Courses Involving Complementary and Alternative Medicine at US Medical Schools

Miriam S. Wetzel, PhD; David M. Eisenberg, MD; Ted J. Kaptchuk, OMD

Context.—With the public’s increasing use of complementary and alternative medicine, medical schools must consider the challenge of educating physicians about these therapies.

Objectives.—To document the prevalence, scope, and diversity of medical school education in complementary and alternative therapy topics and to obtain information about the organizational and academic features of these courses.

Design.—Mail survey and follow-up letter and telephone survey conducted in 1997-1998.

Participants.—Academic or curriculum deans and faculty at each of the 125 US medical schools.

Main Outcome Measures.—Courses taught at US medical schools and administrative and educational characteristics of these courses.

Results.—Replies were received from 117 (94%) of the 125 US medical schools. Of schools that replied, 75 (64%) reported offering elective courses in complementary or alternative medicine or including these topics in required courses. Of the 123 courses reported, 84 (68%) were stand-alone electives, 38 (31%) were part of required courses, and one (1%) was part of an elective. Thirty-eight courses (31%) were offered by departments of family practice and 14 (11%) by departments of medicine or internal medicine. Educational formats included lectures, practitioner lecture and/or demonstration, and patient presentations. Common topics included chiropractic, acupuncture, homeopathy, herbal therapies, and mind-body techniques.

Conclusions.—There is tremendous heterogeneity and diversity in content, format, and requirements among courses in complementary and alternative medicine at US medical schools.

AMONG THE MANY forces influencing the present health care environment is the rapid increase in the use of complementary and alternative medical therapies. We have known for several years that approximately 1 in 3 adults in the United States uses chiropractic, acupuncture, homeopathy, or one of many other treatment modalities. Reasons cited for the trend toward the use of alternative therapies include dissatisfaction with conventional health care that is perceived as ineffectual, too expensive, or too focused on curing disease rather than maintaining good health. Alternative therapies are often seen as less authoritarian and more congruent with patients’ values and beliefs about the meaning of health and illness. Medical educators increasingly realize that it is not a question of whether to address these issues in the education of future physicians but rather how to respond to this relentless challenge to evolve.

In 1997, the Group on Educational Affairs of the Association of American Medical Colleges (AAMC) announced the formation of the Special Interest Group in Alternative and Complementary Medicine. The Society of Teachers of Family Medicine and the American Public Health Association have also recently formed special interest groups around complementary and alternative therapies, and the Federation of State Medical Boards has urged the development of educational opportunities for licensees, consumers, and legislators in this area.

The American Medical Association (AMA) has recognized the need for medical schools to respond to the growing interest in alternative health care practices. A 1997 report on “Encouraging Medical Student Education in Complementary Health Care Practices” responded to a request for the AMA to “study the development of a model elective curriculum for increasing awareness of the prevalence and potential impact of various complementary/alternative health care practices on patients’ health” by concluding that “medical schools should be free to design their own required or elective experience related to alternative/complementary health care practices.”

Results of the 1996-1997 and 1997-1998 Annual Medical School Questionnaire Part II distributed by the Liaison Committee on Medical Education indicate a notable increase in instruction in “alternative medicine.” Although no medical school reported offering a separate required course in complementary health care practices, medical schools covering these areas as part of a required course increased to 63 (from 46 in 1996-1997) and medical schools offering a separate elective course increased to 54 (from 47 in 1996-1997). In the 1996-1997 academic year, 34 medical schools offered instruction as part of an elective course, and 28 offered other educational experiences.

The purposes of our study were to document the prevalence, scope, and diversity of medical school education in complementary and alternative medicine topics and to compile information about the organizational and academic features of these courses.

METHODS

In January 1997, we sent a mail survey to all 125 US medical schools listed in the Directory of American Medical Education. A 1-page letter stated that the survey intended to document the scope and diversity of medical school education in complementary and alternative medicine, defined as treatment modalities not traditionally taught in Western medical

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Schools with both stand-alone courses and topics as part of a required course 17 (23)
Schools reporting 1 course 47 (63)
Schools reporting ≥2 courses 28 (37)

Total number of courses reported 123 (100)
Complementary and alternative medicine topics as stand-alone courses 84 (68)
Complementary and alternative medicine topics as part of required courses 38 (31)
Complementary and alternative medicine topics as part of elective courses 1 (≤1)
Predominant departmental affiliations 123 (100)
Family practice/community medicine 38 (31)
Medicine/internal medicine 14 (11)
Psychiatry 4 (3)
Office of medical education/dean’s office 11 (9)
Affiliated institutes or centers 9 (7)
Humanities/medical humanities 5 (4)
Interdepartmental/integrated 5 (4)
Other 21 (17)
No departmental affiliation 16 (13)
Academic credit provided 123 (100)
Yes 97 (79)
No 8 (7)
Not reported 18 (15)

Table 2.—Educational Format and Teaching Methods of US Medical School Courses Devoted to Complementary and Alternative Medicine, 1997-1998 Survey

<table>
<thead>
<tr>
<th>Course Characteristics</th>
<th>No. (%)</th>
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<tbody>
<tr>
<td>Predominant course format</td>
<td>65 (100)</td>
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<tr>
<td>Faculty lecture</td>
<td>41 (63)</td>
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<tr>
<td>Seminar</td>
<td>40 (62)</td>
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<td>Practitioner lecture/demonstration</td>
<td>50 (77)</td>
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<td>Lecture</td>
<td>46 (71)</td>
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<td>Discussion</td>
<td>57 (88)</td>
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<td>Case studies</td>
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<td>Academic requirements</td>
<td>61 (100)</td>
</tr>
<tr>
<td>Required readings</td>
<td>45 (74)</td>
</tr>
<tr>
<td>Paper or project</td>
<td>34 (56)</td>
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<tr>
<td>Examination</td>
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*Total number of schools reporting equals 56.

RESULTS

We received replies from 117 (94%) of the 125 US medical schools contacted. Of the 117 schools responding, 75 (64%) reported offering 1 or more courses in complementary and alternative medicine or including these topics in required courses (Table 1). The majority, 47 (63%) of 75 schools, offered a single course and 28 (37%) offered 2 or more courses. A total of 123 courses was reported. Twenty-nine courses of more than 100 hours. Of these, 5 schools were characterized as having clerkships or rotations: University of Florida College of Medicine, Gainesville; Georgetown University School of Medicine, Washington, DC; Jefferson Medical College of Thomas Jefferson University, Philadelphia, Pa; Marshall University School of Medicine, Huntington, WV; and the University of New Mexico School of Medicine, Albuquerque. The remaining 4 with longer courses—the University of Cincinnati College of Medicine, Cincinnati, Ohio; Cornell University Medical College, New York, NY; Johns Hopkins University School of Medicine, Baltimore, Md; and the University of Maryland School of Medicine, Baltimore—were listed as having 3- or 4-week electives with up to 6 or 7 hours of class per day. Other typical configurations of complementary and alternative medicine courses were 1 or 2 hours per week for 10, 12, or 15 weeks. Hours devoted to complementary and alternative medicine topics in required courses ranged from 2 to 10, with an average of 4.5 hours.

Portions of schools with both stand-alone courses and topics as part of a required course 17 (23)
Schools reporting 1 course 47 (63)
Schools reporting ≥2 courses 28 (37)

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versities or medical schools, such as the Institute for the Study of Health and Illness, which sponsors a course offered by the University of California, San Francisco, School of Medicine; the Center for Spirituality and Healing at the University of Minnesota, Minneapolis; and the Center for Mind-Body Medicine, affiliated with Georgetown University. Five schools listed the sponsoring department as interdisciplinary, integrated, or interdepartmental. Other courses are affiliated with a wide variety of departments, ranging from pathology to the office of the university chaplain.

Sixty-two (91%) of the 68 schools that reported on academic credit awarded credit to students taking 97 complementary and alternative medicine courses. Eight were noncredit courses and 7 schools (9%) did not provide this information for an additional 18 courses. The average number of students per elective course was 16, ranging from 5 students or fewer in clinical electives to 40 or more students in several well-established courses. The majority of courses listed were offered to medical students only. In a few interdisciplinary courses, such as nursing, pharmacology, or public health, other graduate or undergraduate students were eligible for enrollment and university credit. Course format and teaching methods are shown in Table 2.

The most frequently cited other educational features included visits to centers offering complementary and alternative medical therapies (n = 22) and observational or preceptorial experiences with providers of these treatments (n = 5). Among the unique formats offered was a culture, communication, and health day at Allegheny University School of Medicine, Philadelphia, Pa. This feature was included in a required second-year course in community and preventive medicine. Students in groups of approximately 20 met and interviewed 2 consumers of a variety of cultural or religious health belief systems not usually encountered in medical school courses. The student complementary and alternative medicine interest groups at University of California, Davis, School of Medicine and Stanford University School of Medicine, Stanford, Calif, organized a yearly seminar series with lectures and discussions on a broad range of topics.

Several unique teaching methods were reported in addition to the predominant lectures, discussions, and case studies. At the University of Mississippi School of Medicine, Jackson, a 3-hour seminar seminar was presented in a required course for 100 medical and 95 pharmacy students, which incorporated lecture and a mul-
tistation teaching exercise. Brown University School of Medicine, Providence, Rhode Island was the only school reporting the use of unendorsed patients for practice in interviewing about the use of complementary and alternative medicine. Course requirements varied greatly among the 61 schools reporting these details. Forty-five schools (74%) assigned required readings, and 34 (56%) required a paper or project. Of the 53 schools that provided this information, only 10 (19%) gave a final examination.

From the information provided, only a few courses could be determined to emphasize critical reading of existing research or epidemiological studies. Washington University, Medical School, St. Louis, Mo, lists “literature appraisal and discussion” among its major teaching goals, and the elective course in complementary medicine at the University of Maryland is “structured around a strongly evidence-based curriculum.” The course at Harvard Medical School, Boston, Mass, emphasizes critical reading of the literature and discussion of data from controlled trials relating to the efficacy and mechanisms of action for specific alternative therapies. As a final required project, each student designs and presents a detailed plan for a controlled clinical trial of a chosen alternative therapy.

A summary description of individual course titles, methods, and teaching formats obtained from the 117 responding medical schools is available on request from the authors.

COMMENT

Medical education is under constant pressure to evolve. Changes in the medical interview over the past few years mirror this evolution. Where once value-laden issues about human sexual behavior, resuscitation preferences, and domestic violence were considered taboo in the physician-patient dialogue, these topics are now mandatory as a part of responsible medical care. The rapid increase of public interest in and use of complementary and alternative therapies is likewise exerting a powerful influence on medical education.

In a study exploring the attitudes of 180 family physicians, Berman et al found that physicians had a high degree of interest in complementary and alternative medicine. Blumberg et al found similar results in 572 responses to a survey of primary care interns. More than half indicated that they would encourage patients who raise the possibility of complementary and alternative medicine, and 67% were willing to refer their patients for treatment of 6 or more complementary and alternative therapies.
Our survey also did not inquire about complementary and alternative medicine courses at the 19 US osteopathic medical schools. According to information from the American Association of Colleges of Osteopathic Medicine, such courses have been discussed, but data on courses on complementary and alternative medicine are not available (Lorrie Van Akkerson, oral communication, 1998).

The nature of the courses offered in a particular medical school frequently is determined by the interests and familiarity of the course directors and the availability of local practitioners willing to participate with lectures or demonstrations. Although this approach has made many courses possible where they would not otherwise exist, it tends to foster instability and lack of planned coherence in the curriculum.

Students have had an enormous influence on the development of complementary and alternative medicine courses. In addition to the University of Alabama School of Medicine, Birmingham, and University of California, Davis, student groups have been active at the University of Chicago Pritzker School of Medicine, Indianapolis; University of Chicago; University of Alabama at Tuscaloosa; University of California, San Francisco; University of Pennsylvania; and Tufts University School of Medicine, Boston. In addition to the University of Alabama School of Medicine, Birmingham, and University of California, Davis, student groups have been active at the University of Alabama at Tuscaloosa; University of California, San Francisco; University of Pennsylvania; and Tufts University School of Medicine, Boston.

As the discussion of incorporating complementary and alternative medicine topics appropriately into the medical curriculum evolves and becomes accepted among medical faculties and professional organizations, we offer several suggestions based on information gathered in our survey and our experience with 5 years of offering an elective course in complementary and alternative medicine.

1. Focus on critical thinking and critical reading of the literature. Accepted scientific rules of evidence must be applied to complementary and alternative medicine and will serve as a sound basis for decision-making concerning the recommendation of any intervention. Evidence-based strategies to distinguish useful from useless interventions can be a central theme.

2. Identify thematic content (ie, therapies and conditions to be formally addressed) and express the chosen topics in clear, concise learning objectives. An introductory course would likely include chiropractic, acupuncture, massage, herbal medicine, homeopathy, mind-body therapies, and placebo-related phenomenology as representative of the majority of complementary and alternative practices. Other topics can be added based on student or faculty interest. Physicians and educators can contribute to this discussion through the AAMC Special Interest Group.

3. Include an experiential component. Experiencing acupuncture or therapeutical massage or tasting a macrobiotic meal adds a dimension to the learning experience that a lecture or simple demonstration cannot. The deeper understanding that results should provide a better basis for responsibly advising patients.

4. Promote a willingness to communicate professionally with alternative health care clinicians. Invite clinicians of alternative therapies to share strategies for responsible consultation. Have students anticipate and develop strategies to address contradictory opinions and recommendations.

5. Teach students to talk to patients about alternative therapies. Introduction to clinical medicine or the patient-physician relationship should include opportunities to interact with real or standardized patients in role-play situations involving complementary and alternative medicine. Guidelines emphasizing safety and shared decision making exist for these exercises.

In conclusion, patients are increasingly seeking to identify a physician who is solidly grounded in conventional, orthodox medicine and is also knowledgeable about the value and limitations of alternative treatments. The discussion about how best to prepare future physicians for this role is only beginning. As with most newly defined challenges, this role is temporarily ill defined and multifaceted and requires refinement.

A profession physicians will increasingly be expected to responsibly advise patients who use, seek, or demand complementary and alternative therapies. We believe the development of a more consistent educational approach to this provocative area is essential.

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References


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