



When Giants Meet—a Discourse on Contemporary and Alternative Therapy Use from an Ethical Perspective

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Abstract In Singapore’s multicultural society, a sizable proportion of the population subscribes to complementary and alternative medicine (CAM). In this article, we discuss the impact this has on medical practice in the context of the four principles of medical ethics. To uphold the principle of autonomy, we propose a non-judgmental approach towards patients who use CAM. Nevertheless, in order to promote health (beneficence) and prevent harm (non-maleficence), the safety profiles of CAM must be studied through systematic research. In addition, the principle of justice is one concerned with the fair distribution of scarce healthcare resources, while granting equal access to healthcare regardless of beliefs. Understanding CAM from an ethical perspective allows for the provision of safe, holistic, and culturally relevant care.

Keywords Complementary and alternative medicine · Traditional medicine · Traditional Chinese medicine (TCM) · Ethical perspective · Ethics · Medical ethics

Introduction

Singaporeans enjoy a number of excellent health indicators, including the world’s fourth longest life expectancy of 83.3 years (UN 2017b) and the sixth lowest infant-mortality rate of 1.843 per 1000 live births (UN 2017a). Many of Singapore’s healthcare initiatives have been applauded as success stories, including the Tuberculosis Elimination Program (Chee and James 2003) and the National Child Immunization Program (Liew et al. 2010). While Singapore is at the forefront of modern medicine, many forms of complementary and alternative medicine are being practiced in this city-state.

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Complementary and alternative medicine (CAM) describes the large variety of methods used to promote wellness and restore health that is outside of mainstream modern medicine. In the Encyclopedia of Bioethics, Fuller defines alternative therapy as (1) therapies derived from a spiritual belief system with an alternative worldview (e.g., New Age medical systems), (2) therapies not validated by orthodox medical standards (e.g., herbal cancer treatments), or (3) therapies with services outside of medical mainstream that is ignored or deemed of secondary importance (e.g., acupuncture) (Fuller 2004).

From “Ayurvedic” to “Zero balancing”, there are several hundred established forms of alternative medicine (Tiran and Mantle 2009). Despite the nomenclature, a 2012 systematic review reported that the prevalence of so-called alternative therapies ranged from 9.8 to 76% among 15 countries studied, which has not changed significantly since 2000 (Harris et al. 2012). The study also reported that the national estimates of CAM use were high in East Asian countries.

In Singapore, over one in three patients seek alternative medical treatment (Ho 2001). In certain medical conditions, CAM is used at even higher rates, such as in 55% of cancer patients (Chow et al. 2010) and 84% of chronic pain patients (Tan et al. 2013). Because of their widespread use, it is vital that doctors understand what these therapies entail, and even more importantly, what their ethical obligations are when their patients use CAM. Among various types of CAM, the most popular forms are Traditional Chinese Medicine (TCM), used by 88% of CAM users, followed by Traditional Malay (Jamu) Medicine (8%), and Traditional Indian (Ayurvedic) Medicine (3%) (Lim et al. 2005). For these reasons, mainstream modern medicine is often referred to as Western medicine in Singapore, to place in contrast with the various forms of Traditional Asian Medicine practiced in this region.

In this article, we discuss the impact of CAM on patient care in a multicultural society such as Singapore, using TCM as a representative. In particular, we address the practical and ethical concerns doctors may face when their patients use TCM either as a supplement to or a substitute for mainstream modern medicine. For the purpose of this article, we use terms “doctor” and “physician” to refer to practitioners of modern biomedicine, defined as medical practice that is grounded on evidence-based biological principles.

Autonomy

Mr. S, a 59-year-old gentleman, declined surgery and chemotherapy when he was diagnosed with advanced cholangiocarcinoma as he was concerned of the side effects of these interventions and their impact on the quality of his remaining days. Instead, he turned to traditional medicine and began taking a formulation of TCM called “Tian Jian”. Despite the absence of scientific evidence for “Tian Jian” in the treatment of cancer, Mr. S’s oncologist respected Mr. S’s decision and reassured Mr. S that he will continue to follow-up on his care.

Autonomy, from the Ancient Greek word *autonomia*, means self-rule. It is the ability to make one’s decisions on the basis of self-deliberation (Ho 2001). If an adult with decision-making capacity is well informed about his treatment options and chooses to pursue CAM deliberately, physicians must respect these decisions in order to achieve respect for autonomy.

There are several reasons why people choose CAM and this is typically driven by individual physical, psychological, or spiritual needs not adequately addressed by mainstream modern medicine. A recent WHO study found that a large proportion of patients who use CAM are those suffering from chronic diseases ranging from musculoskeletal complaints to multiple sclerosis, conditions that cannot be definitively cured by modern medicine (WHO, 2013).

Conversations like the one above, which I observed as a medical student during my Medical Oncology clerkship, should not be unfamiliar to today's healthcare professionals. However, physicians do not always respond likewise. Some physicians feel strongly about the potential harm of CAM and advise against it. Others may be ambivalent due to lack of understanding of the subject. In the case above, the oncologist was able to respect Mr. S's autonomy without taking a stance on the efficacy of the therapy. This non-judgmental therapeutic relationship builds trust and allows patients to confide in their physicians more freely regarding their beliefs, concerns, and ultimately their decisions.

Non-maleficence

Mdm C, a 58-year-old lady, underwent surgical resection of a benign brain tumor. She deteriorated post-operatively and died three days later from a massive intracranial hemorrhage. It was later found that her death was due to the use of cordyceps in the weeks leading up to her surgery, a parasitic fungus that TCM physicians use to boost energy and strengthen the immune system. Unbeknownst to the patient, cordyceps also contains antiplatelet properties (Hussain 2016).

Primum non nocere is an axiom central to the practice of medicine. It succinctly describes the principle of non-maleficence, which is the requirement that physicians, in the course of their practice, not intentionally cause harm or injury to the patient, either through acts of commission or omission (Runciman et al. 2009). In practical terms, it means that physicians must find means to minimize the probability and impact of adverse medical outcomes.

It has been reported that more than 90% of common CAM practices are not validated by research and lack standardization, but are instead based on unsubstantiated or anecdotal evidence (McRae et al. 2002). This statistic is corroborated by Professor Edzard Ernst (2011), himself a Professor of Complementary Medicine at the University of Exeter, who conceded in his recent study that only 7.4% of complementary medicine is supported by sound data. As such, doctors ought to be wary about embracing CAM before evaluating the existing evidence.

In the Singaporean context, physicians need to be cognizant of the possible side effects of herbal-based products, such as hepatitis and coagulopathies among others (Ernst 2011), and their interactions with prescription medications. In addition, it has been found that use of TCM often delays therapy in cancer patients, resulting in increased morbidity and mortality. For instance, a 2012 study found that women with breast cancer who declined primary standard treatment in favor of CAM had poorer disease-specific survival (Joseph et al. 2012). Another 2017 review of 280 patients in the US National Cancer Database who chose alternative medicine over conventional

treatment were found to have a hazard ratio for death of 2.5 greater than those who use conventional medicine (Johnson et al. 2018).

Given the potential for devastating sequelae, efforts must be made to communicate these risks to the patient. By preventing inappropriate use of complementary therapies, physicians can then uphold the principle of non-maleficence.

Beneficence

“Chinese medicine and pharmacology are a great treasure-house [...] The discovery of artemisinin is a gift of Traditional Chinese Medicine (TCM) to the world.”

- Tu Youyou, Nobel Prize in Medicine 2015 (Tu 2016).

In medical ethics, beneficence refers to the moral obligation to act in a way intended to benefit or promote the best interest of other persons (Fuller 2004). In practice, the principle of beneficence is often considered jointly with non-maleficence to achieve a net benefit over harm (Gillon 1994).

While there is potential harm associated with TCM use, recent scientific research has begun to produce some promising results regarding their benefits. An exceptional example is Dr. Tu Youyou's work on artemisinin, a compound extracted from the sweet wormwood *Artemisia annua*. *Artemisia annua* is a herbal remedy known to the Chinese for over 2000 years. Its antimalarial properties were first noted in the sixteenth century by a Chinese herbalist Li Shizhen (Li and Yu-Lin, 2003). Dr. Tu Youyou and team studied the chemical structure and pharmacology of artemisinin, devised methods to increase its potency, and decrease its toxicity. Today, artemisinin is the standard therapy for malaria. It has saved millions especially in the developing world, where more than 90% of cases occur (WHO 2016).

CAM can also improve care in less dramatic but practical ways. It has been reported that patients whose general practitioner has additional CAM training use fewer prescription medicines and have fewer hospital admissions, and as a result, benefit from lower healthcare costs (Kooreman and Baars 2012). A randomized controlled trial on patients with chronic neck pain found that those who chose CAM in the form of manual therapy had greater clinical improvement and incurred lower costs than those who chose physiotherapy or care from their general practitioner (Korthals-de Bos et al. 2003).

Finally, by incorporating patient's beliefs into the treatment decision, such empowerment can provide psychological and emotional benefits without a direct mechanistic link between the therapy and the intended medical outcome. Therefore, respecting justified autonomy could itself be a form of beneficence.

Justice

Many hospitals in Singapore today have their own TCM departments. According to Professor Ng Han Seong, director of Singapore General Hospital's TCM center Bao Zhong Tang, this collaboration is “an amalgamation of Eastern philosophy [...] with Western science and diagnostics [...]” that “draws the best from Eastern and Western medicine” (SGH 2007).

Justice can be summarized as the moral obligation to act on the basis of fair adjudication between competing claims. One of the major challenges in healthcare economics today is the provision of sufficient healthcare to all, in proportion to need. Therefore, the principle of justice in medical practice is exercised by the fair distribution of resources while maximizing the benefit produced by these limited resources (Fuller 2004).

The principle of justice also implies that patients should be given equal access to healthcare irrespective of their beliefs. Doctors should not discriminate patients for using TCM remedies concurrently with their biomedical treatment.

Furthermore, the pool of available healthcare resources can be expanded by integrating TCM with biomedicine, potentially allowing greater access to healthcare to more individuals. Former WHO Director-General, Dr. Margaret Chan, said at the International Conference on Traditional Medicine for South-East Asian Countries in February 2013 that “traditional medicines, of proven quality, safety, and efficacy, contribute to the goal of ensuring that all people have access to care. For many millions of people, (CAM is) the main source of health care, and sometimes the *only* source of care ... (and) is close to homes, accessible and affordable.” (WHO, 2013). By ensuring that all forms of healthcare meet necessary safety and efficacy criteria, patients can be given a greater range of therapies to choose from, based on their personal values. In doing so, we seek to fulfill yet another aspect of justice—the respect for people’s rights (rights-based justice).

Conclusion

The practice of complementary and alternative medicine (CAM) can be traced as far back as thousands of years—a powerful giant that contains wisdom, much of which has yet to be uncovered. This article discusses CAM with respect to the four principles of medical ethics. The practice of CAM alongside modern medicine is crucial to the principles of autonomy and justice. On the other hand, care and diligence must be applied in order to achieve the principles of non-maleficence and beneficence.

In a multicultural society such as Singapore, the meeting of these two seemingly disparate bodies of knowledge is inevitable. Before mainstream and alternative medicine can co-exist synergistically, CAM still faces a number of challenges, including lack of research data, means to control advertising and claims, regulation of product quality as well as provider competency (WHO, 2013). The WHO has outlined research as one of the main goals of TCM in the near future in its Traditional Medicine Strategy 2014–2023 (WHO 2013). Singapore has shown special interest in developing this field and has earmarked large grants to this end (Mui 2017, Er 2017). In the meantime, the physician’s role goes above and beyond that of a healer, as we play the role of a counselor, scholar, and teacher. Schofield et al. (2010) published a seminal article on this very topic. He urges physicians to take into account the patient’s understanding of his/her disease, explore and respect their cultural background and treatment preference, and provide balanced evidence feedback based at critical points in the illness trajectory.

It is hopeful that by subjecting traditional medical practices to the same rigorous scientific approach, the beneficial aspects of these erstwhile traditional and “alternative” practices can be incorporated into mainstream modern medicine.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

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