Caries prevention guidelines

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In this issue, we summarise the latest evidence-based clinical recommendations from the American Dental Association on the use of pit and fissure sealants.¹ Sealants have been available since the 1960s and, although many studies have found that they are effective in reducing decay, it was not until 1993 that the first systematic review was conducted by Llodra and colleagues.² Since then, there have been two further Cochrane reviews^{3,4} focussing on caries prevention using sealants and one by Griffin *et al.*⁵ assessing their effectiveness in the management of caries.

Despite clear evidence of effectiveness – the review by Ahovuo-Saloranta *et al.*⁴ shows a reduction in decay of 86% in children's permanent teeth at 12 months – their rate of adoption seems rather slow. Will this new guideline help?

Although the evidence is robust, there seems little likelihood that it will lead to a large increase in uptake in the UK. There have already been two sets of guidelines published by the Scottish Intercollegiate Guidelines Network^{6,7} and other publications^{8,9} extolling evidence-based approaches to prevention of dental disease. Despite the admirable intentions of the funders and developers of these guidelines, there is far less planning of the dissemination and implementation of these guidelines. With a stubbornly large proportion of the child population of the UK still suffering from caries,¹⁰ should we not be doing more to identify the barriers and improve the uptake of these relatively simple preventive treatments?

Systematic reviews have examined the effectiveness and efficiency of guideline dissemination and implementation,¹¹ but there remains an imperfect evidence base to support decisions about which strategies are likely to work in different circumstances. The majority of studies undertaken so far

have been in the medical sector: precious few have been undertaken in dentistry. An exception, however, is a recent report by Clarkson *et al.*,¹² looking at interventions to improve the rate of sealant use in Scotland, where fewer than 20% of 11-year-olds have their first molars sealed.¹³ The study tested the use of an additional fee, compared with education or both interventions, compared with a no-intervention control. The fee intervention was the most effective and statistically significant, but only two-thirds of those eligible claimed the fee. The authors suggest that the possible reasons for the modest impact of the intervention were either that the children were not seen as being at risk of caries, their teeth had already been filled, or too much additional effort was required to claim the fee from the research team. The education group also showed a positive trend.

In a previous Editorial,¹⁴ I highlighted “the killer Bs” which are worth recalling in relation to this new sealant guideline:

- Burden. Is the burden of illness or frequency in our community too low to warrant implementation?
- Beliefs. Are the beliefs of held by individual patients or communities about the value of the interventions or their consequences inherently incompatible with the guideline?
- Bargain. Would the opportunity costs of implementing this guideline constitute a bad bargain in the use of our energy or our communities' resources?
- Barriers. Are the barriers (geographical, organisational, traditional, authoritarian, legal or behavioural) so high that it is not worth trying to overcome them?

I believe that the answer to all these questions is no, in relation to the use of sealants and the recent evidence-based prevention guidelines: we should be adopting them enthusiastically.

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