

Making Whole: Applying the Principles of Integrative Medicine to Medical Education

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ABSTRACT

In the past few decades, the public's use of complementary and alternative medicine (CAM) has steadily increased. The term "integrative medicine" is often used to refer to the combination of CAM with conventional medicine. Many medical schools have incorporated didactic content on CAM and/or integrative medicine into their curricula. A frequently cited rationale for these course offerings is that medical students ought to be taught the basics of CAM in order to counsel patients on safe, effective therapeutic options. Schools have also offered these courses to meet the needs of students who are interested in incorporating CAM into future practices. In this article, the authors suggest that the core principles of integrative medicine – holistic worldview, centrality of the doctor-patient relationship, emphasis on wellness, and inclusiveness – are aligned with the goals of contemporary medical education and serve a critical function in the development of effective, humanistic physicians.

KEYWORDS: complementary alternative medicine, integrative medicine, medical education

INTRODUCTION

In the past decade, the public's use of complementary and alternative medicine (CAM) has steadily increased.¹ The National Center for Complementary and Integrative Health (NCCIH) was established to conduct scientific research on CAM, to train researchers, and to distribute authoritative information about CAM to health professionals and the public.² As part of this mission, NCCIH created an educational initiative entitled "Complementary and Alternative Medicine (CAM) Education Project Grant" whose central aim was to support the incorporation of CAM-related content into medical school curricula.³ The initiative's longer-term goal was to promote the integration of CAM and conventional medicine within an interdisciplinary healthcare system.³

The term "integrative medicine" is often used to refer to the combination of best practices from CAM and conventional medicine, but there continues to be a lively debate surrounding the definition of integrative medicine and its role in medical training.³ A recent study found that 66 out of 130 medical schools include CAM and/or integrative

medicine in their curricula.⁴ A frequently cited rationale for these course offerings is that medical students ought to be taught the basics of CAM in order to counsel patients on safe, effective therapeutic options.⁵ In addition, schools have offered these courses to meet the needs of students who are interested in incorporating CAM into their future practices. Given the public's and health professionals' growing interest in CAM, it makes sense to equip medical students with CAM-related knowledge and skills. However, the rationale for incorporating integrative medicine into medical curricula extends beyond these goals.

Bell et al. argue that integrative medicine is more than simply the combination of CAM with conventional medicine:

Integrative medicine is a comprehensive, primary care system that emphasizes wellness and healing of the whole person (bio–psycho–socio–spiritual dimensions) as major goals, above and beyond suppression of a specific somatic disease... [T]he patient and integrative practitioner are partners in the effort to develop and implement a comprehensive treatment plan for issues that extend far beyond the immediate chief complaint... Truly integrative medicine draws from conventional and alternative techniques to facilitate healing and to empower the patient because healing is believed to originate within the patient rather than from the physician.⁶

These core principles of integrative medicine – holistic worldview, centrality of the doctor-patient relationship, emphasis on wellness and healing, and inclusiveness – are aligned with the goals of contemporary medical education^{7,8} and are relevant to the training of all medical students, regardless of their interest in practicing CAM. This article describes how the principles of integrative medicine may serve a critical educational function in the development of effective, humanistic physicians.

Holistic Worldview

Although integrative medicine is a relatively modern field, its philosophical foundations are derived from traditional medical systems (e.g. traditional Chinese medicine, homeopathy, and Ayurvedic medicine), which treat the whole patient as an "intact, complex, dynamic system."⁶ Many CAM systems share an emphasis on "looking for patterns of dysfunction that manifest throughout the individual rather than isolated problems in separate bodily subsystems."⁶ A practitioner of traditional Chinese medicine (TCM), for example,

may search for symptoms (e.g. anxiety, sleeplessness), signs, (e.g. tongue appearance, cold limbs), and medical history (relationships, spiritual life) that a conventional physician might not consider when diagnosing patients with a chief complaint of stomach pain. Thus, the TCM practitioner may distinguish several patterns of disharmony – each treated differently – while the conventional physician may diagnose only one pathological mechanism (e.g. peptic ulcer disease).⁹

Because of their tendency to view human beings as complex systems that are more than the sum of their parts, TCM and other CAM systems are said to embrace a “holistic” worldview; that is, each medical problem (e.g. stomach pain) can only be understood in relation to the whole person.^{6,8} This worldview resonates with George Engel’s biopsychosocial model for medicine, in which he called for physicians to take into account not only the biology of disease, but also its psychological and societal consequences.¹⁰

Developed decades ago, the biopsychosocial model continues to shape medical practice and education today. The arts and humanities are increasingly being used in medical schools as a means for students to explore the human dimensions of illness.¹¹ For example, the field of narrative medicine aims to help physicians refocus on the patient’s story and appreciate the “singular, irreplicable, and incommensurable” aspects of the illness experience. “What... is *different* about this disease as it manifests itself in this particular patient? What...is unique about this patient as a host of this disease?”¹² These are common questions for integrative practitioners to ask as they formulate an individualized treatment plan. Introducing students to this holistic approach can help them become more cognizant of the biopsychosocial dimensions of medical practice.

Integrative medicine also provides students with a practical framework to fit together the various dimensions of patients’ lives. More importantly, this framework leaves room for patients’ individuality to be factored into diagnosis, assessment and treatment plans. Such patient-centered approaches have the potential to not only improve clinical outcomes, but also to build more effective, supportive doctor-patient relationships.

Centrality of Doctor-Patient Relationship

A central tenet of integrative medicine is that a healthy doctor-patient relationship is vital to the healing process. Integrative medicine envisions patients and doctors as equal partners in the medical decision-making and treatment process.^{6,8} This patient-centered approach is consistent with conventional medicine’s shift away from a paternalistic model of medicine towards one that is more collaborative.¹³

While it respects the power of conventional biomedicine, integrative medicine also attempts to facilitate the body’s own healing response. In this model, patients are expected to be active participants in their health because the source of healing is believed to come from within themselves. Thus, physicians should act not only as care providers, but also

as motivators and teachers who guide patients on healthy lifestyle practices.

Because physicians are expected to serve as effective role models, the concept of physician self-care is central to integrative medicine. This issue is especially relevant in light of recent physician suicides and mounting evidence of physicians’ poor health habits.¹⁴ Educators have long recognized that stress in medical school has detrimental effects on students’ health, and in recent years, there has been a growing movement to create student wellness programs.¹⁵ The CAM practices encompassed within integrative medicine offer a wide range of self-care tools (e.g. mind-body techniques, yoga, tai chi, and nutrition) that students can incorporate into personal wellness programs and later teach to future patients.

Recent changes to the health-care system have placed larger emphasis on behavior modification (e.g. smoking cessation, diet) as a form of intervention.⁸ Such changes will require meaningful patient-physician relationships, an area where integrative medicine has much to offer.

Emphasis on Wellness and Healing

In the 19th century, two French scientists – Pasteur and Béchamp – put forth competing theories about the nature of illness. Pasteur posited that external pathogens (“germs”) were the cause of all disease. Béchamp proposed that the internal terrain (“host”) was the most important factor in the pathogenic process and that pathogens only caused disease if the health of the host was compromised.

For decades, the worldview of conventional medicine was based on Pasteur’s germ theory of disease, driven in part by the success of antibiotics in fighting disease. However, in light of recent health reforms that emphasize prevention and wellness,¹⁶ the tide has shifted towards Béchamp’s approach, which focuses on the cultivation of a healthy terrain through lifestyle practices rather than on the elimination of pathogens. These changes have been most relevant in the management of chronic disease, such as heart disease and diabetes, but can also be extended to the field of oncology. Rather than focusing exclusively on the destruction of “germs” (i.e. tumor cells) through chemo-radiation and surgery, oncologists are now exploring immunotherapies, which optimize the internal terrain and stimulate the host’s own immune system to fight cancer.

This shift towards a more host-oriented approach aligns closely with the orientation of integrative medicine, whose view of health is consistent with the World Health Organization’s definition: “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.”¹⁷ Conventional medicine has traditionally focused on the latter half of the above definition. In contrast, many of the CAM systems have emphasized the cultivation of inner balance and harmony.⁹ Rather than treating a disease after it has already developed, a TCM practitioner will use acupuncture and herbs to correct imbalances and also prescribe individualized diets and lifestyle practices

to supplement a patient's constitutional vulnerabilities, preventing disease from occurring.⁹ With its vast arsenal of self-care resources, integrative medicine can prepare students for these recent healthcare changes that have placed a larger premium on prevention and wellness.

Inclusiveness

At its core, integrative medicine is an inclusive paradigm that rejects the notion of an "alternative" medicine by proposing that all safe and efficacious healing modalities have a place in the physician's toolkit. It asks practitioners to recognize the benefits and limitations of conventional medicine while being open to other evidence-based approaches that may be more effective for certain conditions. The inclusiveness and openness of the integrative model provides a useful context for developing two other important skills in medical education: cultural sensitivity and inter-professional teamwork.

Due to the ever-changing demographic patterns in the United States and the growing recognition of culture as a key factor in determining health outcomes, cultural competency is now widely considered a core competency in medical training.¹⁸ Beliefs about the causes and treatment of disease are strongly influenced by one's cultural and religious backgrounds. Differences in doctors' and patients' belief systems may result in conflict.¹² Because many CAM systems grew out of ancient traditions, exposure to integrative medicine practices can help students view health and illness through the lens of other cultures. It also promotes cultural humility by helping students realize that conventional medicine may not have all the solutions.⁷ Most importantly, the very existence of the integrative model serves as an important reminder that there is room within the medical paradigm for a diverse range of voices and perspectives.⁶⁻⁸

Cultural sensitivity and humility is also a crucial component of teamwork.¹⁹ Integrative medicine is inherently a collaborative field. The existence of various licensed professions within CAM presents unique opportunities for inter-professional education.¹⁹ By learning from different CAM practitioners, students can develop collaborative skills that are necessary to work effectively with other healthcare professionals.⁷

These types of inter-professional skills are becoming increasingly important as the healthcare system becomes more team-based and multi-disciplinary.¹⁶ The patient-centered medical home (PCMH), for example, is a coordinated, team-based model that has shown promise in improving clinical decision-making and health outcomes.²⁰ Integrative medicine, which shares many of the features of PCMH, can prepare students for these emerging healthcare trends.

SUMMARY

Over the years, conventional biomedicine has been responsible for various breakthroughs in medical care, from

antibiotics to organ transplants. Conventional medicine excels at taking apart complex systems and studying the individual components. Its strength, however, is also a potential weakness. The reductionistic approach of conventional medicine has produced a fragmented healthcare system, in which patients are shuffled from one specialist to another. Often times, medical care is directed at small pieces of the patient's problem, rather than the whole person.

Integrative medicine fights against this reductionistic tendency and provides a framework for putting the pieces back together. This paradigm challenges physicians to view patients as whole individuals and to weave the various dimensions of their lives into a holistic picture. This comprehensive approach engenders meaningful doctor-patient relationships and promotes wellness and healing. By recognizing that the whole is more than the sum of the parts, integrative medicine also embraces diversity and welcomes new perspectives, which is especially important in today's team-based healthcare system and culturally diverse landscape.

In short, integrative medicine embodies humanistic values that all physicians should possess. It should have a place in contemporary medical education. One of the central aims of medicine is to heal, which literally means "to make whole." This is the very essence of integrative medicine – to synthesize the disconnected fragments of a person, and a healthcare system, into a new, meaningful whole.

References

1. Barnes PM, Bloom B, Nahin RL. Complementary and alternative medicine use among adults and children: United States, 2007. *Natl Health Stat Report*. 2008;12:1-23.
2. 105-277. PL. Public Health Service Act: Subpart 5: National Center for Complementary and Alternative Medicine. SEC. 485D [287c-21] Purpose of the Center; Section C: Complement to Conventional Medicine.
3. Pearson NJ, Chesney MA. The CAM Education Program of the National Center for Complementary and Alternative Medicine: an overview. *Acad Med*. 2007;82(10):921-926.
4. Cowen VS, Cyr V. Complementary and alternative medicine in US medical schools. *Adv Med Educ Pract*. 2015;6:113-117.
5. Committee on the Use of Complementary Alternative Medicine by the American Public. Complementary and alternative medicine in the United States. Washington, DC: Institute of Medicine of the National Academies. National Academies Press; 2005.
6. Bell IR, Caspi O, Schwartz GE, et al. Integrative medicine and systemic outcomes research: issues in the emergence of a new model for primary health care. *Arch Intern Med*. 2002;162(2):133-140.
7. Kligler B, Maizes V, Schachter S, et al. Core competencies in integrative medicine for medical school curricula: a proposal. *Acad Med*. 2004;79(6):521-531.
8. Snyderman R, Weil AT. Integrative medicine: bringing medicine back to its roots. *Arch Intern Med*. 2002;162(4):395-397.
9. Kaptchuk TJ. *The web that has no weaver: understanding Chinese medicine*. Chicago, Ill: Contemporary Books; 2000.
10. Engel GL. The need for a new medical model: a challenge for biomedicine. *Science*. 1977;196(4286):129-136.
11. de la Croix A, Rose C, Wildig E, Willson S. Arts-based learning in medical education: the students' perspective. *Med Educ*. 2011;45(11):1090-1100.

12. Charon R. Narrative medicine honoring the stories of illness. 2006.
13. Emanuel EJ, Emanuel LL. Four models of the physician-patient relationship. *Jama*. 1992;267(16):2221-2226.
14. Wallace JE, Lemaire JB, Ghali WA. Physician wellness: a missing quality indicator. *Lancet*. 2009;374(9702):1714-1721.
15. Slavin SJ, Schindler DL, Chibnall JT. Medical student mental health 3.0: improving student wellness through curricular changes. *Acad Med*. 2014;89(4):573-577.
16. Greer AG, Clay M, Blue A, Evans CH, Garr D. The status of interprofessional education and interprofessional prevention education in academic health centers: a national baseline study. *Acad Med*. 2014;89(5):799-805.
17. World Health Organization. Definition of Health. <http://www.who.int/about/definition/en/print.html>. Accessed April 2, 2015.
18. Cultural Competence Education for Medical Students. Washington, DC: Association of American Medical Colleges; 2005.
19. Nedrow AR, Heitkemper M, Frenkel M, Mann D, Wayne P, Hughes E. Collaborations between allopathic and complementary and alternative medicine health professionals: four initiatives. *Acad Med*. 2007;82(10):962-966.
20. Wen J, Schulman KA. Can team-based care improve patient satisfaction? A systematic review of randomized controlled trials. *PLoS One*. 2014;9(7):e100603.

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