward complementary or alternative medicine was distributed to 295 family physicians in the Chesapeake region. Physicians were asked about their knowledge, usage of, and training in complementary therapies and what evidence they expected of complementary medicine to aid in accepting these therapies.

**Methods:** Questionnaires were distributed at three separate conferences of family physicians with 180 physicians responding.

**Results:** More than 70 to 90 percent of the physicians considered complementary medical therapies, such as diet and exercise, behavioral medicine, counseling and psychotherapy, and hypnotherapy, to be legitimate medical practices. A majority had referred patients to nonphysicians for these therapies or used some of them in their own practices. Homeopathy, Native American medicine, and traditional Oriental medicine were not favored as legitimate medical practice. Areas where physicians had the least amount of training were most likely to be considered as alternative medicine by them. Seventy percent of responding physicians expressed interest in training in multiple areas of alternative medicine. Additionally, there was a strong positive correlation between evidentiary rules physicians believed should apply to orthodox medicine and to alternative or complementary medicine.

**Conclusions:** Results of this survey show a high interest in alternative and complementary medicine by physicians. Some therapies are already being used by these physicians, and training is desired in most areas. (J Am Board Fam Pract 1995; 8:361-6.)

*Alternative and complementary* (sometimes even *unconventional*) medicine are terms currently used interchangeably to refer to a large range of therapies considered outside the domain of mainstream Western medicine. This global definition covers more than 150 different therapies with a wide diversity of philosophies and practices, ranging from traditional systems of medicine, such as Chinese herbs, acupuncture, and Ayurvedic medicine, to homeopathy, prayer, and biofeedback.

Interest among the public and the medical community in alternative or complementary forms of medical practice appears to have increased greatly in the United States in the past few years. In 1992 the National Institutes of

Health established an Office of Alternative Medicine aimed at facilitating investigation into this field. The office acknowledged that "treatments or diagnostic procedures which are considered unconventional today may gain acceptance and become conventional in the future."<sup>1</sup> A survey by Eisenberg and colleagues<sup>2</sup> in 1990 indicated that approximately one-third of the American population uses at least one form of alternative therapy. This trend is confirmed by other studies in the US<sup>3</sup> and is also evident in other countries in Europe, as well as in Australia.<sup>4-7</sup> Alternative medicine has even been called "one of the few growth industries in contemporary Britain."<sup>8</sup> Practitioners of alternative forms of medicine are becoming increasingly visible in many American cities, and an estimated \$13.7 billion a year is being spent for their services.<sup>2</sup> Similarly, in Britain in the 1980s the number of alternative practitioners was estimated to be growing at a rate 5.6 times greater than that of physicians, with approximately £250 million being spent per annum for their services.<sup>9</sup>

It is interesting to note that while patients today are generally better informed and versed in discussing medical issues, only 3 of 10 users of

Submitted, revised, 29 March 1995.

From the Department of Family Medicine, University of Maryland at Baltimore (BMB, LL, KSF), the Research and Statistical Consultation Services, Baltimore (BKS) the Department of Epidemiology and Preventive Medicine, University of Maryland at Baltimore (BBS), and the Behavioral Research Group, Baltimore (SMH). Address reprint requests to Brian M. Berman, MD, Division of Complementary Medicine, Department of Family Medicine, University of Maryland at Baltimore, Baltimore, MD 21210.

alternative therapies in the Eisenberg, et al. study informed their physicians of their alternative therapy use. In this exploratory survey we attempted to assess the reaction of primary care physicians in the Chesapeake region of the US to this growing trend, as well as their attitudes toward complementary medicine. The following issues were addressed: (1) What do physicians consider to be alternative or complementary medicine, and what are their attitudes toward it? (2) What is their training, level of usage in their own practice, and pattern of referral for alternative or complementary medicine to either other physicians or other health care practitioners? (3) What interest do family physicians have in receiving additional training and education in alternative or complementary medicine? What sort of training do they believe should be available to physicians? (4) What evidentiary rules should be used for alternative or complementary medicine as compared with orthodox medicine?

## Methods

A questionnaire was distributed to physicians from the Chesapeake region (which includes most of the State of Maryland, District of Columbia, and part of the Commonwealth of Virginia) at three separate conferences for family physicians.

The survey instrument followed the sequence of a questionnaire developed by Reilly<sup>10</sup> for a study on complementary medicine in Great Britain. Responses were elicited on knowledge, interest, and usage of alternative or complementary medicine by family physicians; physicians' referrals to other physicians or nonphysician practitioners for complementary medicine; and questions on whether physicians had any interest in receiving additional training in alternative or complementary medicine. The 18 alternative medicine therapies included in the questionnaire along with a space for "other" were: (1) diet and exercise, (2) megavitamin therapy, (3) vegetarianism, (4) acupuncture, (5) herbal medicine, (6) homeopathic medicine, (7) Native American medicine, (8) traditional Oriental medicine, (9) electromagnetic applications, (10) acupressure, (11) chiropractic, (12) massage therapy, (13) art therapy, (14) behavioral medicine, (15) biofeedback, (16) counseling or psychotherapy, (17) prayer, and (18) hypnotherapy.

Questions were also posed regarding what rules of scientific inquiry were considered impor-

tant for the acceptance of orthodox (i.e., traditional or conventional) treatments versus alternative or complementary therapies with nine specific forms of evidence offered: (1) proven mechanism, (2) proposed mechanism, (3) clinical trials, (4) epidemiologic data, (5) published case studies, (6) success in one's own practice, (7) colleague recommendation, (8) personal experience, and (9) patient reports. Response items ranged from unimportant to essential on a 6-point Likert-type scale.

## Results

In all, 295 physicians were given questionnaires; 180 returned completed questionnaires for a 61 percent completion rate. Eighty-two percent of the sample described themselves as internal medicine, family, and general practice physicians. Eighty percent of the respondents were men, and nearly two-thirds were less than 55 years old; the mean age of the sample was 42.8 years. Approximately one-third of the physicians had 10 or fewer years of experience, another one-third nearly 20 years, and the final one-third had more than 20 years of experience. The greatest number of years in practice was 50 years.

The results reported are primarily descriptive and are addressed by section in terms of questions raised earlier.

### *Attitudes toward Alternative or Complementary Medicine and Usage in Practice*

Respondents were asked to indicate their attitudes toward 18 alternative medicine therapies across three dimensions: legitimate medical practice, belongs outside medicine, and cannot say: I know very little about it. They were further asked to indicate whether they had used these therapies in their practices. More than 90 percent of physicians in this sample (Table 1) considered diet and exercise, behavioral medicine, biofeedback, and counseling or psychotherapy as legitimate medical practices. More than 50 percent of physicians considered acupuncture, massage therapy, and hypnotherapy as legitimate medical practices. In addition, diet and exercise have been used by about 97 percent of physicians in their practices.

At the same time, however, herbal medicine, homeopathic medicine, Native American medicine, traditional Oriental medicine, and electromagnetic applications were generally considered

**Table 1. Percentage of Responding Physicians (n = 176) Using Alternative Medicine and Considering Various Alternative Medicines Legitimate or Alternative.**

Type of Alternative Medicine	Legitimate Medical Practice	Have Used in Practice	Alternative Medicine
Counseling or psychotherapy	97.2	30.8	12.4
Biofeedback	92.5	53.8	18.4
Diet and exercise	92.1	96.6	12.1
Behavioral medicine	91.5	58.9	16.8
Hypnotherapy	73.7	30.8	30.6
Massage therapy	57.5	35.1	42.0
Acupuncture	55.9	13.5	48.9
Chiropractic	48.9	27.2	45.7
Vegetarianism	45.9	22.2	53.3
Art therapy	39.1	12.9	42.4
Acupressure	38.4	12.9	52.6
Prayer	32.8	30.8	53.4
Homeopathic medicine	26.9	5.3	62.2
Herbal medicine	22.6	6.9	67.7
Megavitamin	21.1	13.5	60.8
Traditional Oriental medicine	18.3	1.8	56.1
Electromagnetic applications	17.5	7.1	52.0
Native American medicine	16.9	3.5	60.1

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

to be legitimate medical practice by less than 27 percent of respondents. Consistently, these practice patterns had been least used by the responding physicians.

#### **Levels of Knowledge and Training in Alternative or Complementary Therapies**

Physicians surveyed recorded their level of expertise in the 18 alternative medical therapies and an open-ended category "other" by making one of three possible responses (have used, would consider using, or would not consider using). They indicated their level of training in the alternative therapies across four dimensions (none, some, a lot, and advanced).

As shown in Table 2, most of the responding physicians had had training in diet and exercise,

behavioral medicine, and counseling or psychotherapy. Approximately 70 percent of the responding physicians were interested in training in alternative medical practices except in Native American medicine and electromagnetic applications.

#### **Referrals for Alternative or Complementary Therapies**

Responding physicians were asked about referral patterns for the 18 alternative medicine therapies and any additional they had listed in the "other" category. They were further asked to indicate for each therapy whether these referrals were to another physician or to a nonphysician. Table 3 displays the referral patterns for complementary medicine to either physicians or nonphysicians. The responding physicians were willing to refer their patients more frequently for diet and exercise, chiropractic, biofeedback, and counseling or psychotherapy alternatives than for herbal medi-

**Table 2. Percentage of Responding Physicians (n = 176) with Training in and Knowledge of Alternative Medicine.**

Type of Alternative Medicine	Had Training	Have Knowledge	Interested in Training
Diet and exercise	91.3	96.4	92.5
Behavioral medicine	79.8	82.7	89.1
Biofeedback	67.2	82.8	89.1
Acupuncture	22.1	62.7	79.9
Hypnotherapy	39.8	59.9	79.2
Massage therapy	37.2	61.8	79.2
Megavitamin	22.8	48.2	78.7
Vegetarianism	39.2	57.3	77.0
Acupressure	16.3	33.6	74.7
Prayer	36.8	49.2	72.4
Herbal medicine	12.9	25.5	71.7
Art therapy	17.4	33.6	69.7
Counseling or psychotherapy	86.1	91.9	69.4
Traditional Oriental medicine	9.1	8.2	69.1
Homeopathic medicine	12.9	30.0	69.0
Chiropractic	26.3	67.3	68.4
Electromagnetic applications	14.7	21.8	60.0
Native American medicine	8.2	12.2	50.0

Note: Therapies are listed according to expressed degree of interest in training.

**Table 3. Percentage of Responding Physicians (n = 176) Referring to Other Practitioners by Type of Alternative Medicine.**

Type of Alternative Medicine	Referred to Physician	Referred to Nonphysician
Diet and exercise	12.4	70.6
Counseling or psychotherapy	60.1	68.1
Biofeedback	25.5	60.1
Chiropractic	6.5	56.2
Behavioral medicine	23.5	36.6
Massage therapy	6.5	35.3
Prayer	0.1	29.4
Acupuncture	22.9	26.8
Hypnotherapy	20.9	26.1
Acupressure	11.7	17.8
Vegetarianism	2.6	17.7
Art therapy	35.3	8.5
Electromagnetic applications	5.9	5.9
Homeopathic medicine	5.9	5.9
Herbal medicine	0.0	4.7
Traditional Oriental medicine	0.0	0.9
Megavitamin	3.3	4.6
Native American medicine	0.0	0.0

Note: Therapies are listed in descending order of referral to nonphysicians. A physician could have referred patients to physicians, as well as nonphysicians. Thus, the responses are not additive.

cine, traditional Oriental medicine, homeopathy, and electromagnetic applications.

#### **Evidentiary Rules for Conventional versus Alternative or Complementary Medicine**

Physicians were questioned on the type of evidence they would expect in order to consider using an orthodox treatment they had not previously used and likewise the type of evidence they would need to see for an alternative therapy. A 6-point Likert-type scale ranging from very unimportant (0) to very essential (5) was used for rating nine categories of evidence (Table 4) and an additional open-ended "other" category.

As shown in Table 4, the physicians in this survey require scientific evidence for alternative or complementary medicine to be similar to that for orthodox medicine. In each instance, the evidentiary rules were identical for both approaches in terms of modal responses, i.e., most frequently mentioned responses.

#### **Discussion**

The definition of what is alternative or complementary medicine is not clear or static. Often, it is defined in terms of exclusion, the British Medical Association loosely categorizing complementary medicine as "those forms of treatment which are not widely used by orthodox healthcare professions, and the skills of which are not taught as part of the undergraduate curriculum of orthodox and paramedical healthcare courses."<sup>11</sup> It becomes clear from the respondents to our survey that some therapies previously considered alternative are now viewed as part of mainstream medicine. In the case of diet and exercise, behavioral medicine, biofeedback, and counseling, more than 90 percent of respondents considered these to be legitimate medical practice, and in the case of hypnotherapy, more than 70 percent. More than one-half of the physicians also believed that acupuncture and massage therapy were legitimate medical practices and nearly 50 percent believed chiropractic to be legitimate.

The primary care physicians in this study also appear willing to refer patients for these therapies. More than 50 percent have referred to nonphysicians for counseling or psychotherapy and chiropractic, more than 60 percent for biofeedback, and more than 70 percent for diet and exercise. Similar results have been found in other surveys of family physicians. A study in Israel<sup>12</sup> reported that 42 percent of physician respondents had referred patients for alternative treatments; studies of general practitioners in Britain<sup>13,14</sup> indicated that between

**Table 4. Evidentiary Rules Valued by Responding Physicians (n = 176) for Orthodox and Alternative Medicines (Modal Responses).**

Evidence	Orthodox	Alternative
Proven mechanism	4	4
Proposed mechanism	3	4
Clinical trials	4	4
Epidemiologic data	4	4
Published case studies	4	4
Success in own practice	4	4
Colleague recommendation	4	4
Personal experience	4	4
Patient report	3	4

Scoring: 0 = very unimportant to 5 = very essential.



59 percent and 76 percent of physicians surveyed had referred patients for complementary therapies; and in a study of physicians in areas of Washington State, New Mexico, and Southern Israel,<sup>15</sup> 55 to 77 percent of physicians had referred patients in 1991 for alternative treatments.

It is interesting, in the case of our study, that the areas of alternative medicine that physicians are referring patients to are those, with the exception of chiropractic, in which most responding physicians claim to have received training. This finding would suggest that experience and training in a therapy, and not necessarily scientific evidence, play a major role in the responding physicians' acceptance of a therapy. In actuality, many commonly accepted conventional therapies are currently being used without the existence of a body of solid scientific knowledge to support their efficacy.<sup>16</sup> Although the opinions of the primary care physicians in this study are not necessarily representative of all physicians, in science and in medicine empirical observation has often not only preceded but also given rise to scientific enquiry. There is a lack of proven medical research in alternative medicine, but as a recent report on alternative medicine to the National Institutes of Health, Office of Alternative Medicine<sup>17</sup> suggests, a body of literature does exist in a number of areas of alternative medicine that, although insufficient and often of poor methodological quality, is promising and encouraging of further research. This research needs to be done.

Respondents also expressed a remarkable degree of interest for training in most of the therapies listed in this study. Similar interest has been shown by physicians in Great Britain, Israel, and New Zealand.<sup>10,12,18</sup> Research and education in alternative medicine will help physicians make sound clinical judgments about the appropriate use of alternative therapies. It will also help physicians give unbiased information to their patients about alternative medicine and help prevent patients from feeling reluctant to admit their use of alternative therapies. A challenge for educators is to determine the place of alternative medicine in medical curricula. Physicians in this survey are considering diet, lifestyle, and psychological interventions as legitimate medical practices, and yet these practices are not an important part of medical training.<sup>19</sup> Continuing medical education courses were most highly favored by the physi-

cians in this survey for training in complementary medicine, but perhaps the place of alternative medicine as part of both undergraduate and postgraduate medical education needs to be assessed.

One limitation of this study is the geographic confines in which the survey was distributed. Respondents were attendees of three conventions in the Chesapeake region. All physicians attending these meetings were encouraged to complete the survey; therefore, an attempt to tap the entire universe of conventioners was made. Nevertheless, only 61 percent complied. There could be some error secondary to the response pattern among the physicians, but we do not expect it to be systematic. A further attempt has been made to minimize the bias by not testing any parametric hypotheses and making any generalizations to primary care physicians at large; however, these findings appear consistent and are in conformance with findings from other nations, as cited earlier. The extent to which these findings will reflect a nationwide response needs to be explored.

While taking these limitations into account, a growing interest in and usage of alternative medicine both by the lay population and by physicians in their practice referral patterns is indicated by the findings of this and other studies. Given that this usage is occurring despite the lack of a substantial scientific basis for the various therapies, education about these therapies and research into their efficacy and safety, as well as development of clinical guidelines, would seem advisable.

---

This research was supported by a grant from the Laing Foundation and Thera Trust. We thank David T. Reilly, MRCP, Glasgow Homeopathic Hospital, Scotland, for his help in developing the questionnaire.

## References

1. Hyattsville, MD: US Department of Health and Human Services, National Institutes of Health, Office of Alternative Medicine. Press release, September 1992.
2. Eisenberg DM, Kessler RC, Foster C, Norlock FE, Calkins DR, Delbanco TL. Unconventional medicine in the United States. Prevalence, costs, and patterns of use. *N Engl J Med* 1993; 328:246-52.
3. Vecchio PC. Attitudes to alternative medicine by rheumatology outpatient attenders. *J Rheumatol* 1994; 21(1):145-7.
4. Fulder SJ, Munroe RE. Complementary medicine in the United Kingdom: patients, practitioners and consultations. *Lancet* 1985; 2:542-5.

5. Maddocks I. Alternative medicine. *Med J Aust* 1985; 142:547-51.
6. Ministry of Health and Environmental Protection. Alternative medicine in the Netherlands; summary of the report of the Commission for Alternative Systems of Medicine. Leidschendam, the Netherlands: Ministry of Health and Environmental Protection, 1981.
7. Himmel W, Schulte M, Kochen MM. Complementary medicine: are patients' expectations being met by their general practitioners? *Br J Gen Pract* 1993; 43(371):232-5.
8. Smith T. Alternative medicine. *BMJ* 1983;287: 307-8.
9. Murray J, Shepherd S. Alternative or additional medicine? A new dilemma for the doctor. *J R Coll Gen Pract* 1988; 38:511-4.
10. Reilly DT. Young doctors' views on alternative medicine. *BMJ* 1983; 287:337-9.
11. Morgan D, editor. Complementary medicine. New approaches to good practice. London: Oxford University Press, 1993.
12. Schachter L, Weingarten MA, Kahan EE. Attitudes of family physicians to nonconventional therapies. *Arch Fam Med* 1993; 2:1268-70.
13. Wharton R, Lewith G. Complementary medicine and the general practitioner. *BMJ* 1986; 292:1498-500.
14. Anderson E, Anderson P. General practitioners and alternative medicine. *J R Coll Gen Pract* 1987; 37:52-5.
15. Borkan J, Neher JO, Anson O, Smoker B. Referrals for alternative therapies. *J Fam Pract* 1994; 39: 545-50.
16. Smith R. Where is the wisdom . . . ? The poverty of medical evidence. *BMJ* 1991; 303:798-9.
17. Alternative medicine: expanding medical horizons. A report to the National Institutes of Health on alternative medical systems and practices in the United States. Bethesda, MD: National Institutes of Health, Office of Alternative Medicine (OAM), 1994. (NIH Publication 94-066.)
18. Hadley C. Complementary medicine and the general practitioner: a survey of practitioners in the Wellington area. *N Z Med J* 1988; 101:766-8.
19. Winick M. Report on nutrition education in United States medical schools. *Bull N Y Acad Med* 1989; 65:910-4.