

Editorial

Do old treatments need a new EBM?

Is the concept of evidence-based medicine flexible enough? In particular, can it embrace interventions for which there is a long history of use, but a lack of hard research data? It should do, according to a famous definition published 12 years ago in which evidence-based medicine (EBM) was portrayed as "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients".[1] This definition made allowances for missing or inappropriate evidence, and, crucially, required the application of clinical judgment and recognition of patient values.[1] [2] Today, however, there is a common, rigid mindset that equates EBM solely with the conclusions of randomised controlled trials and systematic reviews of these studies, to the exclusion of other 'best evidence' and the needs of individual patients. This simplistic thinking is being increasingly challenged by new moves to enhance the status of older, under-researched treatments: for example, the registration of herbal medicinal products by the UK Medicines and Healthcare products Regulatory Agency (MHRA).[3]

When it comes to older treatments, there is often a gap between empirical evidence, clinical practice, and patient experience. Moreover, there are conspicuous double standards in attitudes to older treatments. For example, about half of all so-called conventional healthcare interventions continue to be used even though research on their efficacy is non-existent or equivocal.[2] By contrast, traditional complementary and alternative therapies that have been widely used for many years and continue to be popular with patients[4] are regularly dismissed out of hand on the grounds that there is little 'scientific' evidence to confirm whether they work.

There are also obvious problems associated with focusing entirely on published trial literature as the supposed basis for evidence-based practice. The efficacy studies that form the backbone of EBM represent only a small part of the total research literature,[2] and may be of limited value in assessing safety. And, of course, most efficacy research is sponsored by the pharmaceutical industry and is drug orientated. Potentially valuable traditional medicines, non-drug interventions, or other aspects of health care receive much less attention.

It is dangerous to assume that concentrating exclusively on published trials and systematic reviews at least identifies those interventions that have proven their worth to clinical practice. In reality, a good look through the Cochrane Library or other research databases reveals that the interventions and questions assessed by RCTs are often far removed from the real needs of patients and their healthcare professionals. This distortion reflects not just the selectivity of the research conducted, but also positive and negative publication biases. Examples include publication biases in trials of treatment for acute stroke,[5] and also in trials of antidepressant drugs.[6]

Less obviously, and more controversially, there are questions about whether the pharmacological randomised controlled trial model for research is sufficient to assess long-established interventions. One concern is that, because many of these interventions comprise several components, the individual effects of which may be hard to isolate and measure separately (e.g. palliative care, public health, or many complementary and alternative therapies), artificially standardising them to fit a drug-trial model

may involve over-simplification. This will then raise questions about the real-world applicability of the study results.

Accordingly, there is an argument for a different type of research strategy for long-established interventions, with a different order of priority.[7] [8] Suggestions include: describing and understanding at an early stage the individual components of the treatment as they are actually used in practice; then, to investigate safety; to establish comparative effectiveness of the intervention in routine practice; to establish the efficacy of its individual components; and, finally, to establish the biological mechanisms responsible for the treatment effects.[7] [9] These proposals advocate the use of interdisciplinary research teams and mixed research methods, including explanatory and pragmatic randomised controlled trials, and qualitative methods.[9]

All this may seem well meaning, but somewhat remote, if not unworkable. What, if anything, is actually being done to level the playing field for older treatments? Well, to their credit, regulatory authorities, including the UK MHRA, are taking a useful lead. Belying their reputation for offering clinically unhelpful 'evidence-based' advice, they are addressing the lack of trials for long-established herbal medicinal products by using pragmatic standards for granting licences to such products.[3] With the introduction of its Traditional Herbal Medicines Registration Scheme (THMRS), the MHRA has delivered a practical way of facilitating the safe use of herbal medicines in the UK without requiring that these products are tested in conventional clinical trials. This scheme involves granting a manufactured herbal medicine a Traditional Herbal Registration (THR). To achieve this status, the products are required to meet specific standards of safety and quality, and to have information on their safe use. However, the scheme specifically allows for the herbal medicinal product to be registered without the need for clinical trials, in so far as the efficacy of the medicinal product is plausible on the basis of long-standing use and experience. [10] Under the scheme, there are already 14 products on the UK market with a THR and, by 2011, all over-the-counter herbal medicinal products will need such registration. That the MHRA is now prepared to think more broadly when it comes to older treatments could suggest a dangerous drop in regulatory standards. But, more likely, it just highlights the limitations of an inflexible approach to EBM when assessing the place of old treatments.

Well-designed, appropriately controlled, explanatory randomised controlled trials, and systematic reviews of such studies, remain the best evidence of efficacy. However, for many long-established interventions, this type of evidence currently does not, and may never, exist. In such cases, it may be possible to use other evidence to guide use of these interventions and, because many are complex interventions, a new approach to researching them may be more appropriate in the future. In this way, EBM can combine the best available evidence and clinical expertise, while considering patients' experiences and values — as it was always meant to.

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