

Value of research carried out in dental practice

Clinical trials in dental primary care: what research methods have been used to produce reliable evidence?

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Objective

To identify controlled clinical trials done in dental primary care and to classify the research according to design. Details of any procedures used to recruit general dental practitioners and any special organisational arrangements were also collected.

Design

A scoping literature review.

Setting

Dental primary care defined as general dental practice, community and school dental settings.

Participants

Published randomised controlled trials using randomised or quasi randomised approaches and controlled clinical trials were considered for inclusion in the review. Reports were excluded if they did not describe either a randomised controlled trial or a controlled trial. Studies were excluded if the setting was not primary dental care or the intervention was for non-dental conditions. Conference abstracts without a full report and trials published in a language other than English were also excluded.

Main outcomes

Experimental and quasi-experimental designs, clinical areas and different kinds of strategies used to recruit dentists, any organisational arrangements made to support research in dental primary care.

Results

The search of the Cochrane Oral Health Group Controlled Trials Register found 174 articles. 43 randomised controlled trials met the inclusion criteria. Trials to evaluate the effects of interventions for types of anaesthesia, periodontal diseases, smoking cessation techniques, dental materials, organisational aspects of dental care, patient anxiety, post extraction healing rates, antibiotics were identified. All were done in general dental practice. Trials in school and community settings were also included.

Conclusions

Practice-based research needs to be encouraged to provide dental primary care with relevant evidence upon which effective treatment can be based. This review shows there are few trials done in dental primary care to inform clinical practice, most of which have been reported since 1997. The range of trial designs shows that this method of evaluation can evaluate dental primary care interventions and this is promising for those with an interest in improving dental patient outcomes. More research on how to recruit dentists into clinical trial research must be done.

IN BRIEF

- Evidence-based dentistry needs to have information relevant to the dental primary care setting in order to help general dental practitioners improve their patients' oral health outcomes.
- No summary of clinical research exclusively conducted in the dental primary care setting has previously been available.
- This review identifies forty three clinical trials conducted in dental primary care from the Cochrane Controlled Trials Register.
- A description of the studies is followed with a discussion of the merits and shortcomings of the research designs used.
- The review found no evaluations of strategies to improve general dental practitioner's participation in primary care-based clinical research.

COMMENT

A recurrent theme has been the lack of evidence underpinning modalities of dental care. The evidence base for the practice of dentistry is weak. This paper highlights the limited research that has been done in practice or rather high-grade research.

The rationale for this is multi-factorial. Researchers need a range of abilities including methodological skills, writing and perhaps most importantly an ability to define the key questions. But the Government sees practitioners as service providers. These arrangements have put little emphasis on the development of inquisitive practitioners. The current system has hardly been conducive to research. At a time when resources required in ensuring that research governance standards are being met are increasing, the present cottage industry approach to a multi-billion pound business is unacceptable.

Although the inference made in this paper suggests that practitioners are reticent to do research, the arrangements for doing so must alter if the situation is to change. Within dental academia, job promotion and security are partly dependant upon doing successful research, which is not the case for practitioners. In addition, until fairly recently the lack of academic centres of primary dental care has meant that the importance of what happens outside universities with their emphasis towards specialist fields has meant that primary dental care has not had the recognition it deserves.

To address the shortfalls, some prerequisites need to be met. Practitioners should not be used simply as data gatherers. Academics must engage with primary care providers on an equal footing. The skills required to undertake high quality research may well lie in academia but this is only one aspect of the team approach necessary. Collaboration is the key. The reward system for practitioners must also change and the talks on the proposed contract, due in April 2006, provide such an opportunity.

There are also a number of initiatives that may help. The Faculty of General Dental Practitioners has, since its inception, put the development of research within primary dental care at its core. It has created a research network; organised an annual vocation training project; developed, with an academic centre, a research module for its career pathway; and most recently created a post to help take forward research in primary care. There are several academic primary dental care departments within universities, although far fewer when compared with medicine. The Department of Health has held a study day and helped fund the development of a national centre for primary dental care research and development.

Although this paper provides a useful review of the current state of published work, the answer does not simply lie in raising awareness. It is about changing the current culture. Unless the importance of all parties are recognised, and appropriate incentives developed, then these initiatives will not deal with today's shortfalls. They must be addressed and as a science-based profession we owe this to our patients.

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