Don't shoot the messenger!

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In this issue, in addition to our usual commentaries on published papers, we have a paper examining the quality of systematic reviews in dentistry (see page 66). This is not the first study to address this subject[1–3] but it does adopt a different approach, comparing quality across the different dental specialities.

Systematic reviews and meta-analyses have become established as important tools for evaluating the evidence base over a range of scientific disciplines, since being introduced by Glass[4] some 30 years ago. Although the data in systematic reviews are derived from primary studies, the reviews are a research activity and, as Needleman[5] pointed out, they are analogous to clinical trials being designed for transparency and to minimise bias. Clear methodology for both the conduct[6,7] and reporting of systematic trials now exists (see page 89): the paper by Major *et al*. (page 66) indicates that the quality of reviews in dentistry is improving. This is to be welcomed, although there is still scope for significant improvement in quality and the breadth of dental topics covered by reviews. The Cochrane Oral Health Group (www.ohg.cochrane.org) continues its valuable work in this regard, with 74 reviews and 66 review protocols published in the latest update of the Cochrane library, and many new titles in development.

Despite clear guidelines for the conduct of and reporting by systematic reviews, undertaking one still presents challenges. Commentators frequently query their quality and inability to provide clear answers to the questions the authors attempted to answer.[8,9] These problems are cited as reasons for not using valuable resources to conduct systematic reviews. I would argue, however, that systematic reviews are worth doing and doing well, because, even if they find no or limited evidence to address the question under consideration they will have at least identified what evidence (such as it is) is available on which to base our practice. It may well be that there is no high quality evidence for supporting treatment A over treatment B for a certain condition, but the mere fact that we now know this can improve out knowledge base and our interaction with patients. It also provides researchers with clear information about where the gaps are and where research need to be undertaken to clarify existing treatments or develop new ones.

By using meta-analyses, systematic reviews have the potential to clarify and quantify the results of myriad small trials in a clinical field, thus providing a single quantifiable estimate of effect which can be important for clinical practice. Good reviews will also minimise bias and produce a contemporary overview of the topic. A point about systematic reviews that is often forgotten, though, is that all systematic reviews are, of necessity, retrospective. They must therefore depend upon the quality of the original research: if research has not been carried out, or has been conducted or reported badly, there is often little that can be done.

Commentators criticise systematic reviews that fail to find high quality research to address problems: rather than berating authors for factors beyond their control and recommending that better quality research be undertaken, perhaps there should be calls instead for better training for researchers in study methodology and better conducted primary research. As with all scientific writing, however, the methodological quality, conduct of the systematic review and interpretation of the findings should be subject to appropriate appraisal.

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