

Why do children still have preventable caries?



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Introduction

Despite extensive knowledge on the pathogenesis of caries, improvements in general oral health and preventive evidence-based toolkits such as *Delivering better oral health*,¹ childhood caries continues to be the leading cause of paediatric admission to hospital for extraction under general anaesthesia (GA). With caries being a preventable disease^{2,3} and the rationale to use GA being complicated with the risk of morbidity and mortality,⁴ the issue of childhood caries needs to be addressed. The COVID-19 pandemic has further complicated the situation, as routine access to care is limited. Approximately 40,000 children and young adults have teeth removed due to dental caries in hospital each year in England.⁵ Nine out of ten dental extractions

performed in hospitals are due to preventable dental disease.³

Inequality

There is a significant difference in the prevalence of dental caries between populations from affluent and deprived backgrounds.⁵ The Child Dental Health Survey (2013) has shown that children who are from lower income households are more likely to suffer from oral disease when compared with other children of the same age.⁶ Public Health England's (PHE's) National Dental Epidemiology Programme for England (2017) highlighted children from the most deprived areas had more than twice the experience of caries (34%) than those living in the least deprived areas (14%). There are variations in the prevalence of carious lesions with the South East of England having the lowest number of decayed, missing or filled teeth (dmft) at 0.4, and the North West having the highest dmft at 1.6. The national average dmft is 0.6.⁷

Water fluoridation

It is a well-established fact that fluoride can help prevent dental caries.⁸ For this reason, community water fluoridation has been in place for more than 70 years in certain parts

of the UK. Less severe dental caries has been observed in populations who have higher levels of fluoridated water compared with populations who have lower levels.⁵ Even though it has been shown all children benefit from fluoridated water, children from more deprived backgrounds have been shown to benefit the most.⁵ A study conducted by Public Health England has shown fluoridating water would reduce the number of five-year-olds experiencing caries by 17% in the least deprived areas to 28% in the most deprived areas. The major localities of the UK receiving fluoridated water supplies are Newcastle upon Tyne and the West Midlands.⁹ Fluoridating water is a safe and effective way to reduce both the frequency and severity of dental decay as well as bridging the gap between different levels of caries experienced by children from differing income backgrounds.

Challenges for the family

It can be challenging for families to refuse giving their children sugary foods. There is a known association between foods containing fermentable carbohydrates and carious lesions. Some families may experience difficulty encouraging their children to brush their teeth, further increasing the risk of developing caries, as well as a lack

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of understanding of caries prevention.² If families do not seek dental care for children at an appropriate time, carious lesions can become extensive, unrestorable and can lead to morbidity, missed school, difficulty sleeping and eating, hospitalisation, and a need for repeat courses of antibiotics.

Body Mass Index

Childhood obesity is becoming a significant population health challenge in the UK.¹⁰ All population groups, including children, are consuming too much sugar.³ A literature review and analyses performed by PHE found children who are underweight or overweight and very overweight are more likely to experience dental caries when compared to children of a healthy weight.¹⁰ There is also a strong association between childhood obesity, childhood caries and deprivation.¹⁰ Those who live in deprived areas tend to consume food and drinks high in sugar therefore leading to a higher chance of suffering with dental caries.³ Common risk factors for childhood caries and obesity include socio-economic, genetic and environmental factors, and diet.¹⁰

‘With inability to access routine dental care, there is a risk of seeing an increase in the incidence of unrestorable teeth requiring treatment’

Conclusion

Due to the COVID-19 pandemic, the assessment and treatment of patients was temporarily halted. All elective procedures were ceased, leading to a reduced provision of dental extractions under general anaesthesia.¹¹ To limit the spread of COVID-19 and protect patients and clinicians, routine dentistry was suspended and access was restricted for non-emergency services.

Prevention of dental disease and reinforcement of oral health education largely depends on regular dental check-ups.¹¹ With almost a third of five-year-olds suffering from dental caries and inability to access routine dental care, there is a risk of seeing an increase in the incidence rate of unrestorable teeth requiring treatment under general anaesthesia.

Children’s access to NHS dental services needs to be improved.¹² Prevention should be

the key message used for all dental policies aimed at improving oral health.¹³ Access should be equal and readily available to all individuals in a safe environment from qualified personnel.¹³

More than ever, delivering prevention advice to families is imperative due to the reduced access to care. Further work needs to be carried out exploring teledentistry, which can be used to maintain communication and education remotely. National oral health campaigns are another useful tool to reach a wider audience when physical contact with patients is limited.

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