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THE PROBE

Method assessment study commissioned

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New research assessing methods of managing tooth decay in children's teeth has been commissioned by the National Institute for Health Research Technology Assessment...

NEW research commissioned by the National Institute for Health Research Health Technology Assessment (NIHR HTA) programme, will assess different methods of managing tooth decay in children's teeth. Dr Gail Topping, Dr Nicola Innes and Dr Jan Clarkson from the University of Dundee will lead a research team that will work alongside others from Universities in Cardiff, Dundee, Glasgow, Leeds, London, Newcastle and Sheffield, to assess the benefits of three different methods for treating tooth decay in primary teeth with cavities.

Methodology

The three methods studied will be: conventional fillings (numbing with local anaesthetic injections then drilling away decay before placing a filling in the cavity); biological treatment of the decay (sealing the decay into teeth with filling materials or under crowns, generally without the need to use injections or dental drills); and using only preventive techniques recommended in national guidance (better tooth brushing, less sugar in the diet, application of high fluoride varnish and fissure sealants) to stop the decay. They will also investigate what the participating children think of the different types of treatments.

Common disease

Research shows that dental decay is one of the most common childhood diseases, with more than 40 per cent of children in the UK already experiencing obvious decay in their primary teeth by five years of age, and this statistic has remained largely unchanged for the past 20 years. It has also been found that only around 12 per cent of obviously decayed primary teeth in five year olds are treated with fillings, while the vast majority are left untreated, and dental extractions remain the most common reason for children in the UK to receive an out-patient general anaesthetic. This research programme should provide crucial evidence to help inform what is the best way of managing decay in children's primary teeth.

The research team that will be involved in the programme

The 2.87 million pound study will involve children aged three to seven who already have decay in their primary teeth but have no toothache or abscesses. Participating dentists will be from general dental practices throughout the UK where children who attend for regular dental care will be invited to take part. In addition to the preventive treatment for all children in the trial, they will be randomly assigned to one of the three treatment groups. The children will be asked to rate on a special scale any discomfort they felt during each treatment and asked about what they think of the different ways of treating their teeth. All children in the trial will be seen by their dentist up to four times per year and checked for any problems which require care.

> *"The trial will enable a clear recommendation to be made regarding the important question of how decayed primary teeth should be best managed in primary dental care."*

'No conclusive evidence'

One of the three principal investigators in this study, Dr Gail Topping, commented: "Treatment for decay in primary teeth varies widely across the UK and there is, as yet, no conclusive evidence for the most effective approach to its management.

"This trial will enable a clear recommendation to be made regarding the important question of how decayed primary teeth should best be managed in primary dental care."

The scheme has outlined a set of specific objectives addressing the NIHR HTA brief. The three treatment groups in the trial to which participating children will be randomly allocated (conventional restorations, intermediate "biological" arm or prevention alone) will allow the effectiveness of a variety of clinical and patient-centred outcomes to be compared. These include; the incidence of pain, sepsis, decay, quality of life issues and cost-effectiveness. In addition, patient, parent and dentist preferences for the three treatment approaches will be compared.

Selection for the pilot scheme is currently underway and the pilot study will begin in October 2009. The pilot study will take place in Tay-side and Fife, Sheffield and Leeds, and Newcastle and the full study, which begins in February 2011, will widen out to include dentists in Cardiff and Tower Hamlets. A number of dental professionals working in these areas will be contacted by the study team and invited to participate in the study.

For further information on participating in the NIHR HTA study keep a look out for more information in a future issue of *The Probe*. ■

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