

The philosophical examination: Evaluating medicine and its related systems

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In recent years complementary and alternative health practices have gained growing popularity in Western countries, with up to 50% of the public using complementary, alternative and integrated medicine (CAIM) products.^{1 2} CAIM is also gaining acceptance among conventional Western biomedical practitioners. CAIM has, however, often received fierce opposition from many advocates for Western biomedicine. Is such opposition justified, or are CAIM practitioners providing a legitimate form of health care? This paper compares biomedicine with various systems of CAIM, and explores the philosophical basis and validity of each.

Philosophical basics

Biomedicine is founded on traditional cultural assumptions that originate from Western secular philosophy: empiricism, realism, positivism and materialism.³

Empiricism is the belief that knowledge must be gained through experience and experiment.⁴ This is the basis of the 'scientific method', a system of experimenting with the world in order to find more out about it.

Realism assumes that the world that we perceive is actually 'there' in some objective real sense, in exactly the form that we perceive it. This is in opposition to the sort of world portrayed in the film *The Matrix*, in which the world that most people inhabited relied for its existence upon the human perception of electronic data that was generated by a massive computer network.

Positivism is the belief that we must confine ourselves only to what we experience as sources of knowledge.⁴ It rejects all metaphysical speculation and abstract theorising, and even forbids a critical examination of its own presuppositions.⁴

Materialism in its most common form is defined as the belief that every phenomenon in the universe can be explained in terms of the basic laws governing physical matter.⁴

Medical philosophy: strengths and weaknesses

Biomedicine's underlying empiricism leads it to value highly the 'scientific method', which seeks classification, explanation and elucidation of cause.³ This is different to the philosophical underpinnings of many branches of CAIM, particularly traditional Chinese medicine (TCM). TCM is based most notably upon the concepts of yin and yang;⁵ its philosophy is speculative and mystic; its concerns are 'order' and 'pattern'.⁵ This shows where TCM explains disease in terms of an imbalance of the yin and yang aspects of a person. TCM practitioners look for patterns in aspects of a whole person (physical, psychological, social and spiritual) to elucidate the problem with a person's health and decide on a treatment regimen. The question is not 'what X is causing Y' as in biomedicine, but 'what is the relationship between X and Y'.⁵ 'Cause and effect' is not an acknowledged concept in traditional Chinese philosophy and medicine; the spontaneous cooperation of events is the focus. By contrast, biomedicine attributes sickness to clearly defined causes.

Differences in the philosophical basis of medical systems are where the strengths and weaknesses lie. The empiricism of biomedicine leads to limitations: the 'gold standard' observation method of biomedicine, the randomised controlled trial (RCT), is not infallible. RCTs were originally designed to test agriculture,³ where there

are fewer variables to account for. Wild variables like weather and soil conditions can be assumed to be reasonably constant between test fields in the same geographic area at the same time. Humans are more complex systems, which leaves a number of weaknesses when RCTs are used to test medicine. An enormous number of variables relate to humans and to health-care provision, and much effort must be spent accounting for possible bias in medical RCTs. Even after the necessary adjustments, the trial is not immune to scepticism on the grounds of unaccounted bias. This is one of the most frequent reasons that the findings of well-conducted trials are doubted, especially when the findings are unexpected or inconvenient. A faith element to medical belief, therefore, is easy to maintain, even in evidence-based medicine.

Another limitation of medical RCTs is that they are poor at testing groups of people who can be divided into many subgroups. For example, in acupuncture trials a different treatment is administered to each individual, depending upon each unique cluster of symptoms;⁶ biomedicine, however, groups all the tested individuals into one disease category. This makes it difficult to obtain statistically significant results in any RCTs of acupuncture. Similar problems have been met when testing homeopathy, with consequential write-off of the discipline by many biomedical groups. It should be noted, however, that this limitation on the practicalities of testing CAIM products is a reflection on biomedicine, not on CAIM.

Realism also has its flaws: it is an unprovable assumption about the nature of the world and about biomedicine. Biomedicine has no choice about adopting the realistic philosophy; it must assume realism or else the practice of biomedicine is worthless. However, CAIM is not limited to realism. Healing by prayer is one example: the most frequently ventured explanation for the efficacy of prayer healing appeals to a belief in the reality of an existence above and beyond our own. Randomised, double-blinded trials have demonstrated the efficacy of Christian prayer healing in producing favourable medical outcomes.

Positivism produces a narrow view of the world, which, at its extremes, excludes anything not explicable at the current level of knowledge. The Bradford-Hill criteria for causation contains an example of a positivistic medical view – the need for ‘biological plausibility’ in order to establish a cause-effect relationship.⁷ Such positivism can produce a dogma that condemns “as heretics those who dare to question the ultimate truth of the biomedical model”.⁸ This can inhibit the progress of knowledge and the development of treatment. Medical positivism can be good too, most notably in ensuring that trials of new medical interventions are ethical.

Homeopathy has been much attacked by biomedical patrons with positivistic worldviews. Two of its basic tenets have caused its discarding: 1) that medicines that

produce certain symptoms in an unaffected individual will cure those symptoms in an affected individual; and 2) that the higher the dilution of a therapeutic substance in a solvent, the higher the therapeutic ‘potency’. Some homeopathic dilutions are so high that less than one molecule of the original substance remains in the solution.⁹ These ideas central to homeopathy’s rationale make it difficult to form biomedical ideas on how homeopathy could physically work.

Vandenbroucke illustrates this: “the problem with homeopathy is that the ‘infinite dilutions’ of the agents used cannot possibly produce any effect”.¹⁰ Despite this, Linde et al¹¹ conducted an excellent meta-analysis on homeopathy trials located in a literature search of both published and unpublished papers. They used rigorous trial inclusion criteria, two different trial quality-rating scores, statistical analysis of outcomes odds ratios, and a statistical test that can detect ‘publication bias’ (the phenomenon of only publishing trials if they have certain outcomes). Even when only the highest quality trials were included for analysis and results had been adjusted for publication bias, the overall odds ratio favoured homeopathy compared to placebo (1.78, 95% CI: 1.03 – 3.10).

Writing to the *Lancet*, Vandenbroucke suggested that “unknown and unidentifiable sources of bias seem to exist in randomised trials”.¹² The writer said that the most arrogantly positivistic researchers (“those investigators with Bayesian inclinations”) might use such arguments to maintain their faith against homeopathy, since to a Bayesian researcher, existence of a credible prior hypothesis for treatment mechanism is required before trial results can be of any meaning.¹⁰

However, Vandenbroucke also points out that “whatever is happening in randomised trials of homeopathy might also be happening in randomised trials of allopathic medicine ... it might be impossible to identify false-positive findings in trials of allopathic medicines, because our belief in the proposed mechanism could blind us to the possibility that the trial results are wrong”.¹⁰ The letter goes on to pinpoint the great irony that this leads to: “what is fact? The answer from fields as diverse as history and the philosophy of science has been remarkably similar: events become ‘facts’ when they are invoked to support a theory”.^{10 13 14}

The final philosophical limitation of biomedicine is that its basic assumption of materialism has led to inadequate treatment of patients and disillusionment with biomedicine, because it excludes the psychological, social and spiritual aspects of disease. Kleinman et al¹⁵ reveal the importance of all aspects of a person, including his/her beliefs, in a medical system. They describe a study in which the majority of patients attending a traditional Taiwanese shrine for healing rated the treatment as effective, even though in some cases the patients’ physical

symptoms did not change, or worsened. For many patients, the importance of medicine (in whatever form it comes) is not necessarily in curing the physical *disease*, but in treating the *illness*: obtaining a meaningful explanation for the disease and responding to the personal, family, and community issues surrounding the experience.¹⁵

To its credit, biomedicine has recently been retuned with the introduction of the biopsychosocial model of disease,⁸ yet it still lacks acknowledgment of the spiritual, except an occasional mention where the spiritual aspect is assumed to be a trivial extension of the psychological aspect of an individual's health. Ironically, materialism has been responsible for much loss of confidence in biomedicine among Westerners, despite the secular Western philosophies. Beyerstein suggests that for many people the attraction of CAIM lies in the mystical New Age philosophies that many branches of CAIM are based upon.¹⁶

Biomedicine is not devoid of its own cultural biases, and this can be to its patients' detriment. Biomedicine in different countries is tilted toward certain types of treatment.¹⁷ For example, in the USA, unopposed oestrogens are often prescribed for hormone replacement therapy (HRT) even in women with a uterus, as the gynaecologist subsequently 'must' do regular hysteroscopies to screen for endometrial cancer; in New Zealand, the presence of a uterus is an absolute contraindication for unopposed oestrogen HRT. This difference is perhaps because the privatised health system in the USA encourages generous intervention (procedure and consultation = profit); in New Zealand, however, the reserved culture and limited public resources encourage more of a minimalist approach to health-care provision.

Biomedicine has strengths as well. Its confidence in empiricism and realism has driven experimentation and the attainment of new knowledge, leading to many new treatments of high efficacy. Advances have replaced older, evidence-unsupported, and dangerous interventions that caused unnecessary hardship. However, it is the view of many that biomedicine cannot attain the success it seeks until it seriously considers the strategies that CAIM uses to approach sickness. Biomedicine still views its patients more as physical machines than as dynamic entities in which psychological, social and spiritual aspects are as important as physical ailments. It is CAIM's wider focus on the whole individual that lies behind much of its success with Westerners who are disillusioned with biomedicine.

One of CAIM's weaknesses is its lack of regulation and evidence-based observation. This means that unnecessary and harmful treatments can prevail unchecked; it also means that useful treatments might remain in obscure use, rather than being brought into mainstream health care. CAIM could potentially be integrated into mainstream medical therapy if ways were found to properly test its efficacy.

Conclusion

In investigating the issues of biomedicine and CAIM, it becomes clear that as biomedical practitioners, we should remain open to new ideas and not be limited by biomedical philosophy. By these means, we have the potential to use complementary, alternative and integrated medicine to benefit our patients in ways that biomedicine, in its current state, cannot achieve alone.

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