SPECIAL ARTICLE

The Tower of Babel: Communication and Medicine

An Essay on Medical Education and Complementary-Alternative Medicine

Opher Caspi, MD; Iris R. Bell, MD, PhD; David Rychener, PhD; Tracy W. Gaudet, MD; Andrew T. Weil, MD

As society changes, medical education also must change.[1]

Complementary and alternative medicine (CAM) is constantly gaining in popularity.[2-6] Despite its widespread use, valid concerns have been raised regarding the integration of CAM into the health care system.[7] Certainly, the gap between allopathy and CAM is very substantive. It pertains to methodology and rigorous applications of scientific standards of evidence, among other issues, as well as to the meaning and context of illness and health. At present, it remains unclear (1) whether a true integration of conventional and unconventional therapies is even possible, (2) what this integration would look like, and (3) whether we are ready for the new era of medicine that would then result.[8-10]

The most commonly addressed aspects of CAM in the medical literature are its safety, efficacy, and legislation. These issues are discussed and presented in detail elsewhere.[11,12] However, what very may well be one of the most difficult obstacles in the implementation of a true health integration is unfortunately rarely addressed: the lack of a common language among CAM providers and allopathic physicians. In this article, we use the *Tower of Babel* as a metaphor to advocate dialogue as a way to bridge that gap between these 2 camps. In doing so, we stress the important role of medical education in developing appropriate communication skills among all health care providers. Despite the fact that we often herein refer to a deficiency in CAM training for allopathic students, we strongly believe that this development should be a perfectly symmetrical reciprocal process, ie, that the depth and breadth of the training of CAM practitioners should be such that they would be able to speak the biomedical language.

The ability to communicate is the foundation of medical practice. When communication with patients is impossible, treatment is far from ideal. The same holds true with regard to communication among health care providers. Today, competent physicians are expected to have a knowledge base that extends well beyond specific diseases and disorders pertaining to their medical fields. The importance of communication is not merely for the purpose of dialogue: it is an essential requirement for the optimizing of treatment. Interdisciplinary medical discourse is therefore the "bread and butter" of practicing medicine.

It is that belief in broad-based knowledge that concerns us most when it applies to CAM. The present relative scarcity of thorough exposure of allopathic medical students to the diversity of CAM therapies and their fundamental concepts[13] and of students of CAM to allopathy and its related sciences[14] is far from ideal. This scarcity may result in a lack of understanding of all health systems and may create a risky situation in which future practitioners, allopathic and CAM alike, may not be optimally able to discuss in depth all legitimate evidence-based treatment options with their patients.

For most allopathic physicians, a genuine understanding of the underlying concepts and practices of CAM, such as acupuncture and homeopathy, is almost beyond achievement.[15] This lack of understanding is not because physicians do not have the ability or willingness to un-

From the Program in Integrative Medicine, Departments of Medicine (Drs Caspi, Bell, Rychener, Gaudet, and Weil), Psychology (Drs Caspi and Bell), Psychiatry (Dr Bell), and Family and Community Medicine (Dr Weil), University of Arizona College of Medicine, Tucson.

derstand CAM, but because of a much simpler reason: the 2 domains do not speak the same language! The root of this discrepancy, in our viewpoint, is directly related to the entire process of medical education of both conventional and unconventional practitioners.

Studying pathophysiology, principles and applications of epidemiology, pharmacology, molecular biology, and other disciplines that are rich in concepts and methodology throughout medical training is basically possible because we as a profession have succeeded in creating a common language, one that scientifically makes sense. Like trainees in many other professions, allopathic medical students are required to learn both the "vocabulary" (ie, medical terms) and the "grammar" (ie, how to use these terms) of almost all biomedical disciplines. Indeed, going through medical school is very much about learning this new biomedical jargon. If we are taught only 1 set of vocabulary, communication is less rich and therefore at times less effective, and if we miss words, we often miss concepts.

How can we expect CAM and allopathy to be integrated when skilled practitioners in both camps are only partially familiar with the vocabulary and grammar of the other? What do we allopathic practitioners really know about *Qi* (the Chinese term for vital energy)? The widespread use of jargon that is peculiar to particular CAM practices can clearly act as an impediment to constructive dialogue.[16] We must admit that the majority of us know very little about the basic ideas of CAM.[17] Likewise, what do CAM providers really know about applied molecular biology? Not much, we suspect. In such a climate, communication between both schools of thought is almost impossible. Is this not a modern form of the Tower of Babel?

So, how can we overcome this language obstacle in our long march toward a full implementation of integrative medicine? The key answer, in our opinion, lies in the medical education paradigm. We believe that studying the "ABC language"[17] of the most common CAM disciplines in medical schools, along with the conventional curriculum, will help to educate a new generation of physicians with a better ability to communicate with CAM providers. Such an "integrative curriculum" is fully justified when the World Health Organization classifies 65% to 80% of the world's health care services as *alternative medicine*.[18] Indeed, in a recent survey, more than 80% of medical students in the United States and the United Kingdom stated that they would like to have more training in CAM practices.[19,20]

A 1997 American Medical Association report on "encouraging medical student education in complementary health care practice"[21] concluded that "medical schools should be free to design their own required or elective experience related to CAM." A 1997-1998 survey of 117 US medical schools[13] found that 64% offered an elective course in alternative medicine or included information about alternative medicine in a regular course. Topics included chiropractic, acupuncture, homeopathy, herbal therapies, and mind-body techniques. Sixty-eight percent of the courses were stand-alone courses, whereas 31% were part of a required course. In trying to develop a more consistent educational approach to CAM, Wetzel et al[13] made the following suggestions: (1) "Focus on critical thinking and critical reading of the literature"; (2) "Identify thematic content . . . "; (3) "Include an experiential component"; (4) "Promote a willingness to communicate professionally with alternative health care clinicians"; and (5) "Teach students to talk to patients about alternative therapies." We strongly agree; therefore, we believe that CAM education should not be regarded as an "optional dessert" but rather as part of the "main course." For us, the crucial question is not how many CAM modalities will be covered in such a course, but will future physicians practice a more human oriented healing? We believe that a trial to study the impact of changing medical education toward healing using an integrative curriculum is warranted before a wide-scale application will be merited. The Program in Integrative Medicine at the University of Arizona, Tucson (of which all authors are part), pioneers this approach, and its mission is changing medical education.[22]

Support of our proposition comes from the recently published "Suggested Curriculum Guidelines on Complementary and Alternative Medicine," developed by the Society of Teachers of Family Medicine Group on Alternative Medicine.[23] The guidelines, to be included in residency training, indicate the knowledge, skills, and attitudes that graduating residents should acquire to be able to function as unbiased advocates and advisors to patients about CAM. Using the authors' own words "to communicate effectively with patients about alternative therapies requires that our graduates have a reasonable knowledge base in this area."[23]

Providing medical students the fundamental concepts of CAM will hopefully contribute to our ability to communicate on 3 different levels. First, and most importantly, these concepts might help make physicians less biased, and therefore more able to objectively or effectively judge the appropriateness of CAM therapies. Second, the physicians will also be knowledgeable enough to impart the relevant information regarding different CAM modalities to their patients. Third, having been exposed to different models of medicine, they may serve as a pool of future researchers, educators, and open-minded skeptics for the vast body of research that is so vitally needed regarding CAM and integrative medicine.

The establishment of evidence-based CAM is highly dependent on the proper allocation of resources, in terms of professionals and funds, by the medical community. Opponents of integrative medicine usually discount CAM, citing a lack of scientific evidence.[24] We believe that the creation of a new generation of CAM-educated physicians, with the ability to speak the "CAM language," will give us an opportunity to investigate what is actually behind the scenes of these unconventional forms of treatment. We wish to see special CAM departments in conventional medical schools that will provide a rigorous atmosphere

wherein academic reward will be available, research facilities will be abundant, money to support such research will be duly allocated, and there will be no shortage of research expertise.[25,26] Once this goal is accomplished, safety and efficacy can be more thoroughly addressed. Assuming that reorganizing this dimension of medical schools will take much time, we are calling for the ad hoc establishment of interdisciplinary (including both conventional and unconventional practitioners) forums of dialogue that can serve as a bridge for continuous medical education for the benefit of both patients and health providers. Because more and more scientists realize that domains of knowledge, and their application, are virtually infinite, there is now a strong metascientific call for interdisciplinarity, one that crosses boundaries of disciplines and institutions. A genuine need for interdisciplinarity is hence not unique to medicine. (For further discussion of this intriguing concept, the reader is kindly referred to an excellent article by Bugliarello.[27])

The widespread use of CAM makes dealing with different aspects of the integration of CAM and conventional therapies not solely the interest of CAM practitioners, but rather in everybody's domain. Since patients who seek alternative medical treatments are not "alternative patients," they have the right to be treated according to the same ethics and standard of treatment[28] as those of conventional medicine. Unfortunately, even though at present we are far away from evidence-based complementary medicine, we must strive toward it.[29-33] The perceived lack of hard data regarding CAM greatly limits our ability to provide our patients with enough information to make informed decisions. As a result, there are many misconceptions about CAM, misconceptions that leave both physicians and patients with a high degree of uncertainty.[34] We truly do not know what the "gold standard" for care that applies to integrative approaches is. All we can do at present is to provide our patients with "informed skepticism."[35] Again, change in medical education seems a justified approach for improving our knowledge and practice.

A real breakthrough in CAM as a legitimate form of therapy can only occur when the 2 schools of thought learn a common language in which to communicate and consequently begin to truly collaborate. This new and unique dimension of the health care system, integrative medicine, can then bring current health care to new horizons.

Accepted for publication May 18, 2000.

Corresponding author: Opher Caspi, MD, Program in Integrative Medicine, Department of Medicine, College of Medicine, University of Arizona Health Sciences Center, PO Box 245153, Tucson, AZ 85724-5153 (e-mail: ocaspi@ahsc.arizona.edu).

REFERENCES

1. Wetzel MS, Eisenberg DM, Kaptchuk TJ. Courses involving complementary and alternative medicine at US medical schools [letter]. *JAMA.* 1999; 281:609-611.
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;328:246-252.
3. Fisher P, Ward A. Complementary medicine in Europe. *BMJ.* 1994;309:107-111.
4. MacLennan AH, Wilson DH, Taylor AW. Prevalence and cost of alternative medicine in Australia. *Lancet.* 1996;347:569-573.
5. Abbot NC, White AR, Ernst E. Complementary medicine. *Nature.* 1996;381:361.
6. Astin JA. Why patients use alternative medicine: results of a national study. *JAMA.* 1998;279:1548-1553.
7. Coates JR, Jobst KA. Integrated healthcare: a way forward for the next five years? a discussion document from the Prince of Wales's Initiative on Integrated Medicine. *J Altern Complement Med.* 1998;4:209-247.
8. Dalen EJ. "Conventional" and "unconventional" medicine: can they be integrated [editorial]? *Arch Intern Med.* 1998;158:2179-2181.
9. Anderson R. A case study in integrative medicine: alternative theories and the language of biomedicine. *J Altern Complement Med.* 1999;5:165-173.
10. Dacher ES. A personal response to "A case study in integrative medicine: alternative theories and the language of biomedicine." *J Altern Complement Med.* 1999;5:175-176.
11. Ernst E. The risks of acupuncture. *Int J Risk Safety Med.* 1995;6:179-186.
12. Vickers A, Cassileth B, Ernst E, et al. How should we research unconventional therapies? a panel report from the Conference on Complementary and Alternative Medicine Research Methodology, National Institutes of Health. *Int J Technol Assess Health Care.* 1997;13:111-121.
13. Wetzel MS, Eisenberg DM, Kaptchuk TJ. Courses involving complementary and alternative medicine at US medical schools. *JAMA.* 1998;280: 784-787.
14. Coulter I, Adams A, Coggan P, Wilkes M, Gonyea M. A comparative study of chiropractic and medical education. *Altern Ther Health Med.* 1998;4: 64-75.
15. Ernst E, Resch KL, White AR. Complementary medicine: what physicians think of it: a meta-analysis. *Arch Intern Med.* 1995;155:2405-2408.
16. Eskinazi D, Muehsam D. Factors that shape alternative medicine: the role of the alternative medicine research community. *Altern Ther Health Med.* 2000;6:49-53.
17. Zollman C, Vickers A. ABC of complementary medicine: what is complementary medicine? *BMJ.* 1999;319:693-696.
18. Jonas WB. Researching alternative medicine. *Nat Med.* 1997;3:824-827.
19. Halliday J, Taylor M, Jenkins A, Reilly D. Medical students and complementary medicine. *Complement Ther Med.* 1993;1(suppl):32-33.
20. Hopper I, Cohen M. Complementary therapies and the medical profession: a study of medical students' attitudes. *Altern Ther Health Med.* 1998;4: 68-73.
21. American Medical Association Council on Medical Education. *Encouraging Medical Students' Education in Complementary Health Care Practices.* Chicago, Ill: American Medical Association; June 1997.
22. Gaudet TW. Integrative medicine: the evolution of a new approach to medicine and to medical education. *Integr Med.* 1998;1:67-73.
23. Kligler B, Gordon A, Stuart M, Sierpina V. Suggested curriculum guidelines on complementary and alternative medicine: recommendations of the Society of Teachers of Family Medicine Group on Alternative Medicine. *Fam Med.* 1999;31:30-33.
24. Coulson J. Doctors need evidence on complementary medicine. *BMA News Review.* July 1995:16.
25. Horton R. Andrew Weil: working towards an integrated medicine. *Lancet.* 1997;350:1374.
26. Ernst E. The Department of Complementary Medicine at Exeter: the first three years. *Int J Altern Complement Med.* May 1997:9-12.
27. Burgliarello G. The interdisciplinarity imperative to create new knowledge and uses of knowledge across boundaries of disciplines and institutions. In: Roy R, ed. *Interdisciplinarity Revisited: Interactive Research and Education, Still an Elusive Goal in Academia.* Campbell, Calif: iUniverse.com Inc. In press.
28. Gillon R. Medical ethics: four principles plus attention to scope. *BMJ.* 1994;309:184-188.
29. Ernst E. Complementary medicine: scrutinizing the alternatives. *Lancet.* 1993;341:1626.
30. Van Haselen R, Fisher P. Evidence influencing British health authorities' decisions in purchasing complementary medicine [letter]. *JAMA.* 1998; 280:1564-1565.
31. Fontanarosa PB, Lundberg GD. Alternative medicine meets science [editorial]. *JAMA.* 1998;280: 1618-1619.
32. Margolin A, Avants SK, Kelber HD. Investigating alternative medicine therapies in randomized controlled trials. *JAMA.* 1998;280:1626-1628.
33. Ezzo J, Berman BM, Vickers AJ, Linde K. Complementary medicine and the Cochrane Collaboration. *JAMA.* 1998;280:1628-1630.
34. Ernst E. Complementary medicine: common misconceptions. *J R Soc Med.* 1995;88:244-247.
35. Eisenberg DM. Advising patients who seek alternative medical therapies. *Ann Intern Med.* 1997; 127:61-69.