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EARLY CHILDHOOD CARIES: IAPD BANGKOK DECLARATION

1 | INTRODUCTION

The purpose of this Declaration is to gain worldwide support for an evidence-based definition and a common understanding of the evidence around the aetiology, risk factors, and interventions to reduce Early Childhood Caries (ECC), as well as to mobilize collaborative approaches and policies to diminish this chronic disease. With this background, 11 experts from across the globe convened under the auspices of the International Association for Paediatric Dentistry (IAPD) to create this statement.

2 | THE IAPD BANGKOK DECLARATION

Early Childhood Caries (ECC) is defined as the presence of one or more decayed (non-cavitated or cavitated lesions), missing or filled (due to caries) surfaces, in any primary tooth of a child under six years of age. Primary teeth maintain the space for the permanent teeth and are essential to a child's well-being since dental caries on primary teeth may lead to chronic pain, infections, and other morbidities. ECC is preventable, but currently affects more than 600 million children worldwide, and remains largely untreated. This disease has major impact on the quality of life of children and their families and is an unnecessary burden to society.

Early Childhood Caries, like other forms of caries, is considered to be a biofilm-mediated, sugar-driven, multifactorial, dynamic disease that results in the imbalance of demineralization and remineralization of dental hard tissues. Dental caries is determined by biological, behavioural, and psychosocial factors linked to an individual's environment. ECC shares common risk factors with other non-communicable diseases (NCDs) associated with excessive sugar consumption, such as cardiovascular disease, diabetes, and obesity. Excessive intake of sugars leads to prolonged acid production from tooth adherent bacteria and to a shift in the composition of the oral microbiota and biofilm pH. If sustained, tooth structures are demineralized. ECC is in some cases associated with developmental defects of enamel.

Appropriate management of ECC from informed parents, health professionals, and community health workers, as well as evidence-based health policy, is important to reduce this burden of preventable disease. Caries risk assessment aids in this process by establishing the probability of individual patients, or groups of children developing carious lesions. For the individual child, risk assessment is an essential key element to guide prevention and management. At the community level, the caries risk assessment can guide the design of public interventions and allocate time and resources to those with the greatest need.

Prevention and care of ECC can be structured in three phases. *Primary prevention* includes improving oral health literacy of parents/caregivers and healthcare workers, limiting children's consumption of free sugar in drinks and foods, and daily exposure to fluorides. *Secondary prevention* consists of the effective control of initial lesions prior to cavitation that may include more frequent fluoride varnish applications and applying pit and fissure sealants to susceptible molars. *Tertiary prevention* includes the arrest of cavitated lesions and tooth-preserving operative care.

3 | RECOMMENDATIONS

To reduce the prevalence and burden of ECC worldwide, the IAPD Bangkok Declaration recommends the following actions: Four key areas requiring action with multiple stakeholders are as follows:

1. Raise awareness of ECC with parents/caregivers, dentists, dental hygienists, physicians, nurses, health professionals, and other stakeholders.
2. Limit sugar intake in foods and drinks and avoid free sugars for children under 2 years of age.
3. Perform twice daily toothbrushing with fluoridated toothpaste (at least 1000 ppm) in all children, using an age – appropriate amount of paste.
4. Provide preventive guidance within the first year of life by a health professional or community health worker (building on existing programs – eg vaccinations – where possible) and ideally, referral to a dentist for comprehensive continuing care.

In addition, it is recommended that:

- Stakeholders advocate for reimbursement systems and educational reform that emphasizes evidence -based prevention and comprehensive management of ECC.
- In order to standardize comparisons across countries and regions, epidemiology studies should record the presence of non-cavitated and cavitated caries; ideally record initial, moderate, and extensive stages of decay; children should be surveyed at three and five years of age to capture preventive as well as restorative needs.
- An educational curriculum on ECC should be implemented in dental schools worldwide to ensure that evidence-and risk-based preventive care is given equal weight to traditional surgical management.
- Research on ECC inequalities, oral health-related quality of life, interventions, and health economics should be supported to further understand benefits of effective and timely care.

The Appendix below, prepared by the Expert Panel, provides a Communication Statement on Early Childhood

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Caries designed for a wide range of professional and lay stakeholders. A detailed paper, entitled 'Global Perspective of Early Childhood Caries Epidemiology, Aetiology, Risk Assessment, Societal Burden, Management, Education and Policy', provides the updated evidence and references that informed this declaration.[1]

*Global Summit on Early Childhood Caries was held in Bangkok on November 2–4, 2018. Members of the Expert Panel who drew up this Declaration with input from the IAPD Board were: Drs. N.B. Pitts (U.K), R. Baez (USA), C. Diaz-Guallory (USA), K. Donly (USA), C. Feldens (Brazil), C. McGrath (Hong Kong), P. Phantumvanit (Thailand), K. Seow (Australia), N. Sharkov (Bulgaria), N. Tinanoff (USA), and S. Twetman (Denmark).

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REFERENCE

1. Tinanoff, N, Baez, RJ, Diaz-Guillory, C, et al. Early childhood caries epidemiology, aetiology, risk assessment, societal burden, management, education, and policy: Global perspective. *Int J Paediatr Dent*. 2019;29:238-248. https://doi.org/10.1111/ipd.12484

APPENDIX

IAPD Bangkok Declaration: Communication Statement on Early Childhood Caries

What is Early Childhood Caries (ECC)?

- **Dental Caries:** *Scientific definition* – Dental caries is a biofilm-mediated, sugar-driven, multifactorial, dynamic disease that results in the imbalance of demineralization and remineralization of dental hard tissues. Dental caries is determined by biological, behavioural, and psychosocial factors linked to an individual's environment.
- **Early Childhood Caries** is: *Lay definition* – Tooth decay in pre-school children which is common, mostly untreated and can have profound impacts on children's lives. *Clinical definition* – the presence of one or more decayed (non-cavitated or cavitated lesions), missing (due to caries), or filled surfaces, in any primary tooth of a child under age six.

The context for ECC

- Dental caries is the most common preventable disease.
- Untreated dental caries in primary teeth affects more than 600 million children worldwide.
- Dental caries shares common risk factors with other noncommunicable diseases (NCDs) associated with excessive sugar consumption, such as cardiovascular disease, diabetes, and obesity.

The unacceptable burden of ECC

- ECC is an unacceptable burden for children, families, and society.
- The timely and appropriate prevention and management of ECC is important to reduce this burden and to improve the quality of life of children globally.

How do we reduce ECC and its burden?

- ECC is multifactorial, and there is no easy or single solution to the complex 'Caries Puzzle'. The engagement of multiple stakeholders to address the multiple aspects of caries causation is necessary to prevent ECC.
- **Primary Prevention of ECC**
  - Upstream interventions at the community level.
  - Prevention of new disease at the individual level.
- **Secondary Prevention of ECC**
  - Effective control of initial lesions prior to cavitation.
  - Arrest of more advanced lesions, where possible.
- **Tertiary Prevention of ECC**
  - Non-invasive caries control procedures.
  - Appropriate, tooth-preserving restorative care.

Action on ECC needed from multiple stakeholders in four key areas

- **Raise awareness of ECC** with parents/caregivers, dentists, paediatricians, nurses, other health professionals, and other stakeholders.
- **Limit sugar intake in foods and drinks** and avoid free sugars for children under 2 years of age.
- **Perform twice daily toothbrushing with fluoridated toothpaste** (at least 1000 ppm) in all children, using an age-appropriate amount of paste.
- **Provide preventive guidance within the first year of life by a health professional or community health worker** (building on existing programs – eg vaccinations – where possible) and ideally, referral to a dentist for comprehensive continuing care.

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