

Evidence-based Complementary Medicine—Challenges and Future Directions

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There is considerable interest in complementary medicine (CM) and the usage of various alternative therapies is reportedly at an all-time high in the West. Bensoussan¹ stated that each year, 57% of Australians were using CM with an estimated expenditure of A\$621 million spent on complementary medicines (products) and A\$309 million on CM practitioners. In the USA, a similar trend was reported by Eisenberg and his colleagues.² A survey from 1990 to 1997 showed that 42% of Americans visited CM practitioners each year and the costs of CM professional services were conservatively estimated at US\$21.2 billion in 1997, with at least US\$12.2 billion paid out-of-pocket. This exceeds the 1997 out-of-pocket expenditure for all US hospitalisations. These figures are indeed astounding.

Despite this increased public demand and usage of CM, which has incidentally aroused a lot of disquiet amongst those steeped in orthodox medicine, there is still a general lack of acceptance of CM within the mainstream of medicine. The reasons for this are multi-fold and Bodeker,³ in the second editorial for this issue, will cover some of the broad issues confronting CM at the present time.

I wish to concentrate on two related issues, firstly, on the entrenched attitudes towards CM and secondly, on the evidence for CM or the lack of it.

The severest critics and antagonists of all forms of CM liken CM proponents to “Cuckoos in a Warbler’s nest”. In a theoretical argument and scathing attack against CM, Leibovici⁴ stated that “The deep model of alternative medicine is anthropocentric magic. The explanations that the practitioners of alternative medicine are giving to our patients are a set of magical roles to control the physical world”. Such extreme attitudes towards CM are by no means rare. Even the editors of the *New England Journal of Medicine* (NEJM) commented in the editorial of September 1998,⁵ perhaps in a more muted fashion, that “What sets alternative medicine apart, in our view, is that it has not been scientifically tested and its advocates largely deny the need for such testing”.

However, all detractors of CM, including the editors of NEJM, recognise the paradox that “Many treatments used in conventional (orthodox) medicine have not been rigorously tested either”. In fact, it is estimated that as much as “60% of orthodox treatments have not been scientifically proved”.⁶ As a surgeon, I know that the vast majority of surgical practices are not based on evidence but on acquired skills and experience.

Why do such double standards exist when judging complementary or alternative medicine? Iain Chalmers, Director of the UK Cochrane Collaboration Centre, has been quoted as saying “Critics of complementary medicine often seem to operate a double standard, being far more assiduous in their attempts to outlaw unevaluated complementary medicine practices”.

I think that there should certainly be a more open-minded approach to CM and as Fontanarosa and Lundberg have stated categorically in the *JAMA* editorial of November 1998,⁷ “There is no alternative medicine. There is only scientifically proven evidence-based medicine supported by solid data or unproven medicine, for which scientific evidence is lacking. Whether a therapeutic practice is “Eastern” or “Western”, is unconventional or mainstream, or involves mind-body techniques or molecular genetics is largely irrelevant”. I think the same rules of evidence-based medicine should apply. Physicians should become more educated and conversant with the practices of CM and more knowledgeable about its benefits and limitations.

The second major challenge for CM is obtaining the necessary funding for research. Ernst,⁸ in a letter to the *British Medical Journal* editor, lamented that “only 0.08% of funding for research in NHS goes to CM”. A questionnaire sent to 12 research funding agencies revealed that out of 1046 research projects being funded, amounting to £55.8 million, there were only 5 projects on CM, worth £43,000. This lack of funding is a key factor and a challenge for evidence-based research to be carried out in CM. In the USA,² where the public spending on CM amounted to US\$21.2 billion in 1997, only US\$50

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million has been set aside for research by the NIH Centre for Complementary and Alternative Medicine. This is indeed a paltry sum when almost half of the population of Americans are using CM. It is not unreasonable to demand that the funding for CM research should reflect the high prevalence of its usage and also the need to fulfil the demands of scientific orthodoxy and evidence-based medicine.

In this issue of the *Annals*, which heralds the onset of the new millennium, we have chosen to highlight some of the CM research that is being carried out in Singapore, especially in the field of traditional medicine, including the practices of acupuncture, use of phytochemicals in wound healing and immunosuppression and studies on the molecular basis for their pharmacological effects.

Singapore is uniquely placed to carry out research in CM because of the prevalence of alternative traditional therapeutic practices amongst its multi-ethnic population and also because of the level of sophistication of its healthcare delivery system, which is largely based on the Western orthodox and conventional medicine model. Hopefully, by taking a more open-minded approach, we will be able to develop an integrated approach to combine the best of conventional and CM, based on research and evidence, for better patient care.

To me, there are five essential steps which should guide the future development of CM in Singapore so that it will gain acceptance by the medical scientific community. Firstly, the medical profession needs to be more familiar with the multi-faceted aspects of CM and their therapeutic practices through education and a change in the medical curriculum. Secondly, there needs to be a less antagonistic and adversarial attitude between practitioners of both conventional and CM. There should be sensitivity towards traditional cultural practices in our search for evidence which will bring scientific rigour to CM. Thirdly, funding agencies for research must provide for more resources than they are doing at the moment so that basic research and clinical trials can be carried out to establish a scientific basis for CM. Fourthly, there must be quality control of the products used in CM and the reporting of adverse reactions so that we can ensure safety of new phytochemical products. Lastly, there should be some regulation introduced by the Ministry of Health in terms of training, credentialling and the registration of those who practise CM. When all these steps are in place, CM will then have the strong research base, the evidence-based approach and the necessary educational and regulatory framework to allow it to be fully integrated into the mainstream of medicine. By then, the terms complementary or alternative would be irrelevant and superfluous.

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