

Editorial**Early Childhood Caries: a complex problem requiring a complex intervention**

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For all the advances that have been made in the prevention and treatment of dental caries in recent decades, Early Childhood Caries (ECC) remains one of the most heart-breaking conditions a dentist regularly encounters, and one of the most challenging to prevent and treat. Definitions for Early Childhood Caries and Severe Early Childhood Caries (S-ECC) were proposed in 1999 by a panel of experts convened to standardise reporting of the condition (Drury *et al.*, 1999) and replace earlier terms such as “nursing bottle caries” or “baby bottle tooth decay” which ascribed a single cause to a condition which is now understood to have a complex aetiology involving biological, social and behavioural determinants. The term ECC covers any caries occurring in a child under the age of 6 years, whereas the definition of S-ECC relates to the site and severity of caries as well as to the age of the child. The rationale behind the definition was the importance, as a public health policy, to promote the goal that no child under 6 years of age should develop dental caries. While these definitions are not universally accepted, they have been adopted by organisations such as the American Academy of Pediatric Dentistry and the European Academy of Paediatric Dentistry. A further step would be for epidemiological surveys of children under the age of 6 to report their results in terms of prevalence of ECC and S-ECC in addition to severity (dmft), which would allow valid comparisons between geographic areas. Currently we know that there is considerable variation in the reported prevalence of caries in preschool children, ranging from 3-6% to over 90%, but some of this could be due to differences in case definition. It is essential that we adopt a common terminology and common definition, and ECC and S-ECC could fulfil that role.

The multifactorial nature of the aetiology of ECC was highlighted in a systematic review of risk factors for ECC, which identified 106 factors associated with the disease (Harris *et al.*, 2004). However, like other chronic diseases, the key determinants of ECC are socio-economic and sociocultural factors which in turn influence the dietary, oral hygiene and dental attendance practices associated with ECC. Those who are worst off bear the greatest burden of ill health and ECC is no different. The complex aetiology of ECC requires a multifaceted approach to its prevention, involving early intervention, integration of oral health promotion into

all primary healthcare contacts e.g. public health nurse, GP, pharmacist, and into the wider environment of the preschool child i.e. nursery/crèche through supervised toothbrushing programmes with fluoride toothpaste and healthy food policies, as well as early access to dental services. To effectively tackle the problem, preventive strategies need to operate at population, directed population and individual level - the proportionate universalism advocated in the Marmot Report (Marmot *et al.*, 2010).

Programmes to prevent ECC require complex interventions, which are difficult to evaluate. However, the impressive results emerging from Scotland following the implementation of the complex intervention – ChildSmile – is testament to the fact that this approach works. The recent paper by McMahon *et al.* (2011) reported an overall reduction in the prevalence of dentinal caries in 3-year-olds in Greater Glasgow and Clyde from 26% in 2006/7 to 17% in 2009/10 while the mean dmft fell from 1.1 to 0.4. The reductions in caries prevalence and severity over time occurred across all socio-economic groups and with a similar magnitude of effect. This is a remarkable achievement, and shows how, with the right approach and strong policy commitment to tackling ECC, the oral health and well-being of young children can be improved.

References

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