Summary of: The behaviour of preschool children receiving fluoride varnish application in a community setting

FULL PAPER DETAILS

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VERIFIABLE CPD PAPER

Background The behaviour of young children receiving mildly invasive dental preventive procedures in a community setting warrants more extensive research due to limitations in the literature. **Objectives** To document the behavioural profile of preschool children undergoing a preventive oral health intervention (fluoride varnish application) and to investigate this behaviour across children with different previous experience of the procedure, ages and initial anxiety states. **Method** Nurse-child interactions were video recorded and child behaviours coded and analysed using a specially developed coding scheme (SABICS). Behaviour frequency was measured and presented diagrammatically, followed by independent sample non-parametric tests to distinguish behavioural group differences. **Results** Three hundred and three interactions were coded out of 456 recorded application sessions. 'Nonverbal agreement' behaviour was observed most frequently compared to disruptive behaviours. Younger preschool children tended to exhibit 'interact with instrument' behaviour more frequently than older children regardless of whether they had had previous application experience. Children who showed signs of initial anxiety were likely to display more disruptive behaviours during the later stage of the procedure compared with non-anxious children. **Conclusions** Dental staff working with preschool children are recommended to use encouragement-centred strategies to promote nonverbal cooperative behaviours in children. In addition, procedure instruments could be considered as a tool to gain child cooperation. Evidence of an autocorrelation effect of child behaviour was found, indicating that the early presentation of child behaviour predicted the behaviour of the child at later stages.

EDITOR'S SUMMARY

The interesting thing about disease is that it requires treatment, and consequently we spend a lot of time, energy and resources in studying it. The curious thing about prevention is that, because for the most part it does not involve dramatic intervention, we tend to expend less time and energy figuring out how it might work and why.

It is not surprising therefore that the literature on the treatment of children focuses on their reactions to painful medical treatments and invasive interventions but is silent on their behaviour in relation to the 'softer' elements of preventive measures. Nevertheless, such procedures do require adult on child activity, are out of the ordinary for the child and can be unusual in terms of sensations and experience.

In a world in which we already need to be considering the role of behaviour in our patients' choices and motivations, there is a greater imperative than ever that we start to understand behaviours in relation to prevention. While some of this paper could be dismissed cynically as common sense, there is also a vitally important part of it which directs us towards a greater scientific approach to observing, measuring and assessing how earlier behaviour can indicate possible later problem areas (or otherwise), and so gives us clues as to when and how to use positively guiding techniques.

Also, in a changing world of dental professional roles both the abilities and enthusiasms of our DCP colleagues may well come into play, as they have done in this element of the Childsmile programme, on which this research is based. It is likely, in addition, to be an important consideration in the development of the new dental contract in England and makes sense as well in terms of patients being expected to take a greater role in their own oral health. The social and behavioural sciences may have formed only a miniscule part of our dental education to date but rest assured that they are set to guide us distinctly towards the future.

The full paper can be accessed from the *BDJ* website (www.bdj.co.uk), under 'Research' in the table of contents for Volume 215 issue 7.

Stephen Hancocks
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IN BRIEF
- Documents a behavioural profile of preschool children undergoing a preventive oral health intervention.
- Provides recommendations on clinical practice for dental staff working with young children.
- Emphasises the importance of behavioural sequential analysis to examine possible causal relationships between nurse and child behaviours.

RESEARCH

COMMENTARY

This study analysed the behaviour of preschool children receiving fluoride varnish application in a community setting as part of the NHS 'Childsmile' initiative, which seeks to deliver preventive care to preschool children.

Existing research has explored anxiety and behaviour of children receiving invasive and painful procedures and the factors that potentially influence this. There is a lack of understanding of this in relation to oral health preventive care that is considered to be minimally invasive and painful. Since such interventions are commonplace among children by comparison to painful and invasive treatments, it is beneficial to understand behaviour in order to support paediatric dental staff and children in their receipt of dental care.

This observational study entailed analysis of video recordings of nurse/child interactions in a school setting to explore communication behaviours. The strengths of this approach include: the potential to repeat and triangulate processes of analysis, the facilitation of natural behaviour among nurses, reducing researcher effect and the research team's established track record with this methodology. The St Andrews Behavioural Interaction Coding Scheme (SABICS) was compiled to code nurse-child interactive behaviours and included verbal behaviours and nonverbal behaviours. Indicators of anxiety included: (i) anxious behaviours; (ii) other people's presence as support; and (iii) unusual positions adopted.

Analysis identified non-verbal communication and the display of cooperative, rather than disruptive, behaviours. Cooperative non-verbal behaviours included nodding head, and indicate the potential for asking appropriate questions and delivering instructions designed to facilitate non-verbal cooperation. Such methods may be preferable to a focus on disruptive behaviours and may reflect the verbal language capacity of three- to five-year-olds and preferences in interacting with unfamiliar adults.

The authors recognise sample size limitations as impairing the generalisability of the findings, although given that it is the first study of its kind, it provides a foundation to future research. The benefits of longitudinal approaches for further studies are also acknowledged. The findings indicate a requirement for further research to explore the impact of introducing dental instruments or kits on child cooperation.

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AUTHOR QUESTIONS AND ANSWERS

1. Why did you undertake this research?
Compared to extensive paediatric literature in invasive medical and dental procedures, limited research effort has been devoted to investigating how young children behave when receiving mildly invasive dental preventive procedures in a community setting. Using video observation and a recognised behavioural coding scheme, we wish to document the behavioural profile of preschool children receiving fluoride varnish application to address this gap in the literature.

2. What would you like to do next in this area to follow on from this work?
We have found that 'non-verbal agreement' behaviour was observed more frequently compared to disruptive behaviours. In addition, younger preschool children tended to engage themselves with the dental instruments more often than older children. We plan to use the findings of this study, together with the findings on EDDN's behaviour, to inform training programme development for this group of dental staff.

In this study, no causal behavioural relationships between child and nurse behaviour were assumed. In order to fully understand the dynamics of nurse-child interactions in delivery of the fluoride varnish application at nursery schools, the next stage of our study is to conduct multilevel behavioural sequential analysis, controlling for effects from child (eg gender, age), nurse (eg training experience), and interaction (eg duration).