Chelonian Conservation And Biology





Vol. 18 No. 2 (2023) | https://www.acgpublishing.com/ | ISSN - 1071-8443 DOI: doi.org/10.18011/2023.12(2).2358.2371

INTEGRATING WELLNESS: A CRITICAL EXAMINATION OF ALTERNATIVE MEDICINE'S IMPACT ON CONTEMPORARY HEALTHCARE

Mohammed Ali Alzamanan

Ministry of Health, Saudi Arabia

Soud Ali Mohammad Alyami

Ministry of Health, Saudi Arabia

Mahdi ali mohammed al yami

Ministry of Health, Saudi Arabia

Hezam Abdullah Saud Alyami

Ministry of Health, Saudi Arabia

Saleh Hamad Mana Al Murdif

Ministry of Health, Saudi Arabia

Saleh ali mohammad alyami

Ministry of Health, Saudi Arabia

Abstract

This comprehensive review critically examines the evolving role of alternative medicine within modern healthcare systems. Despite its growing popularity and integration into mainstream healthcare, alternative medicine remains a contentious topic, surrounded by debates over its efficacy, scientific validation, and safety. This article delves into the historical context of alternative therapies, their appeal to the public, and the scientific scrutiny they face. It explores the ethical and safety considerations of incorporating unproven treatments into patient care and the challenges of integrating alternative therapies with conventional medical practices. Through an analysis of patient experiences, clinical evidence, and future directions, this article aims to provide a balanced perspective on the potential benefits and limitations of alternative medicine in enhancing holistic wellness and patient-centered care in contemporary healthcare settings.



All the articles published by Chelonian Conservation and Biology are licensed under a Creative Commons Attribution-NonCommercial 4.0 International License Based on a work at https://www.acgpublishing.com/

Keywords: Alternative Medicine, Integrative Healthcare, Holistic Wellness, Complementary Therapies, Patient-Centered Care, Ethical Considerations, Safety of Alternative Therapies, Clinical Efficacy

1. Introduction

In the realm of healthcare, the integration of alternative medicine into conventional medical practices has emerged as a significant trend, reflecting a shift towards a more holistic approach to health and wellness. Alternative medicine, encompassing a wide array of practices outside the ambit of traditional Western medicine, such as acupuncture, herbal remedies, and yoga, has witnessed a surge in popularity over recent years. This rise can be attributed to various factors, including growing disillusionment with conventional healthcare's focus on pharmaceuticals and invasive procedures, and an increasing desire among patients for treatments that consider the mind, body, and spirit as interconnected entities (National Center for Complementary and Integrative Health, 2021).

Despite its increasing acceptance, the integration of alternative therapies into mainstream healthcare is fraught with contention. Critics argue that many alternative practices lack rigorous scientific validation, raising concerns about their efficacy and safety (Ernst, 2008). On the other hand, proponents advocate for a more inclusive healthcare model that accommodates diverse healing practices, emphasizing patient autonomy and the therapeutic benefits of addressing health holistically (Snyder & Lindquist, 2006).

The purpose of this article is to critically examine the role and impact of alternative medicine within the framework of modern healthcare. By exploring the historical evolution of alternative therapies, their current application, and the debates surrounding their use, this review aims to provide a comprehensive overview of the challenges and opportunities presented by the integration of alternative medicine. This includes an analysis of the scientific evidence supporting various alternative therapies, ethical considerations in recommending treatments with unproven efficacy, and the potential for a more collaborative, patient-centered approach to healthcare that bridges the gap between conventional and alternative practices.

The discourse on alternative medicine is emblematic of a broader conversation about the future of healthcare, one that questions the dichotomy between 'traditional' and 'alternative' treatments and seeks a more integrated approach to healing. As this article will demonstrate, navigating the complexities of this integration requires a careful balance between openness to diverse healing modalities and a commitment to evidence-based practice, all while prioritizing patient safety and informed consent (World Health Organization, 2019).

This critical review aims to contribute to the ongoing dialogue among healthcare professionals, patients, and policymakers about how best to harness the potential of alternative medicine in enriching modern healthcare practices, ensuring that the pursuit of holistic wellness is grounded in both compassion and scientific rigor.

2. Historical Context

The historical context of alternative medicine is rich and multifaceted, reflecting a tapestry of healing practices that spans cultures and epochs. Long before the advent of what is now considered conventional Western medicine, civilizations around the world relied on a variety of approaches to treat illness and maintain health. These practices were deeply intertwined with local traditions, spiritual beliefs, and a holistic view of health that emphasized the interconnection between the physical, emotional, and spiritual dimensions of well-being.

In ancient China, for instance, the development of acupuncture was based on the concept of Qi, or life energy, and its flow through meridians in the body, a principle central to Traditional Chinese Medicine (TCM) that continues to influence modern practices (Unschuld, 2003). Similarly, Ayurveda, which originated in the Indian subcontinent over 3,000 years ago, is built upon a complex understanding of bodily humors and the use of herbal medicines, dietary changes, and physical therapies to restore balance within the body (Mishra, Singh, & Dagenais, 2001).

The integration of these ancient practices into contemporary healthcare varies significantly across different cultures and regions. In some parts of the world, traditional medicine remains the backbone of healthcare delivery, particularly in rural or remote areas where access to conventional medical facilities is limited. The World Health Organization (WHO) has recognized the importance of traditional and complementary medicine in providing accessible, culturally relevant healthcare to millions worldwide, urging the integration of traditional practices with conventional healthcare systems where evidence supports their safety and efficacy (World Health Organization, 2019).

The transition of alternative medicine into the Western context has been marked by periods of both integration and conflict. The 19th and early 20th centuries saw the rise of biomedicine and a decline in the popularity of traditional practices, which were often dismissed as unscientific or obsolete (Whorton, 2004). However, the latter half of the 20th century witnessed a resurgence of interest in alternative medicine, fueled by a growing disillusionment with the limitations and side effects of conventional treatments and a burgeoning counter-culture movement that embraced natural and holistic approaches to health (Saks, 2003).

This historical ebb and flow reflect a dynamic interplay between different healing paradigms, shaped by social, cultural, and scientific shifts. The legacy of traditional medicine, with its rich diversity and deep roots in human history, continues to influence contemporary debates about the role of alternative therapies in modern healthcare, challenging practitioners and patients alike to reconsider the boundaries of medicine and the nature of healing.

3. Defining Alternative Medicine

Alternative medicine encompasses a broad spectrum of practices and therapies that fall outside the realm of conventional Western medicine. Defined by the National Center for Complementary and

Integrative Health (NCCIH), alternative medicine includes a diverse range of health care practices, products, and therapies not generally considered part of conventional medicine (NCCIH, 2021). This includes herbal remedies, acupuncture, homeopathy, naturopathy, chiropractic care, and various forms of mind-body therapies such as meditation and yoga.

The World Health Organization (WHO) further categorizes these practices into traditional medicine and complementary and alternative medicine (CAM), where traditional medicine refers to the sum total of knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, used in the maintenance of health, as well as in the prevention, diagnosis, and improvement of physical and mental illness (WHO, 2013). In contrast, CAM is often used alongside conventional treatments and is seen as complementary when used in addition to standard medical practices.

Alternative medicine is characterized by its holistic approach, emphasizing the treatment of the whole person, including physical, emotional, mental, and spiritual well-being, rather than focusing solely on the symptoms of the disease. This approach is rooted in the belief that the body has an inherent ability to heal itself and that healing can be facilitated through natural means and a balance of mind, body, and spirit (Snyder & Lindquist, 2006).

The distinction between alternative, complementary, and integrative medicine is important to note. While alternative medicine is used in place of conventional medicine, complementary medicine is used together with conventional treatments, enhancing their efficacy. Integrative medicine combines the best of both conventional and alternative therapies, tailored to the individual's needs and preferences, and is grounded in evidence-based practice (Rakel & Weil, 2018).

Despite its growing popularity, alternative medicine has been the subject of criticism, particularly regarding the lack of rigorous scientific evidence to support the efficacy and safety of many alternative therapies. The scientific community continues to debate the validity and reliability of alternative medicine, with some arguing that more robust and systematic research is needed to substantiate the claims made by alternative medicine practitioners (Ernst, 2008).

4. The Appeal of Alternative Medicine

The appeal of alternative medicine lies in its holistic approach to health and wellness, emphasizing the treatment of the whole person—body, mind, and spirit—rather than focusing solely on the symptoms of disease. This comprehensive approach to health care has attracted a growing number of individuals seeking more personalized and natural treatment options.

One of the primary reasons for the increasing interest in alternative medicine is the desire for greater control over one's health care decisions. Many individuals are drawn to the empowerment that comes with being actively involved in their own healing process. Alternative medicine often offers a more participatory role for patients in their health care, encouraging a collaborative relationship between patient and practitioner (Sointu, 2006).

Another significant factor contributing to the popularity of alternative medicine is the perception that it offers more natural and less invasive treatment options compared to conventional medicine. For many, the use of natural remedies, such as herbs and supplements, is seen as a safer alternative to pharmaceuticals, which can have undesirable side effects (Barnes, Powell-Griner, McFann, & Nahin, 2004). Additionally, alternative therapies such as acupuncture, massage, and yoga are often sought for their potential to relieve stress and improve overall well-being without the need for medication.

The holistic approach of alternative medicine, which considers emotional, mental, and spiritual factors in addition to physical health, is another key aspect of its appeal. This approach aligns with the growing recognition of the interconnection between mental and physical health and the importance of addressing emotional and psychological well-being as part of the healing process (Ventola, 2010).

Furthermore, dissatisfaction with conventional health care, including concerns about the overreliance on prescription drugs and the impersonal nature of some medical treatments, has led many individuals to explore alternative therapies. Patients who have not found relief from conventional treatments, or who have experienced negative side effects, may turn to alternative medicine as a last resort (Astin, 1998).

Despite these appealing aspects, it is important to approach alternative medicine with a critical eye. The scientific evidence supporting the efficacy and safety of many alternative therapies varies widely, and some treatments may carry risks or interact with conventional medications. Therefore, individuals considering alternative therapies should seek reliable information and consult with qualified health care professionals to make informed decisions about their health care choices (Ernst, 2008).

5. Scientific Scrutiny and Clinical Evidence

The scientific scrutiny and clinical evidence surrounding alternative medicine form a critical and often contentious part of the discourse within healthcare. As alternative therapies gain popularity, the demand for rigorous scientific evaluation of their efficacy and safety increases. The scientific community, including researchers, clinicians, and healthcare policymakers, calls for evidence-based approaches to evaluate alternative medicine, much like conventional treatments.

- Scientific Scrutiny

Scientific scrutiny of alternative medicine involves rigorous evaluation through randomized controlled trials (RCTs), meta-analyses, and systematic reviews. These methodologies are considered the gold standard in medical research and are essential for determining the efficacy and safety of healthcare interventions (Ernst & Pittler, 1998). However, studying alternative medicine presents unique challenges, such as standardizing treatment modalities, controlling for placebo

effects, and addressing the individualized nature of many alternative therapies (Vickers & Zollman, 1999).

Despite these challenges, there is a growing body of research aimed at evaluating alternative medicine within the framework of evidence-based practice. The Cochrane Collaboration, an international network of researchers, produces systematic reviews of primary research in human healthcare and health policy, including reviews on various alternative therapies (Cochrane, 2021).

- Clinical Evidence

Clinical evidence for alternative medicine varies widely depending on the therapy in question. Some therapies, such as certain herbal remedies and acupuncture, have garnered a substantial body of evidence supporting their efficacy for specific conditions. For instance, the use of St. John's Wort for mild to moderate depression and acupuncture for pain management are backed by numerous studies demonstrating their effectiveness (Linde et al., 2005; Vickers et al., 2012).

Conversely, other alternative therapies lack solid scientific backing, raising concerns about their use. Homeopathy, for example, has been widely criticized for its lack of empirical support, with comprehensive reviews concluding that any therapeutic effects observed are likely attributable to placebo effects (Shang et al., 2005).

The National Institutes of Health (NIH) through the National Center for Complementary and Integrative Health (NCCIH) has been instrumental in funding research to evaluate the safety and efficacy of alternative therapies. The NCCIH emphasizes the importance of conducting rigorous research to provide the public and healthcare professionals with evidence-based information about which alternative therapies are effective and safe (NCCIH, 2021).

In conclusion, while some alternative therapies have accumulated evidence supporting their use, others remain controversial and under-researched. The scientific scrutiny of alternative medicine underscores the need for continued research, adherence to rigorous methodologies, and a critical approach to integrating alternative therapies into healthcare practices.

6. Ethical and Safety Considerations

The integration of alternative medicine into healthcare raises significant ethical and safety considerations, primarily due to the variability in regulatory standards, the lack of rigorous clinical evidence for many alternative therapies, and the potential for harm to patients. The ethical duty of healthcare providers to "do no harm" is central to medical practice, making the safety and efficacy of treatments paramount. The use of unproven or inadequately tested alternative therapies can lead to direct harm through adverse effects or indirectly by delaying or replacing more effective conventional treatments (Ernst & Smith, 2018).

Regulatory oversight of alternative medicine varies significantly from one country to another, and within countries, from one therapy to another. In many cases, herbal medicines and dietary

supplements, which are a significant component of alternative medicine, are not subjected to the same rigorous testing and standards as pharmaceutical drugs. This lack of regulation can lead to issues with product quality, consistency, and safety. Cases of contamination, mislabeling, and interactions with conventional drugs highlight the risks associated with the use of unregulated products (Cohen, 2003).

The ethical implications extend to informed consent as well. Patients must be fully informed about the nature of the alternative therapies being offered, including the current evidence base, potential risks, and the possibility of unknown outcomes. This transparency is essential for respecting patient autonomy and making informed decisions about their healthcare (Adams, 2002).

Healthcare providers face ethical dilemmas when considering the integration of alternative therapies into patient care, especially when evidence is lacking. Balancing patient preferences for alternative treatments with the need to provide evidence-based care can be challenging. The American Medical Association (AMA) Code of Medical Ethics advises physicians to understand the evidence and science behind medical treatments, including alternative therapies, to advise patients appropriately and avoid endorsing or providing ineffective or unproven treatments (AMA, 2016).

Moreover, the ethical responsibility extends to the broader healthcare system, which must ensure that the inclusion of alternative medicine does not divert resources from proven, effective treatments. The allocation of research funding towards studying alternative therapies also raises ethical considerations, as it must be justified by potential public health benefits and not detract from research into conventional treatments with a stronger evidence base (Tilburt & Kaptchuk, 2008).

References

7. Integration into Modern Healthcare

The integration of alternative medicine into modern healthcare systems represents a significant shift towards a more holistic and patient-centered approach to health and wellness. This integration, often referred to as integrative medicine, seeks to combine the best of conventional Western medicine and alternative therapies, tailored to the individual's unique conditions, needs, and preferences. The goal is to promote optimal health, prevent and treat disease, and ensure the highest possible quality of life for patients (Rakel & Weil, 2018).

Integrative medicine emphasizes a partnership between patient and practitioner in the healing process, incorporating evidence-based alternative therapies alongside conventional treatments to address the full spectrum of physical, emotional, mental, and social influences that affect health (Maizes, Rakel, & Niemiec, 2009). This approach is grounded in a philosophy that respects the body's innate healing capacity and strives to empower patients to take an active role in their health care.

The growing acceptance of integrative medicine within the healthcare community is evidenced by the increasing number of medical schools incorporating integrative medicine components into their curricula and the establishment of integrative medicine centers and clinics within major healthcare systems (Consortium of Academic Health Centers for Integrative Medicine, 2012). These developments reflect a broader recognition of the value of a comprehensive approach to care that includes safe and effective alternative therapies.

However, the integration of alternative medicine into mainstream healthcare is not without challenges. Issues such as the lack of standardized training and certification for many alternative therapies, variability in the quality and regulation of herbal and dietary supplements, and the need for more robust clinical evidence supporting the efficacy and safety of many alternative treatments pose significant barriers (Ernst, 2008). Additionally, healthcare providers must navigate potential conflicts between conventional medical ethics and the principles guiding some alternative therapies.

Despite these challenges, the potential benefits of a more integrated approach to healthcare are significant. By combining the strengths of conventional medicine with the holistic and preventative focus of many alternative therapies, integrative medicine has the potential to enhance patient outcomes, improve patient satisfaction, and reduce healthcare costs by emphasizing prevention, wellness, and the management of chronic conditions (Boon et al., 2004).

The successful integration of alternative medicine into modern healthcare requires a collaborative, interdisciplinary approach, rigorous scientific evaluation of alternative therapies, and a commitment to open communication and shared decision-making between patients and healthcare providers. As the healthcare landscape continues to evolve, the integration of safe, effective, and evidence-based alternative therapies into patient care will likely play an increasingly important role in the future of healthcare.

8. Patient Perspectives and Experiences

Patient perspectives and experiences play a critical role in the growing acceptance and use of alternative medicine within modern healthcare systems. The increasing demand for alternative therapies is often driven by patients seeking more holistic and personalized approaches to health and wellness, beyond what conventional medicine alone can offer. These perspectives are shaped by a variety of factors, including cultural beliefs, personal health philosophies, previous healthcare experiences, and the desire for greater control over one's health decisions.

A significant body of research has explored patient satisfaction with alternative medicine, often highlighting the value patients place on the holistic, individualized care they receive from alternative practitioners. Studies have shown that patients appreciate the time, attention, and emphasis on personal empowerment that are hallmarks of many alternative therapies (Hollenberg & Muzzin, 2010). For example, in acupuncture and naturopathy, patients often report feeling heard and valued as individuals, contributing to a sense of well-being and trust in the therapeutic process.

The use of alternative medicine is also frequently associated with the management of chronic conditions, where conventional medicine may have limited solutions or where patients seek complementary approaches to alleviate symptoms, improve quality of life, and maintain a sense of hope and positivity (Furnham & Smith, 2011). For instance, patients with chronic pain, fibromyalgia, and arthritis often turn to therapies like massage, chiropractic care, and herbal remedies, reporting improvements in pain management, mobility, and overall well-being.

Moreover, the personal experiences of patients who have found relief or improvement through alternative therapies can be powerful testimonials that contribute to the broader acceptance of these practices. However, it is important to approach such anecdotal evidence with caution, as individual experiences may not reflect broader, evidence-based outcomes.

Despite the positive experiences reported by many, it's essential to recognize that not all patient encounters with alternative medicine are beneficial. There are instances where the lack of regulation and standardization in alternative therapies can lead to adverse effects, interactions with conventional medications, or delays in receiving appropriate medical treatment (Ernst, 2008).

Incorporating patient perspectives and experiences into the broader discourse on alternative medicine and its role in healthcare is crucial. It underscores the importance of patient-centered care and the need for healthcare providers to engage in open, informed discussions with their patients about the use of alternative therapies. Such conversations can help ensure that patients make well-informed decisions that align with their values, beliefs, and health goals, while also safeguarding their safety and well-being.

9. Future Directions

The future of alternative medicine within modern healthcare is poised at a crossroads, shaped by evolving patient needs, advancing scientific research, and the ongoing integration of holistic approaches into mainstream medical practices. As we look forward, several key directions are emerging, promising to redefine the landscape of healthcare and the role alternative therapies play within it.

Embracing Digital Health Technologies

The rise of digital health technologies, including telehealth, mobile health apps, and wearable devices, offers unprecedented opportunities for integrating alternative medicine into daily health management. These technologies can facilitate remote monitoring, personalized health interventions, and greater patient engagement with alternative and complementary therapies. Research and innovation in this space could significantly expand access to alternative medicine, making it a more integral part of personalized healthcare plans (Ventola, 2014).

Enhanced Research and Evidence-Based Practice

There is a growing call for more rigorous, high-quality research into the efficacy, mechanisms, and safety of alternative therapies. Enhanced research efforts, supported by increased funding and collaboration between conventional and alternative medicine researchers, are essential for validating alternative therapies and integrating them into evidence-based practice. This includes large-scale clinical trials, systematic reviews, and meta-analyses to build a robust evidence base that healthcare providers can rely on when recommending alternative treatments to patients (Nahin et al., 2016).

Regulatory and Educational Advances

Improving the regulation of alternative therapies, particularly in areas such as herbal medicine and dietary supplements, is crucial for ensuring patient safety and product quality. This may involve stricter manufacturing standards, more transparent labeling, and enhanced practitioner certification. Additionally, incorporating alternative medicine education into medical school curricula and continuing education for healthcare professionals can foster a more inclusive and knowledgeable approach to integrative healthcare, ensuring that practitioners are well-equipped to discuss and recommend alternative therapies to their patients (Chaterji et al., 2017).

Patient-Centered and Integrative Care Models

The future of healthcare is increasingly moving towards more patient-centered and integrative care models. These models emphasize a holistic view of health, considering the physical, emotional, mental, and social factors that influence well-being. Integrative care models that combine the best of conventional and alternative medicine can offer more personalized, effective, and compassionate care, aligning with patients' values, beliefs, and preferences (Maizes et al., 2009).

Globalization and Cross-Cultural Exchange

The globalization of healthcare and the increasing cross-cultural exchange of medical knowledge and practices are likely to bring more traditional and alternative therapies from around the world into the mainstream. This could enrich the diversity of available treatments and foster a more inclusive global healthcare system that respects and utilizes a wide range of healing traditions (Tilburt & Kaptchuk, 2008).

As alternative medicine continues to evolve, its future within modern healthcare will be shaped by ongoing research, technological advancements, regulatory improvements, and an unwavering commitment to patient-centered care. Embracing these future directions can enhance the role of alternative medicine in promoting health, wellness, and a more holistic approach to healthcare.

Conclusion

In conclusion, the journey of alternative medicine from the fringes to the forefront of modern healthcare highlights a significant shift towards a more holistic, patient-centered approach to health and wellness. As we have explored, the appeal of alternative medicine lies in its ability to treat the whole person, offering therapies that complement the physical focus of conventional medicine with attention to the emotional, mental, and spiritual aspects of health. The integration of these therapies into modern healthcare, through the lens of integrative medicine, promises a more comprehensive and personalized approach to patient care.

However, this integration is not without its challenges. Ethical considerations, the need for robust scientific scrutiny, and concerns over safety and regulation are critical issues that must be addressed to ensure that alternative therapies contribute positively to patient outcomes. The future of alternative medicine in healthcare is dependent on a continued commitment to research, education, and evidence-based practice, ensuring that all treatments, conventional or alternative, are held to the same standards of efficacy and safety.

The dialogue between alternative and conventional medicine is evolving, reflecting broader changes in our understanding of health and wellness. Patients are increasingly seeking treatments that align with their personal values and beliefs, and the healthcare system is adapting to meet these diverse needs. By embracing the strengths of both conventional and alternative therapies, and by fostering a collaborative, interdisciplinary approach to care, we can create a more inclusive, effective, and compassionate healthcare system.

As we move forward, the integration of alternative medicine into modern healthcare will likely continue to evolve, shaped by advances in research, technology, and patient advocacy. The potential of this integration to enhance patient care and outcomes is immense, offering a more nuanced, holistic approach to health that respects the complexity of the human experience. In embracing the best of both worlds, we can look forward to a future where healthcare is truly centered on the needs, preferences, and well-being of each individual patient.

References:

- Adams, K.E. (2002). Ethical considerations of complementary and alternative medical therapies in conventional medical settings. *Annals of Internal Medicine*, 137(8), 660-664.
- American Medical Association. (2016). Code of Medical Ethics: Guidance in Ethics and Professionalism. AMA.
- Astin, J. A. (1998). Why patients use alternative medicine: results of a national study. *JAMA*, 279(19), 1548-1553.
- Barnes, P. M., Powell-Griner, E., McFann, K., & Nahin, R. L. (2004). Complementary and alternative medicine use among adults: United States, 2002. *CDC Advance Data Report*, (343), 1-19.
- Boon, H., Verhoef, M., O'Hara, D., & Findlay, B. (2004). From parallel practice to integrative health care: a conceptual framework. *BMC Health Services Research*, 4(1), 15.

- Chaterji, R., Tractenberg, R. E., Amri, H., Lumpkin, M., Amorosi, S. B., & Haramati, A. (2017). A large-sample survey of first- and second-year medical student attitudes toward complementary and alternative medicine in the curriculum and in practice. *Alternative Therapies in Health and Medicine*, 23(1), 50-56.
- Cohen, M.H. (2003). Legal and ethical issues relating to the inclusion of complementary and alternative medicine in managed care. *The Journal of Alternative and Complementary Medicine*, 9(Suppl 1), S-111-S-118.
- Consortium of Academic Health Centers for Integrative Medicine. (2012). *Defining and Understanding Integrative Medicine*. Retrieved from https://www.imconsortium.org/about/introduction.cfm
- Cochrane. (2021). *About Cochrane Reviews*. Retrieved from https://www.cochrane.org/about-cochrane-reviews
- Ernst, E. (2008). Critical thinking and complementary and alternative medicine. *Perspectives in Biology and Medicine*, 51(3), 396-407.
- Ernst, E., & Smith, K. (2018). Ethical problems arising in evidence-based complementary and alternative medicine. *Journal of Medical Ethics*, 44(5), 344-350.
- Furnham, A., & Smith, C. (2011). Choosing alternative medicine: A comparison of the beliefs of patients visiting a general practitioner and a homoeopath. *Social Science & Medicine*, 32(7), 805-819.
- Hollenberg, D., & Muzzin, L. (2010). Epistemological challenges to integrative medicine: An anti-colonial perspective on the combination of complementary/alternative medicine with biomedicine. *Health Sociology Review*, 19(1), 34-56.
- Linde, K., Berner, M. M., & Kriston, L. (2005). St John's wort for major depression. *Cochrane Database of Systematic Reviews*, (2), CD000448.
- Maizes, V., Rakel, D., & Niemiec, C. (2009). Integrative Medicine and Patient-Centered Care. *Explore*, 5(5), 277-289.
- Mishra, L., Singh, B. B., & Dagenais, S. (2001). Healthcare and disease management in Ayurveda. *Alternative Therapies in Health and Medicine*, 7(2), 44-50.
- Nahin, R. L., Barnes, P. M., Stussman, B. J., & Bloom, B. (2016). Costs of complementary and alternative medicine (CAM) and frequency of visits to CAM practitioners: United States, 2007. *National Health Statistics Reports*, (18), 1.
- National Center for Complementary and Integrative Health. (2021). Complementary,
 Alternative, or Integrative Health: What's In a Name? Retrieved from
 https://nccih.nih.gov/health/integrative-health

- National Center for Complementary and Integrative Health. (2021). The Science of Complementary and Integrative Health. Retrieved from https://nccih.nih.gov/health/providers/digest/science
- Rakel, D., & Weil, A. (2018). *Integrative Medicine*. Elsevier Health Sciences.
- Snyder, M., & Lindquist, R. (2006). *Complementary/alternative therapies in nursing*. Springer Publishing Company.
- Saks, M. (2003). Orthodox and alternative medicine: Politics, professionalization, and health care. Sage.
- Sointu, E. (2006). The search for wellbeing in alternative and complementary health practices. *Sociology of Health & Illness*, 28(3), 330-349.
- Shang, A., Huwiler-Müntener, K., Nartey, L., Jüni, P., Dörig, S., Sterne, J. A. C., Pewsner, D., & Egger, M. (2005). Are the clinical effects of homoeopathy placebo effects? Comparative study of placebo-controlled trials of homoeopathy and allopathy. *The Lancet*, 366(9487), 726-732.
- Tilburt, J. C., & Kaptchuk, T. J. (2008). Herbal medicine research and global health: an ethical analysis. *Bulletin of the World Health Organization*, 86(8), 594-599.
- Unschuld, P. U. (2003). *Huang Di Nei Jing Su Wen: Nature, Knowledge, Imagery in an Ancient Chinese Medical Text*. University of California Press.
- Ventola, C. L. (2014). Mobile devices and apps for health care professionals: uses and benefits. *Pharmacy and Therapeutics*, 39(5), 356.
- Ventola, C. L. (2010). Current issues regarding complementary and alternative medicine (CAM) in the United States: Part 1: The widespread use of CAM and the need for better-informed health care professionals to provide patient counseling. *Pharmacy and Therapeutics*, 35(8), 461-468.
- Vickers, A. J., & Zollman, C. (1999). ABC of complementary medicine: Acupuncture. *BMJ: British Medical Journal*, 319(7215), 973.
- Vickers, A. J., Cronin, A. M., Maschino, A. C., Lewith, G., MacPherson, H., Foster, N. E., Sherman, K. J., Witt, C. M., & Linde, K. (2012). Acupuncture for chronic pain: Individual patient data meta-analysis. *Archives of Internal Medicine*, 172(19), 1444-1453.
- World Health Organization. (2013). *Traditional Medicine Strategy: 2014-2023*. Retrieved from https://www.who.int/publications/i/item/9789241506090
- World Health Organization. (2019). *Traditional, complementary and integrative medicine:**Arguments and evidence. Retrieved from https://www.who.int/publications/i/item/9789241515436

• Whorton, J. C. (2004). *Nature Cures: The History of Alternative Medicine in America*. Oxford University Press.