

## Guest Editorial

### Complementary medicine and evidence: like fire and water?

We may love it or hate it, but we cannot easily ignore it — complementary medicine (CM) seems to be everywhere. CM encompasses dozens of non-conventional modalities, some of which are biologically plausible, for example, herbal medicine, and some of which, such as homeopathy, are not. Acupuncture, herbal medicine, homeopathy, and spinal manipulation are among the most popular forms of CM. Patients are using CM more and more: Prince Charles promotes it relentlessly, the internet offers about 40 million websites on it, and even the government occasionally takes notice of it. Given this situation, one would assume that most healthcare professionals are keen to know what the evidence tells us about CM: does it, in fact, generate more good than harm? Having devoted the past 15 years to this very question, I sometimes get disheartened about two highly counter-productive yet prevalent attitudes. The first might be summarised by the statement, “there is no reasonable evidence on CM”, and the second by the notion, “scientific evidence cannot be applied to CM”. Confused? Let me explain.

Those sceptics who are emotionally opposed to CM have a knack of ignoring the evidence that relates to this field. This proclivity is aggravated and perpetuated by the fact that mainstream journals rarely publish positive findings in CM<sup>[1]</sup> (while CM journals hardly ever publish negative ones<sup>[2]</sup>). Thus, the typical reader of the *NEJM*, for instance, would get the impression that, firstly, very little serious research is being conducted in CM, and, secondly, that all the studies that do emerge demonstrate CM to be utterly useless, or even dangerous.

The truth, however, is more complex. There are now thousands of clinical trials of various forms of CM and hundreds of systematic reviews.<sup>[3]</sup> The knee-jerk reaction that “they are all rubbish” is also incorrect. Indeed, on average, they compare very well in terms of methodological quality with trials in conventional medicine.<sup>[4][5]</sup> If this sounds as though all CM is efficacious, I must call for caution: yes, there is now plenty of evidence, and much of the recent research is reasonably sound,<sup>[3]</sup> but by no means does all the evidence demonstrate that the treatment under investigation generates more good than harm.

The second disturbing attitude (“scientific evidence cannot be applied to CM”) tends to be used by proponents of CM whenever the data fail to show what they had hoped for. An RCT of homeopathy, for instance, would be celebrated by homeopaths if it shows what they want: if not, they are likely to ridicule the “tunnel vision” of scientists and call for a “paradigm shift”. Wanting to have cake and eat it may be all too human but, when applied to medicine, it badly misleads the public.

Many enthusiasts claim that the standard of evidence in CM must be different from that in mainstream health care, and they use a range of arguments to support their view: “My therapy is holistic, individualised, complex, etc; conventional outcome measures do not capture the subtle effects generated by CM; randomisation has detrimental effects that neutralise those of my treatment; and clinical trials tell us nothing about individuals”, for example. On closer inspection, these notions turn out to be pseudo-arguments, and it is tedious to argue against them (although a full discussion has been published<sup>[6]</sup>). Suffice to say that, after years of debate, I have reached the conclusion that those who hold such views are either deliberately trying to mislead, or are not fully informed as to what a clinical trial can and cannot achieve.<sup>[6]</sup> The quickest way, I think, to demonstrate that the opposition against applying rigorous science to CM is incorrect must be to point to the numerous cases where science has been applied — sometimes even with encouraging results.<sup>[3][6]</sup>

The loser in these everlasting quibbles and debates is, of course, the patient. If they listen to the “there is no evidence” argument, they might not benefit from those forms of CM that are beneficial. If they

follow the “science does not apply” notion, they might end up receiving treatments that generate more harm than good. More than any other type of health care, CM is patient driven. The main reason why CM has become important is not the eagerness of doctors, the interest of scientists, or the attention of politicians, but the almost insatiable hunger of patients for CM. Many people are ready to pay considerable amounts of money from their own pocket for CM, as such therapies are rarely available on the NHS; the NHS contributes only a small fraction of the approximately £1.6 billion spent by Britons each year on CM. At the same time, patients are being continually and seriously misled by just about every source of information imaginable — even by government-sponsored initiatives.<sup>[7]</sup> It follows, I think, that change is necessary, and positive change is best achieved if we begin to produce reliable information specifically for lay people — a task to which I have recently devoted much time and effort.<sup>[6]</sup>

**Edzard Ernst MD PhD FRCP FRCPEd**

Complementary Medicine

Peninsula Medical School

Universities of Exeter & Plymouth

25 Victoria Park Road

Exeter EX2 4NT UK

Email: [Edzard.Ernst@pms.ac.uk](mailto:Edzard.Ernst@pms.ac.uk)

Tel: +44 (0)1392 424989

Fax: +44 (0)1392 427562

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