

## RESEARCH SUMMARY

# Untreated decayed teeth and dental sepsis

An investigation of the relationship between untreated decayed teeth and dental sepsis in 5-year-old children  
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## Objectives

To investigate the prevalence of dental sepsis in 5-year-old children in Scotland and the relationship between sepsis, treated and untreated decayed teeth, oral cleanliness (visible plaque on anterior teeth) and socio-economic deprivation.

## Subjects and methods

Six thousand, nine hundred and ninety-four children of mean age 5.3 years were examined as part of a survey conducted under the Scottish Health Board's Dental Epidemiological Programme. The presence of dental sepsis was recorded, in addition to caries status and presence of plaque. Postal code information was used to obtain a measure of material deprivation. Relationships between sepsis and its possible contributory factors were explored using stepwise logistic regression.

## Main results

In the whole sample, 4.8% of children examined had dental sepsis, ranging from 2% in the most affluent areas to 11% in the most deprived. Children with sepsis had much higher caries experience (mean dmft 6.30) than those without sepsis (mean dmft 2.36). However, when these factors and the presence of plaque were entered into a logistic regression model to predict presence or absence of dental sepsis, the most important factor was not deprivation, but untreated decay.

## Conclusions

The proportion of children with sepsis increases markedly with caries experience. This disadvantage can be mitigated if more of the caries experience is treated. These findings would not support a policy of non-intervention for deciduous caries if oral sepsis is to be minimised.

## IN BRIEF

- Describes the prevalence of dental sepsis and provides a measure of the impact of disease in a 5-year-old population.
- The data suggest that by not treating dental caries in deciduous teeth, particularly where many teeth are affected, the risk of occurrence of dental sepsis is increased.
- The findings do not support a policy of non-intervention for deciduous caries if oral sepsis is to be minimised.

## COMMENT

This paper is important for two reasons. Firstly, it highlights the unacceptable burden of dental disease which our young children in Scotland have to cope with. The paper reports that around 5% of 5-year-olds had an obvious dental sinus. What must be borne in mind when assessing this figure is that 14% of this sample of children had already had at least one carious tooth extracted prior to the time of examination. This, coupled with the probable under-reporting of oral sepsis discussed in the paper, means that a significant proportion of young children are having to suffer the effects of oral infection from a disease which is entirely preventable, but from which they are entirely dependent on their carers to protect them. If pets had this level of sepsis from a disease which is entirely preventable, then the RSPCA would probably be involved.

Secondly, the paper indicates that treating carious primary teeth does improve a child's oral health. The study data, collected by trained and calibrated dentists from a clinical examination of nearly 7,000 children, provide a much needed counterbalance to the studies referred to in the paper, which collected their data from a look-back on practice records, and which indicated that there is no apparent health benefit to restoring primary teeth. It is clear that those involved on both sides of the debate agree that a prospective clinical trial is needed to evaluate different approaches to child dental care. What is absolutely essential, however, is that the trial has proper controls (both positive and negative), and includes interventions known to make a difference: motivational oral health promotion, free adult-strength toothpaste, school brushing programmes, fluoride varnish amongst others and, critically, is sufficiently funded to allow GPs the time to provide the same quality of restorative care for primary teeth as they do for their adult patients. In the absence of any good evidence to the contrary, it would probably be prudent for GPs to continue to follow the treatment philosophy that any clinician will know in their heart of hearts to be true. That is that, in an adequately funded health care system, the vast majority of dental disease in primary teeth in children can be effectively managed by the vast majority of dentists, without trauma to either, and to the benefit of both.

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