

# Northumbria Research Link

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## At a glance; Children and their oral health

Abstract - A child's oral health is recognised as being a contributing factor in their healthy development. It is considered to be a public health priority. Poor oral health in children impacts on the children themselves, on their family and society. Tooth decay otherwise known as dental caries is the most common reason for 5–9 year olds in England to be admitted to hospital. Poor oral health can be a significant indicator of wider health and social issues.

Key words: oral health, children, dental caries

A child's oral health is recognised as being a contributing factor in their healthy development. The World Health Organisation (WHO) defines oral health as being free from chronic mouth and facial pain, cancers, infection and other conditions which may inhibit a person's ability to chew, bite, smile or speak (WHO, 2018). Oral health problems include gum disease, tooth decay (Please see Figure 1 – **photo of dental caries**), tooth loss and other oral mucosal disease. However, tooth decay is the most common oral disease affecting children and young people in England and is considered to be mostly preventable (Public Health England (PHE), 2016a). It is considered to be a public health priority linked to childhood obesity and is also connected to ideas such as health inequality.

Poor oral health in children impacts on the children themselves and on their family. Tooth decay otherwise known as dental caries is the most common reason for 5–9 year olds in England to be admitted to hospital (Health and Social Care Information Centre, 2015). These admissions are often to have teeth removed under general anaesthesia. Over 60 000 children and young people aged 0–19 years were admitted to hospital to have teeth removed under general anaesthesia in 2015. Children with dental caries suffer a range of symptoms and difficulties (See Box 1 – Symptoms and challenges). Poor oral health can be a significant indicator of wider health and social issues. For example dental neglect may be part of a safeguarding issue, which must be considered by practitioners. Dental caries is caused by a range of complex factors. However on a basic level the bacteria in the mouth break down food, especially carbohydrates, leading to acid production which can demineralise teeth. With continued demineralisation tooth structures are destroyed, resulting in development of cavities, then possibly tooth loss and systemic infection (WHO, 2018).

### Box 1 – Symptoms and challenges

- Pain
- Infection
- Difficulties eating
- Disturbed sleep
- Missed school due to appointments

- Impact on confidence affected socialising
- Fear and anxiety of dental care with lifetime consequences.

The National Dental Epidemiology Programme reports data which indicates the oral health of 5 year olds across the United Kingdom (UK) is improving. However there remains significant concerns regarding the oral health of our nation's children. For example in 2015 it was reported that 24.7% of 5 year olds start school with dental caries (PHE, 2016a). Those affected will on average have 3-4 teeth affected. As with many areas of health the wider determinants need to be considered and there are variations across the UK. Evidence suggests deprivation and ethnicity both impact the data recorded. Children who attend specialist schools who have dental caries were twice as likely to have had one or more teeth extracted (PHE, 2015).

### Brushing children's teeth

PHE (2017) guidance suggests that as soon as the first tooth appears (which is usually at about 6 months), a children should have their teeth brushed at least twice a day. The recommendations are on a morning and evening with fluoride toothpaste. The reason for brushing teeth before bed is that the fluoride continues to protect the teeth throughout sleep. Children tend to need support brushing their teeth effectively until around the age of 7 years. However this is dependent on stage of development and maturity. Guidance also suggests that between the ages of 0-6years old, children should use toothpastes containing 1350–1500 parts per million fluoride (PHE, 2017). To consider the amounts needed please see [Figure 2 \(Photo of smear of toothpaste for 0-3year olds and pea sized for 3-6year olds\)](#).

### Health education and promotion

Health education should be given to families regarding a healthy diet. This includes the reduction of sweet foods and drinks. It is important to highlight to parents and carers that this incorporates fruit juices and smoothies. Practitioners should also consider the sugar contained within prescribed medications and seek out sugar-free alternatives. Families should also be informed about the oral health risk associated with bottle use. Bottle feeding should be discouraged from 12 months old (PHE, 2017). Visiting the dentist should be promoted from the first teeth appearing. Dental reviews should occur as often as advised by the dentist and are free for children under 18years of age. The dentist may apply a fluoride varnish to child over 3years to protect their teeth (PHE, 2017).

There are a range of public health interventions related to oral health, these can be found in Box 2 – Interventions for the wider population. National and local government policy have a key role to play in oral health. The recent government action to address childhood obesity will also impact on oral health as both share a common risk factor, the consumption of sugars. It is argued that if the nation is to make significant changes in the oral health of our children there needs to be a

reduction in the consumption free sugars and an increase access to fluoride. Godson, Csikar and White (2018) state oral health improvement should be everyone's business.

Box 2 – Interventions for the wider population.

- Oral health training for the wider professional workforce so that it can be incorporated into all health and social care contacts (Department of Health, 2009)
- Targeted provision of toothbrushes and fluoride tooth paste in at risk groups
- Supervised tooth brushing in targeted childhood care settings
- Healthy food and drink policies in nurseries and primary education
- Fluoridation of the water supplies
- Influencing government policies

(National Institute for Health and Care Excellence, 2014a; PHE, 2014)

### Water fluoridation

Repeatedly in global research evidence has shown that water fluoridation is a safe and effective public health intervention (PHE, 2014b). This intervention does not rely on individual behaviour change, which can be challenging. Fluoride reduces the likelihood of developing dental caries and reduces severity of the condition where it exists. All water supplies contain some naturally occurring fluoride. Currently, in the UK, approximately 10% of the population drink fluoridated water in comparison with 70% of the population in the USA (PHE, 2016b). When comparing children who reside in areas where the water is fluoridated to those who do not the data is stark. 5 year olds living in fluoridated areas are 13% less likely to have dental caries even when deprivation and ethnicity were considered and there are 45% fewer children under 4 years attending hospital for dental extraction (PHE, 2016b). The debate regarding fluoridation usually centres around cost, benefit and ethical implications.

### Making Every Contact count

All nurses has a key role in 'making every contact count' (NHS England, 2016). This should include having the knowledge and skill to promote evidence-based messages and to support families to take action on their oral health. This will also require a nurse to consider assessing and supporting behaviour change. At times practitioners will need to have confidence to refer children and their families' to local dental services. Research indicates that this remains a challenge, for example one third of Health Visitors have never received oral health training (Oge et al., 2018)

### Conclusion

Poor oral health can lead to number of health problems, primarily in children this is dental caries. Routine oral hygiene and advice regarding sugar intake can support the oral health of a child. It is important to recognise that children should grow up with good oral health and that dental caries is mostly preventable.

Declaration of interest: none

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