Teaching Residents About Complementary and Alternative Medicine in the United States

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Alternative medicine is one of the most visible and fastest growing areas of health care. It is well documented that patients are actively seeking and using a wide variety of alternative medicine therapies.[1] At the same time, many primary care providers remain unaware of and often extremely resistant to the burgeoning information from these disciplines. The shift toward greater respect for patients' health care choices coincides with the increasing responsibility of the primary care provider to regulate referrals to subspecialists and other health care providers. Appropriate training is necessary to foster comprehensive health care of patients.

In this paper, we argue that educational experiences in alternative medicine during residency training must be developed in order to improve residents' awareness and knowledge of alternative medicine and to foster cooperation and collaboration among disciplines. With the growth of complementary or alternative medicine therapies and patients' interest in them, we believe it is imperative that physicians become more familiar with these fields. We describe a complementary or alternative medicine curriculum within a general internal medicine residency program and provide brief reviews of acupuncture, chiropractic, and massage therapy.

OVERVIEW

Complementary or alternative medicine refers to practices that are not taught widely in medical schools, or available in most traditional medical settings, or generally reimbursable by health insurance carriers, and may not conform with the current standard practices in U.S. society. Other descriptors such as "unconventional" or "holistic" have been used as well. We chose the term "complementary/alternative medicine" (CAM) as the most well recognized.

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In a national study by Eisenberg et al. on the prevalence of the general public's use of alternative medicine, one in three respondents reported using at least one alternative therapy to treat a serious medical problem during the previous year.[1] Perhaps of even greater interest was the finding that 70% of the consumers who used alternative medicine chose not to inform their physicians. Eisenberg, a general internist at Harvard Medical School, extrapolated from survey data and estimated that Americans made approximately 425 million visits to providers of alternative medicine in 1990, which exceeded the number of visits made to all U.S. primary care physicians during the same period.[1] A telephone poll conducted in San Francisco in 1995 revealed that 40% of those polled used at least one CAM therapy in the previous year, and 90% were satisfied with the outcome.[2]

The explosion in patients' use of CAM results from a confluence of factors including increasing patient autonomy, society's changing view of health, and the growing recognition of traditional Western medicine's limitations. Those using CAM report a desire for a more holistic, personalized, and patient-centered approach with an emphasis on prevention and health promotion. They often have exhausted conventional therapies, finding them without benefit or fraught with too many risks and side effects. In addition, many patients have lost trust in the traditional medical system and are interested in including a more spiritual dimension in their care.[2]

Several large HMOs, including Oxford Health Plans, Kaiser Permanente, and Sharp, have begun to reimburse their patients for some alternative medicine services in their plans. Mutual of Omaha and other insurers have included Dr. Dean Ornish's program, which employs diet modification and lifestyle changes to reverse heart disease. Blue Cross of Alaska and Washington State started a plan called Alternapath in 1994, which allowed subscribers to pay a $170 supplement to receive services from a panel of CAM providers. In 1996, Washington State passed a law requiring insurers to pay for visits to all categories of health care providers licensed by the state including acupuncturists, naturopaths, etc. Blue Shield of San Francisco Bay offers "Lifepath"—discounted services with a panel of alternative medicine providers. Patient interest combined with reimbursable services heightens the need for primary care physicians to become familiar with alternative medicine so that they can make appropriate referrals and work collaboratively.[2]

The importance of CAM has been further recognized in the establishment of the Office of Alternative Medicine (OAM) in 1992 as part of the National Institutes of Health

(NIH). Recently renamed rhe Office of Complementary and Alternative Medicine (OCAM), it serves as a clearinghouse of information and encourages research in the field. The budget has increased steadily since 1992, reaching $11.1 million in 1997. With the goal of providing scientific evaluation of CAM, OCAM provides grants for basic science and clinical research as well as funding the development of centers for CAM research.

In addition to changes in the insurance industry and in federal funds available for research, CAM has had an increasing presence in undergraduate medical education. A 1995 review revealed that 27 U.S. medical schools offered courses on alternative medicine.[3] A 1997 poll of medical schools in the United States and Canada showed that number was up to 67 (E.F. Hughes, personal communication, Nov. 5, 1997). These courses vary in their scope and depth, with titles such as "Introduction to Alternative Medicine," "Medicine and Folklore," "The Healing Art," and "Chinese Qi Gong I and II." The course offered at Harvard Medical School is perhaps one of the most comprehensive and includes lectures, demonstrations, epidemiologic reviews, and discussions of cases involving patients who request alternative therapies. Dr. Andrew Weil at the University of Arizona now offers a postgraduate fellowship in integrative medicine.

A literature search conducted in October 1997 revealed that although undergraduate medical curricula continue to grow, no documentation of formal residency education in CAM has been published. In this article, we describe our curriculum and briefly review the three CAM fields included in the curriculum: acupuncture, chiropractic, and massage therapy.

CURRICULUM

The CAM curriculum is a recent addition to the general internal medicine residency program at Rhode Island Hospital and Brown University School of Medicine. The residency has trained physicians since 1980 and focuses on ambulatory medicine. It attracts trainees with a strong commitment to primary care and a patient-centered approach to medicine. The vast majority of its graduates choose positions in general internal medicine in full-time academia as well as clinical practice. The training program includes curricula in behavioral and psychosocial medicine, medical ethics, and health care utilization and systems.[4] The topics included in the behavioral medicine curriculum include advanced interviewing skills, the stages of adult development, psychosocial problems in medicine, and behavioral medicine—relaxation training, biofeedback, hypnosis, and behavioral counseling for lifestyle change.

The new CAM curriculum includes educational experiences in acupuncture, chiropractic, and massage therapy presented as didactic sessions and an elective clinical experience as part of the ambulatory block. The curriculum in alternative medicine developed as a result of two independent processes. One of the senior primary care residents with an interest in alternative medicine and a familiarity with the local resources piloted an outpatient clinical elective in alternative medicine as her senior scholarly project. Concurrently the behavioral medicine curriculum was being updated and expanded. Didactic sessions in alternative medicine were added to enhance the clinical elective and provide exposure to the topics for all residents including those not choosing the elective.

The factors that most influenced our selection of which alternative medicine disciplines to include in the curriculum were overall popularity and usage of the modality and access to interested and qualified practitioners. According to Eisenberg et al., acupuncture, chiropractic, massage therapy, and homeopathy are widely known and utilized.[1] These were the original four disciplines chosen for the course. The first three areas (acupuncture, chiropractic, and massage) remain part of the experiential elective. Homeopathy was dropped from the curriculum when the homeopathic practitioner declined further participation because he felt the involvement of medical residents was disruptive to the diagnostic and therapeutic approach of his discipline.

The CAM practitioners were selected on the basis of their degree of experience and licensure in their particular field, communication style, clinical practice arrangements (both in terms of practice layout and patient population), and openness to traditional medical practices. The practitioners ultimately chosen for the elective were leaders within their fields and had significant exposure to traditional medical practices. These experiences in traditional medicine fostered a shared vocabulary and excellent communication with the residents. The practitioners were also judged to have a willingness to assess their own discipline objectively (i.e., apply scientific, objective measures frequently used in traditional medicine), and the desire for traditional and alternative medicine to eventually work together in a comprehensive model.

After choosing the disciplines and practitioners to include in the curriculum, we established the goals and objectives for the curriculum, as follows:

- Summarize the state of knowledge and data about these areas of alternative medicine with an objective, critical review of the literature.
- Familiarize the residents with the risks, benefits, and clinical applications of these particular disciplines.
- Encourage the residents to explore their attitudes and feelings about these disciplines.
- Help the residents evaluate their role as primary care providers so that they will be better able to make appropriate referrals and answer their patients' questions.
- Provide the residents with first-hand exposure to the clinical practice settings in an elective.

Implicit in the above goals is the intent to familiarize the residents with the risks, benefits, and clinical applications of the particular CAM disciplines. Therefore, when their patients are seeking alternative medical care, the

primary care physician will know how to advise them—e.g., whom to see, for how long, and what to expect. In addition, the familiarity should serve to create a trusting environment between the primary care physician and the patient, making it more likely for patients to inform the physician of the alternative care they are receiving. Our goals intentionally omit development of applicable clinical skills in the different disciplines.

Lectures

The curriculum for all residents consists of three 2-hour lectures on acupuncture and Chinese medicine, chiropractic, and massage therapy. The general internal medicine residents attend all the lectures during their ambulatory block (7–10 residents per session). The content of the lectures on each discipline include: the history abroad and in the United States; theories and principles of practice; education system, credentialing, and licensure; clinical practice including diagnostic and treatment modalities; how clinical practice may vary and how to evaluate a practitioner for referral; health insurance coverage and cost; and efficacy and safety data. Although data for many areas of alternative medicine are sparse, our lecturers, with general internal medicine faculty in attendance, present the best studies that have been done for critical review and discussion. The didactic portion of the lectures is followed by case presentation, small group discussion, and demonstration.

Clinical Elective

The clinical elective is offered during the ambulatory block and consists of two half-day sessions in each of the three clinical sites. The clinical sessions include an orientation with the CAM practitioner, observation, and often participation in clinical practice.

The initial discussions are based on the prerotation attitudes toward, the knowledge of, exposure to, or experiences with the discipline. The information typically covered includes the basic theory and practice of that particular health care modality and the different approaches used by the therapist in evaluating and working with patients so the resident will have some idea of what to expect. Each resident accompanies the practitioner as he sees patients. Each patient's verbal consent is obtained before the resident enters the room. Attempts are made to vary the type of patients scheduled so that the residents experience a variety of clinical cases.

During the clinical sessions, residents are encouraged to interview patients on their medical history, what other health care modalities were considered and used, the process used in selecting this modality in their treatment plan, and results achieved.

The rotations conclude with an interview with the resident to answer any remaining or further questions on theory and application, the approach of the practitioner, and the results achieved during the observed sessions. Plans for future treatment sessions with the patients observed by the resident are also discussed. Residents also are given the opportunity to experience any of the treatment modalities themselves.

ACUPUNCTURE/CHINESE MEDICINE

With a history spanning more than 4,000 years, traditional Chinese medicine is the oldest primary health care system. Focused on prevention, Chinese medicine defines health as a balance between the opposing forces of Yin and Yang and the flow of the vital energy force known as Qi (pronounced "chee"). In health, Qi flows freely along meridians to all parts of the body, and conversely, disease results from an excess, deficiency, or stagnation of Qi. There is also a strong belief that physical and emotional aspects of health care are not only interrelated but inseparable. Diagnostic methods include careful patient observation of movement and speech, pulse and tongue, as well as abdominal and facial diagnosis. Treatment modalities include acupuncture with different needle techniques, moxibustion (burning an herbal compound at the end of the acupuncture needle), electroacupuncture, Chinese massage, and herbal remedies.

Although the concepts of Chinese medicine are quite unfamiliar to most physicians trained in the Western, more analytical model of medicine, acupuncture and other forms of Chinese medicine have been gaining use and acceptance in the United States. American interest in Chinese medicine was aroused in 1971 when *New York Times* correspondent James Reston was in China and wrote about the successful treatment of his postappendectomy pain with acupuncture and the extensive use of acupuncture anesthesia in China.[5]

Since the 1970s, the practice of acupuncture and traditional Chinese medicine in the United States has increased dramatically. An estimated 3,000 medical and osteopathic doctors use it in their practices, while more than 7,000 nonphysician practitioners use it exclusively. In 1993 the FDA estimated that between 9 million and 12 million such treatments were being performed annually.[6] There are more than 40 schools and colleges of acupuncture and Oriental medicine in the United States.[7] Although most states regulate the practice of acupuncture, many do not have rigorous requirements for licensure, and the majority allow medical doctors to practice acupuncture without any training.[7]

Much of the evidence for acupuncture's efficacy has been anecdotal or the result of relatively poor quality research. There is, however, a growing body of scientific literature, including randomized controlled trials, which provides evidence for the efficacy of acupuncture in treating chemotherapy-induced nausea,[8,9] asthma,[10] back pain,[11] arthritic pain,[12] dysmenorrhea,[13] migraine headaches,[14] and addictive disorders.[15]

In November 1997, NIH released a consensus statement with the conclusions reached during a conference on acupuncture sponsored by the NIH Offices of Alternative Medicine and Medical Applications of Research. The consensus panel concluded that there "is clear evidence that needle acupuncture treatment is effective for postoperative and chemotherapy nausea and vomiting, nausea of pregnancy and postoperative dental pain." In addition, it listed several other conditions (addiction, stroke rehabilitation, headache, dysmenorrhea, fibromyalgia, low back pain, and asthma) for which there was promising but less convincing evidence. Increasing coverage of acupuncture by insurance companies (e.g., Oxford, Kaiser Permanente, Sharp, Blue Cross of Alaska, Washington, and San Francisco) and its inclusion in many medical schools' curricula could reflect the shift toward greater acceptance of acupuncture in response to patient demand.

CHIROPRACTIC

Spinal manipulation as a technique for treating musculoskeletal pain has been documented as far back as ancient China and Greece. The profession of chiropractic was developed in 1895 by Daniel David Palmer in Davenport, Iowa. Chiropractic was founded on the principle that joint dysfunction and malalignment may play a significant role in health and disease; therefore, spinal manipulation can correct these problems and facilitate the return of health and equilibrium. Early in its history, the profession experienced a major split between two groups based on the basic ideology. While the "straight" chiropractors insisted on remaining true to the original theories proposed by Palmer, the "mixers" felt that it was more realistic to incorporate other theories of health and disease and teachings of the scientific community. This lack of uniformity within the field continues. Practitioners do not all agree on the role of chiropractors within health care. Practice styles differ widely as well. For example, while some chiropractors promote ongoing routine adjustments or "maintenance therapy" to maintain good health others view this as unnecessary.

There are over 20 million visits to chiropractors per year in the United States. With 50,000 chiropractors, the profession constitutes the third largest group of health care providers in the United States after physicians and dentists.[16] A study by Shekelle et al. showed that 40% of patients with acute low back pain use a chiropractor as their primary care provider for the condition.[17] Thirty-eight percent consulted a chiropractor first. Carey et al. showed that 25% of chronic low back pain sufferers consulted a chiropractor.[18] A study of more than 1,500 patients with acute low back pain reported that while outcomes and costs were equivalent for those cared for by chiropractors and orthopedists, patient satisfaction was higher for those seeing chiropractors.[19] Chiropractic is covered by most insurance carriers including Medicare.

There are 16 accredited colleges of chiropractic in the United States which offer a 4- or 5-year course of study including basic science instruction and clinical training. The National Board of Chiropractic Examiners administers a three-part licensing examination that all states require for licensure.

An expert panel assembled by the Rand Corporation critically reviewed the literature on the efficacy of spinal manipulation for back pain, neck pain, and headache. Although many of the studies had poor research design, the panel supported the use of spinal manipulation for acute low back pain and neck pain. The Rand panel also estimated that the risk of a major complication from spinal manipulations was 1.46 in 1 million manipulations.[20,21] Similarly, the U.S. Agency for Health Care Policy and Research (AHCPR),[22] and its British equivalent, the Clinical Standards Advisory Group (CSAG),[23] have both suggested that spinal manipulation is better documented as an effective treatment for acute mechanical low back pain than any other treatment save nonsteroidal anti-inflammatory drugs (NSAIDs). The AHCPR also emphasizes the need for early mobility and activity, which chiropractic has long recognized.

After a long history of antagonism between the medical community and chiropractic, there is evidence of increasing acceptance of this field. Many HMOs and multidisciplinary centers for back care have included chiropractors as part of the treatment team. In the general medical community skepticism remains, and most patients self-refer to chiropractors.[17]

MASSAGE THERAPY

Therapeutic massage has been used in models of health and wellness for thousands of years as documented in Oriental and Ayurvedic traditions, biblical references, and in the folklore of many populations.[7] Used in hospitals, medical offices, and sanitaria until the turn of the century, massage was often a first-line approach in the treatment of disease and dysfunction.[24] With the onset and emergence of the practice and profession of physical therapy and modern pharmaceuticals, the practice of massage in the Western medical model faded. It was reintroduced into the United States from Sweden by the Taylor brothers.[7] Since the early 1960s, the use of massage as a therapeutic modality has gained in popularity, and current research studies are supporting the efficacy of massage therapy.[25]

There is some evidence that massage therapy is effective in the management of pain,[26] inflammation,[27] subacute to acute soft tissue dysfunction,[28] and repetitive stress syndromes,[29] but there are few high-quality research studies on the effects of massage therapy in the United States. Most of the research done in the former USSR and East Germany remains untranslated. However, with the recent grants awarded by the NIH Office of Alternative Medicine, the American Massage Therapy Association Foundation, and the current series of pilot studies conducted at the Touch Therapy Institute of the University of Miami School of Medicine, significant studies are in progress.

The philosophy of massage therapy is based on several principles. The benefits of massage therapy are effected by enhancing the body's ability to go through the phases involved in restoration and normalization of anatomic and physiologic function and ability. Furthermore, psychological benefits occur subjectively and individually in response to massage therapy with secondary effects that influence sensation and pain perception. Therapeutic massage is often beneficial for patients receiving treatment for many medical conditions. The general effects of stress and pain reduction, increased circulation, and physical comfort can potentially complement most medical treatment modalities.

Massage therapy is increasingly becoming a major presence in CAM. Current estimates count 50,000 massage therapists in the United States, practicing 45 million hours of massage therapy per year.[7] In the Eisenberg study, massage therapy was found to be the third most utilized method of alternative health care.[1] The NIH Office of Alternative Medicine awarded massage therapy the largest block of grants given to any area in the field of alternative health care. In addition, a representative of the American Massage Therapy Association was invited to participate in a meeting at the White House between representatives of the alternative health care community and President Clinton's Task Force for Health Care Reform.

Massage therapy is an emerging profession, and licensure exists in only 24 states and the District of Columbia. Most states providing licensure require 500 hours of training from an accredited school. In both regulated and unregulated states, the scope of practice of massage therapists is not uniformly defined. Some states consider massage a health care modality; others consider massage a personal care service. Just as the regulations governing the practice of massage therapy vary widely, the scope of practice varies from therapist to therapist, depending on setting, training, and interest. Prior to the creation of the National Certification Board for Therapeutic Massage and Bodywork in 1992, there was no psychometrically based certification process for massage therapists. Since that time the Board has certified more than 20,000 therapists.[7]

DISCUSSION

To our knowledge, this is the first documented curriculum in CAM at the residency training level. Our experience suggests that general internal medicine faculty and alternative medicine health care practitioners can work well together in both the development and implementation of curriculum in at least these three areas. We are currently collecting evaluation data on the lectures and clinical experiences. The comments have been quite positive with extremely high ratings of the clinical teachers. The residents especially appreciate the exposure to clinical practices outside their usual residency setting. We have plans to expand the curriculum by adding sections on homeopathy, herbal medicine, and naturopathy.

The combination of didactic seminar and clinical elective has been a powerful approach. The residents first meet the CAM professionals and learn some of the principles and background of their field. They then approach the elective with an increased knowledge base. This facilitates a more open mind set when observing the professionals' practice and the patients' responses. We acknowledge the relative paucity of randomized controlled trials in many areas of alternative medicine, and are aware that even the definition of alternative therapies is not agreed upon (e.g., Is massage a therapy?). Nevertheless, we encourage the residents to critically evaluate the available literature and historical data. An objective and unbiased approach to alternative medicine is important so that physicians can communicate with patients in an open-minded and nonjudgmental manner. This alone will allow patients to express (and their providers to understand) their interest in and expectations for the alternative health care they are seeking.

It should be noted that our initial experience is not uniformly positive. A small minority of the residents remained resistant to learning more about these treatment modalities and expressed some doubt about the legitimacy of these disciplines. Interestingly, some of the residents ask for greater evidence-based information for alternative techniques than they sometimes request for accepted medical practices. Others dismiss alternative medicine out of hand.

At this time, we must recognize the use of CAM by our patients as well as its growing role within our current health care system.[1] Physicians' attitudes and knowledge are lagging in this area. While the field of CAM does not need to be universally embraced by medicine, its benefits and risks need to be understood. Physicians must take a leadership role and familiarize ourselves and our trainees with this growing area of health care. By providing physicians-in-training with exposure to CAM, we will not only prepare them for their role as primary care providers, but we will also be modeling a desire to learn more about which we know little.

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