



Prevention of Early Childhood Caries (ECC) and report from the ECC workshop with Balkan countries



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Outline

- **Introduction**
- **The WHO Expert Group's Recommendation - Way Forward Prevention and Control of Early Childhood Caries (ECC)**
- **Report from the ECC workshop with Balkan countries**

Introduction

Disease Burden - GBD study 2016 -

A Leading causes 1990

Leading causes 1990	Leading causes 2006	Mean % change in number of prevalent cases (1990-2006)	Mean % change in all-age prevalence rate (1990-2006)	Mean % change in age-standardised prevalence rate (1990-2006)	Leading causes 2016	Mean % change in number of prevalent cases (2006-16)	Mean % change in all-age prevalence rate (2006-16)	Mean % change in age-standardised prevalence rate (2006-16)
1 Permanent caries	1 Permanent caries	23.5	-1.1	-4.7	1 Permanent caries	9.4	-2.7	-3.4
2 Latent tuberculosis infection	2 Tension headache	23.9	-0.8	-5.1	2 Latent tuberculosis infection	12.6	0.1	-1.7
3 Tension headache	3 Latent tuberculosis infection	22.3	-2.0	-5.9	3 Tension headache	10.5	-1.7	-2.3
4 Ascariasis	4 Iron-deficiency anaemia	23.3	-1.3	2.1	4 Age-related hearing loss	26.0	12.1	0.3
5 Iron-deficiency anaemia	5 Age-related hearing loss	44.0	15.3	0.8	5 Iron-deficiency anaemia	9.5	-2.6	-0.9
6 Migraine	6 Migraine	30.6	4.6	-1.3	6 Migraine	13.3	0.8	-0.5
7 Age-related hearing loss	7 Ascariasis	-22.6	-38.0	-38.1	7 G6PD trait	12.5	0.1	0.3
8 G6PD trait	8 G6PD trait	28.3	2.7	2.9	8 Genital herpes	18.7	5.5	-0.4
9 Vitamin A deficiency	9 Refraction and accommodation	30.3	4.4	-4.4	9 Refraction and accommodation	17.3	4.3	-3.8
10 Refraction and accommodation	10 Genital herpes	42.6	14.2	2.8	10 Ascariasis	-5.2	-15.6	-14.9
11 Trichuriasis	11 Periodontal diseases	45.4	16.4	1.3	11 Periodontal diseases	25.9	12.0	2.2
12 Genital herpes	12 Acne vulgaris	24.6	-0.2	2.6	12 Fungal skin diseases	18.2	5.2	2.4
13 Hookworm disease	13 Fungal skin diseases	31.4	5.2	3.2	13 Acne vulgaris	5.1	-6.5	2.0
14 Acne vulgaris	14 Vitamin A deficiency	-8.0	-26.3	-22.1	14 Other skin diseases	25.5	11.6	4.4
15 Deciduous caries	15 Hookworm disease	-8.8	-27.0	-27.7	15 Low back pain	18.0	5.0	-2.1
16 Periodontal diseases	16 Deciduous caries	-0.6	-20.4	-3.3	16 Vitamin A deficiency	-2.7	-13.4	-10.7
17 Fungal skin diseases	17 Trichuriasis	-17.4	-33.8	-34.1	17 Deciduous caries	7.3	-4.6	0.7
18 Hepatitis B	18 Low back pain	24.8	-0.1	-10.3	18 Falls	27.6	13.5	4.7
19 Low back pain	19 Other skin diseases	42.1	13.8	5.5	19 Hepatitis B	10.9	-1.3	-2.2
20 Premenstrual syndrome	20 Hepatitis B	20.6	-3.4	-2.4	20 Sickle cell trait	17.5	4.5	6.2
21 Other skin diseases	21 Premenstrual syndrome	31.8	5.5	-0.9	21 Premenstrual syndrome	9.3	-2.8	-2.1
22 Sickle cell trait	22 Sickle cell trait	34.6	7.7	9.5	22 Hookworm disease	-0.7	-11.7	-10.8
23 Falls	23 Falls	27.5	2.1	-7.2	23 Trichuriasis	0.4	-10.7	-9.6
24 Asthma	24 Diabetes	74.3	39.6	21.9	24 Diabetes	22.0	8.5	-1.9
25 Dermatitis	25 Other musculoskeletal disorders	42.7	14.3	4.5	25 Asthma	17.5	4.5	3.5
26 G6PD deficiency	26 G6PD deficiency	32.6	6.2	7.5	26 Other musculoskeletal disorders	14.6	1.9	-3.6
27 Thalassemia trait	27 Asthma	16.3	-6.8	-7.2	27 G6PD deficiency	13.1	0.6	1.8
28 Other musculoskeletal disorders	28 Dermatitis	21.2	-3.0	-0.6	28 Dermatitis	12.2	-0.2	0.7
29 Schistosomiasis	29 Schistosomiasis	32.4	6.0	-1.9	29 Edentulism	27.3	13.2	-0.9
30 Anxiety disorders	30 Thalassemia trait	19.4	-4.4	-3.8	30 Osteoarthritis	30.0	15.6	0.9
33 Diabetes	31 Anxiety disorders				32 Thalassemia trait			
35 Edentulism	33 Edentulism				33 Anxiety disorders			
37 Osteoarthritis	34 Osteoarthritis				39 Schistosomiasis			

Dental caries in primary teeth, the 17th most prevalent condition, affects more than 486 million children worldwide.

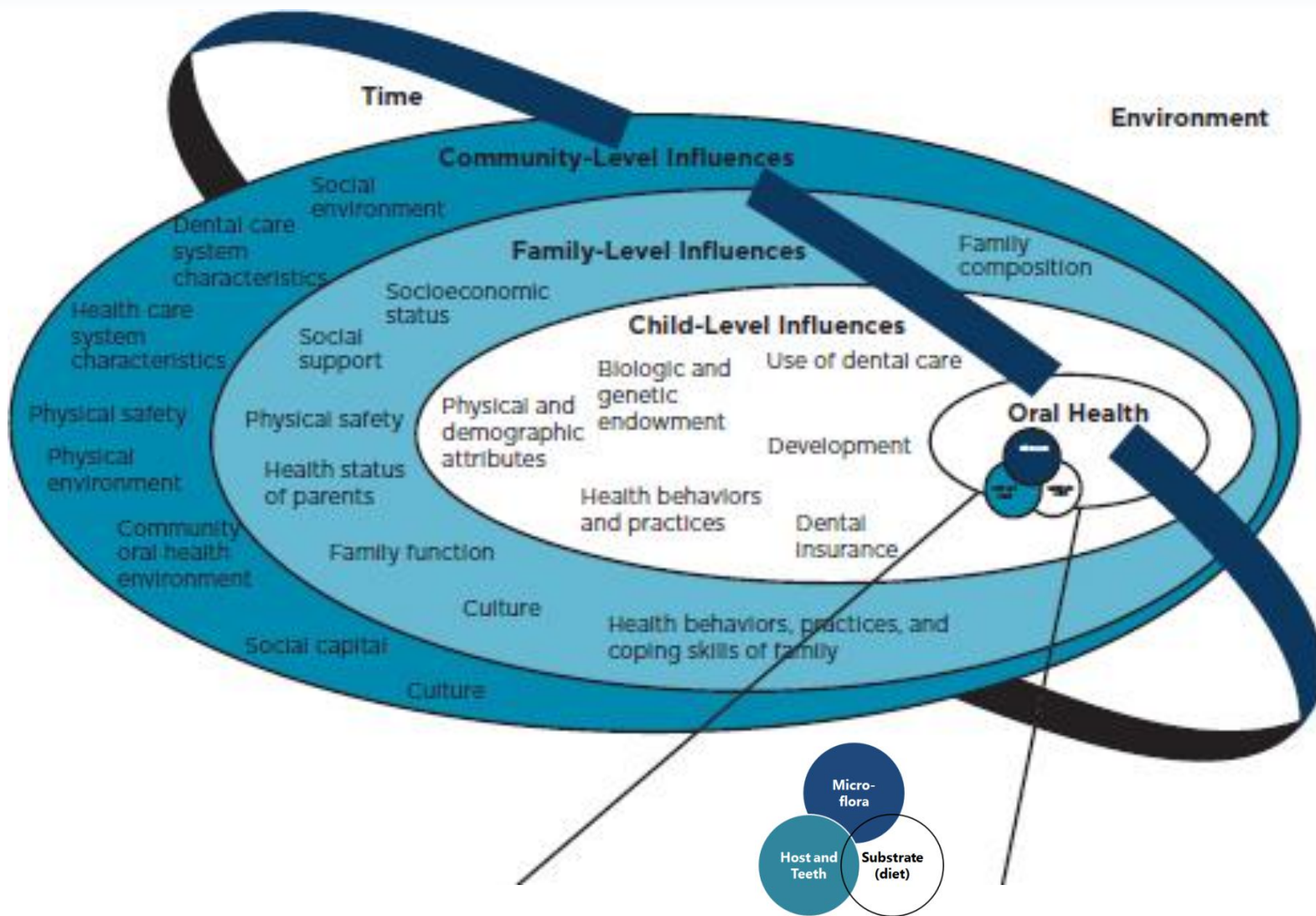
Ref: Global, regional, and national incidence, prevalence, and years lived with disability for 328 diseases and injuries for 195 countries, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016

Characteristic of ECC

The aetiology of ECC is complex and the disease progresses rapidly compared to caries development later in life.



Aetiology of Dental Caries, ECC



Why ECC is Problem?

*ECC is a global public burden, **medically, socially and economically***



In England, over **60,000** children had decayed teeth extracted under GA during 2012 to 2013; Estimated cost of extraction of decayed teeth was **£27.6** million.

Ref: <http://polkadotdental.com/blog/children-and-general-anesthesia-faqs/>

Ref: Rugg-Gunn AJ. Getting diet right: dietary advice for health in practice. Dental Nursing. 2015;11(7):381-4

Purpose of Today's Presentation

1. To summarize the WHO expert group's recommendation to provide an overview of ECC prevention strategies

2. To summarize the action points to tackle ECC in Balkan countries



**The WHO Expert Group's
Recommendation - Way Forward
Prevention and Control of ECC**

Definition of Early Childhood Caries (ECC)

The disease of ECC is the presence of one or more decayed (non-cavitated or cavitated lesions), missing (due to caries) or filled tooth surfaces in any primary tooth in a child under **the age of six**.

Overview of Risk Factors and Underlying Determinants of ECC

- Free sugars added to baby bottles/ in foods and drinks
- Nonuse, non-availability of fluoridated toothpaste
- Social determinants: family, culture and environment
- Genetics susceptibility
- Hypoplasia of enamel
- Nutritional status of mother and infant
- Oral flora
- Poor oral hygiene and control of dental plaque
- Breastfeeding – beyond 12 months, especially if frequent and/or nocturnal
- Saliva – quantity, constituents

WHO Experts' Recommendation

Community, Cross-sectoral services

- **Strategy:** ECC prevention with other health promotion initiatives such as actions against childhood obesity, breastfeeding initiative
- **Advocacy:** Advocate the importance of primary teeth to parents/caregivers and the community
- **Risk factor control:**
 - Sugars:** Implement comprehensive programmes that promote the intake of healthy foods and reduce the intake of sugar-sweetened beverages and foods
 - Fluoride:** Confirm the use of community fluoride administration, such as water, salt or milk as primary prevention of ECC
Use standard fluoride-containing toothpaste (1000-1500 ppm) in all children under the age of 6

Periodically outreach service, primary level service (not referral level)

- Integration of ECC activities into Primary Health Care Service
- Early detection
- Fluoride application (Varnish, silver diamine fluoride), Sealant, ART

Health system

- Surveillance
- Professional Education

WHO Experts' Recommendation

Community / Cross sectoral services

Strategy

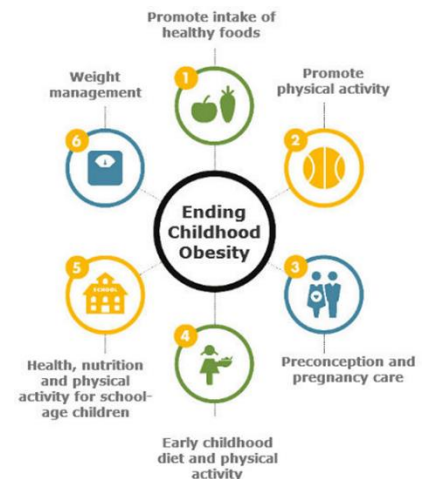
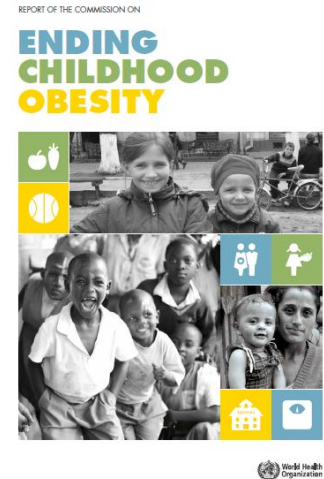
- Align ECC prevention with other health promotion initiatives such as actions against childhood obesity, avoidance of free sugars in complementary foods and drinks, and promotion of breastfeeding

Advocacy

- Advocate the importance of primary teeth to parents/caregivers and the community by raising awareness of ECC's impact on quality of life of young children

Common risk factor control: Childhood Obesity and ECC

- Worldwide obesity has more than doubled since 1980, and 41 million children under the age of 5 years were overweight or obese in 2014.
- Controlling free sugars intake has positive influences on both oral health and general health through prevention of non-desirable weight gain, obesity and associated non-communicable diseases (NCDs).



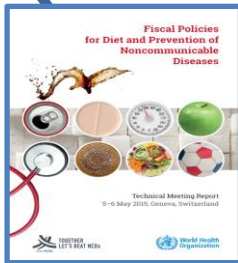
WHO Experts' Recommendation

Community / Cross sectoral services

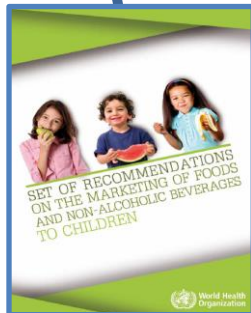
Risk factor: Sugars

- Implement comprehensive programmes that promote the intake of healthy foods and reduce the intake of sugar-sweetened beverages and foods, including introduction of taxation policy, awareness raising campaigns to reach all groups in society, implementation of recommendations on marketing of foods and unhealthy drinks to children

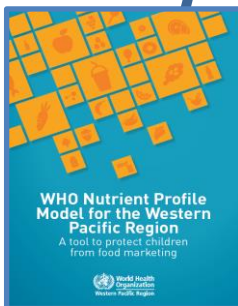
Comprehensive programme to reduce intake of sugar-sweetened beverages and foods



Implementation an effective tax on sugar-sweetened beverages



Implementation the set of recommendations on the marketing of foods and beverages to children



Development of nutrient-profiles to identify unhealthy foods and beverages

Implementation an effective tax on sugar-sweetened beverages

Sugary drinks

#Tax4Health

Sugary drinks contribute to

**the global rise
of overweight
and obesity in youth,
including 42 million
children aged under 5.**



Strategies to Reduce Sugars Intakes

PRODUC
E AND
IMPORT
LESS

USE LESS

SELL
LESS

MARKET
LESS

ADVISE
TO EAT
LESS

EAT
LESS

UP STREAM

DOWN STREAM

WHO Experts' Recommendation

Community / Cross sectoral services

Risk factor: Fluoride

- Confirm the use of community fluoride administration, such as water, salt or milk as primary prevention of ECC
- Use standard fluoride-containing toothpaste (1000-1500 ppm) in all children under the age of 6

WHO Experts' Recommendation

Periodically outreach service, primary level service (not referral level)

- Integrate ECC prevention within the primary health care (PHC) approach measures and implement at appropriate times, such as vaccination period, as a public health focus
- Detect early caries lesions for early intervention

WHO Experts' Recommendation

Periodically outreach service, primary level service (not referral level)

- Use fluoride varnish and sealants with glass ionomer cement as agents to help prevent deterioration of the ECC-affected dentition
- Support the use of silver diamine fluoride and ART, and other minimally invasive methods, using glass ionomer cement to stabilize the caries lesion

WHO Experts' Recommendation

Health System Surveillance

- Recommend inclusion of preschool children in subnational surveys as part of oral health population surveys conducted in the country. Such surveys should be based on the WHO Basic Oral Health Surveys and include risk factor assessment
- Promote evaluation, surveillance and research, including cost-effectiveness for the prevention of ECC in different communities

WHO Experts' Recommendation

Health System

Professional education

- Emphasize ECC within oral health education and inter-professional education with other health professions

Report from ECC workshop with Balkan countries

ECC workshop with Balkan countries

Purpose: Strengthen the prevention and management of ECC in countries on the Balkan Peninsula

Participants	Albania, Bulgaria, Croatia, Romania, Serbia, Slovenia
Current common situation	<ul style="list-style-type: none">• Enough number of dentists• Exist school health service• Lack of collaboration with other health sectors• Lack of programme for pre-school children• Hard to reach pre-school children• Lack of data

ECC workshop with Balkan countries

Strategy – the way forward	<ul style="list-style-type: none">• Integrate oral health promotion into other initiatives especially pre-school children• Life-course approach (Early childhood → Childhood)
Short-term objectives	<ul style="list-style-type: none">• Situation analysis (Data collection)• Enhance collaboration with other health sectors
Long-term objectives	<ul style="list-style-type: none">• Integrate oral health programme into NCD prevention through sugars control, Maternal Child Health programme• For individual and community: Fluoride application (Tooth brushing education, Varnish)



Thank you.

