PUBLIC HEALTH COMMITTEE

# WOHD PEDIATRICS TOOLKIT

Dear young dentists and dental students,

On the occasion of **World Oral Health Day** and on behalf of the **Public Health Committee**, we are proud to introduce the Pediatric Oral Health Toolkit, a comprehensive guide designed to empower you to make a lasting impact on children's oral health in your communities.

**Children** represent the foundation of a healthier future. Through this toolkit, we aim to strengthen your understanding of **paediatric oral health**, from the basics of child oral development to the prevention and management of common conditions affecting young patients.

This initiative highlights the core objectives of World oral health day for children, focusing on:
-Addressing **dental caries**, the **most prevalent** chronic disease in childhood
-Recognizing and managing harmful **oral habits**
-Understanding **hereditary and genetic** conditions affecting oral health
-Promoting **preventive** pediatric dentistry and early intervention

Beyond clinical knowledge, this toolkit emphasizes the power of primary prevention, particularly through educating mothers and raising oral health awareness among pregnant women.
Prevention begins even before birth, and as future oral health leaders, your role extends beyond the dental chair.

We have also included practical activity ideas and clear guidelines for organizing impactful oral health campaigns, enabling you to celebrate WOHD in a meaningful, structured, and evidence-based way.

Let us use this opportunity not only to raise awareness but to create sustainable change. Your engagement, leadership, and dedication are essential in building healthier generations.
Together, let's make pediatric oral health a priority — not only on World Oral Health Day, but every single day.

Mohamed Abdellatif
Public Health Chairperson

# OUTLINE

# 1. INTRODUCTION

Paediatric oral health is a fundamental component of lifelong health and well-being. **Dental caries** remains the **most prevalent** chronic disease in **children** globally, despite being largely preventable through early and sustained preventive care. Untreated caries can result in pain, infection, impaired nutrition and speech, sleep disturbances, reduced school attendance, and diminished quality of life. Timely dental care in early childhood supports optimal growth and development, **promotes positive oral health behaviours, and contributes to improved long-term health outcomes.** [1]

Oral health begins **before** tooth eruption, with maternal health, feeding practices, and early oral hygiene habits shaping a child's risk profile. **Early Childhood Caries (ECC)** is a multifactorial, biofilm-mediated disease influenced by sugar intake, oral hygiene, bacterial transmission from caregivers, and socio-environmental factors; it is most prevalent in children under six years.[2]

**Preventive measures** include early dental visits (ideally by the child's first birthday), fluoride use, parental/caregiver education, and integration of oral health into broader child health services — significantly **reducing caries incidence** and future restorative needs. Evidence shows that early preventive dental visits and regular check-ups decrease the need for operative procedures later. [3]

This toolkit is designed to provide dental students, young dentists, and community health teams with practical, evidence-based guidance for promoting paediatric oral health through prevention, early detection, education, and community outreach to improve children's oral health outcomes globally.

# 2. OBJECTIVES OF WORLD ORAL HEALTH DAY (WOHD) FOR CHILDREN

1. **Raise awareness about the importance of oral health in childhood** as a foundational component of overall health and development [4]

2. **Promote prevention of common childhood oral diseases**, particularly dental caries, through daily oral hygiene, fluoride exposure, and healthy diet habits. [5]

3. **Encourage early, regular dental visits** — ideally by 12 months of age — for risk assessment and preventive care to reduce the burden of Early Childhood Caries (ECC). [6]

4. **Educate parents and caregivers** on their key role in establishing proper oral care routines at home and reducing high-sugar intake that contributes to dental caries.

5. **Support community-based oral health promotion programmes,** including school screenings, educational activities, and behavioural interventions that improve children's oral health literacy. [7]

6. **Highlight oral health as a child right under international health** and human rights frameworks, reinforcing that access to preventive and curative oral care is central to child well-being. [8] **Promote oral health messages tailored** to diverse populations, addressing barriers such as socioeconomic disadvantages, limited access to care, and cultural factors that affect health outcomes. [9]

7. **Empower dental students and healthcare volunteers** to actively participate in WOHD outreach, delivering practical education and screening services to communities. [10]

# 3. DENTAL CARIES IN CHILDREN

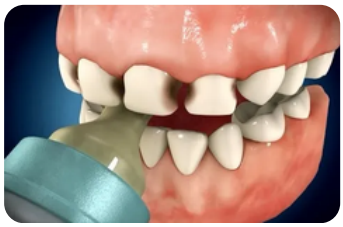
**1-Early Childhood Caries (ECC)**
Also called “baby bottle tooth decay.”
**Who it affects:** Children under 6 **Common cause:** Frequent exposure to milk, formula, juice, or sugary liquids — especially at night **Typical pattern:**

- Starts on upper front teeth
- Can spread quickly to other teeth but doesn't affect lower anteriors due to the saliva wash effect

**Severe Early Childhood Caries (S-ECC):** A more aggressive form affecting multiple teeth at a very young age (sometimes before age 3).

**2-Nursing Caries**
A subtype of ECC associated with prolonged or nighttime feeding (breast or bottle).
**Pattern:**

- Upper front teeth affected first
- Lower front teeth usually spared (protected by tongue and saliva)




**3-Pit and Fissure Caries**
**Where:** Deep grooves of back teeth (molars) **Why common in children:**

- Newly erupted permanent molars (around age 6 and 12) have deep grooves
- Children may not brush these areas well

This is one of the **most common types in school-age children**.

**4-Smooth Surface Caries**
**Where:** Between teeth or on flat surfaces **Common in:**

- Children with poor flossing habits
- Tight contacts between teeth

Often detected with dental X-rays.

**5-Rampant Caries**
**Definition:**

- Rapid, widespread decay affecting many teeth at any age
- Often linked to high sugar intake and poor oral hygiene, Family Stress & Socioeconomic Stress

Can occur in both primary and permanent teeth
Affects many teeth, including surfaces usually resistant to decay.

# 4. COMMON ORAL HABITS AND THEIR MANAGEMENT


Mouth breathing


Tongue thrusting


Lip sucking


Thumb sucking


Nail biting


Bruxism

**Definition and Common Types**
Oral habits are repetitive actions involving the oral and perioral musculature that are frequently observed in infants and young children. Common oral habits include thumb and finger sucking, pacifier use, tongue thrusting, mouth breathing, lip biting, and bruxism. These habits are considered part of normal development during infancy but may become harmful if they persist beyond early childhood. [11]

**Effects on Oral and Facial Structures**
Persistent oral habits can interfere with normal dentofacial growth and occlusal development. Prolonged habits may result in anterior open bite, increased overjet, posterior crossbite, narrow maxillary arch, and altered tongue posture. Additionally, speech articulation problems and esthetic concerns may arise, especially when habits continue into the mixed dentition stage. [12]

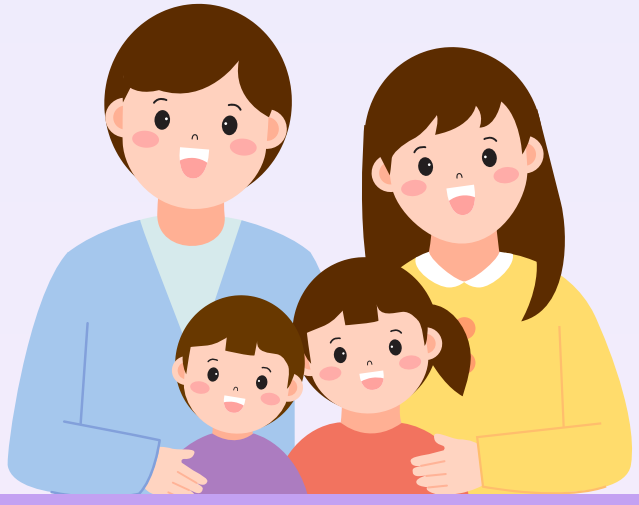
**Management and Intervention Strategies**
Management of oral habits should begin with non-invasive approaches such as **parental education, reassurance, positive reinforcement, and habit awareness techniques.** If the habit persists beyond **4–5 years** of age and begins to affect occlusion, **appliance therapy** such as palatal cribs, bluegrass appliances, or oral screens may be indicated. Early intervention improves prognosis and reduces the need for complex orthodontic treatment later. [13].

# 5. HEREDITARY AND GENETIC DISORDERS AFFECTING ORAL HEALTH

**Overview and Importance of Early Recognition**
Hereditary and genetic disorders can significantly affect oral health and craniofacial development. In many cases, oral manifestations are among the earliest clinical signs, making pediatric dentists essential in early diagnosis. These disorders may influence tooth structure, number, eruption patterns, jaw growth, and salivary gland function. [14]

**Common Genetic Disorders with Oral Manifestations**
Conditions such as **amelogenesis imperfecta, dentinogenesis imperfecta, ectodermal dysplasia, Down syndrome, and cleft lip and palate syndromes** present with characteristic dental and oral findings. These may include **enamel and dentin defects, hypodontia or anodontia, delayed tooth eruption, malformed teeth, malocclusion, and increased caries and periodontal risk.** [15]

**Dental Management and Multidisciplinary Care**
Management of children with hereditary disorders requires a **multidisciplinary** approach involving pediatric dentists, orthodontists, oral surgeons, geneticists, and medical specialists. Dental care focuses on prevention, restorative rehabilitation, functional improvement, and psychosocial support. Long-term follow-up and individualized treatment planning are essential to address changing needs as the child grows. [16]



# 6. DEVELOPMENTAL DEFECTS OF ENAMEL IN CHILDREN

**Definition and Etiology**

Developmental defects of enamel (DDE) result from disturbances during the stages of **enamel formation (amelogenesis).** These disturbances may be caused by systemic factors such as prematurity, childhood illnesses, nutritional deficiencies, or environmental factors including excessive **fluoride** intake. The timing of the insult determines the location and severity of the defect. [17]

**Classification and Clinical Features**

DDE are classified into **enamel hypoplasia** (quantitative defect characterized by reduced enamel thickness) and **enamel hypomineralization** (qualitative defect with normal thickness but reduced mineral content). **Molar-Incisor Hypomineralization (MIH)** is a common form, affecting first permanent molars and incisors. Clinically, affected teeth may show discoloration, opacities, post-eruptive breakdown, hypersensitivity, and increased caries susceptibility.

**Prevention and Management**

Management of enamel defects focuses on **early diagnosis, caries prevention,** and **protection of** affected **teeth. Preventive** strategies include topical fluoride applications, desensitizing agents, and remineralization therapies such as **CPP-ACP.** Restorative options range from sealants and composite restorations to stainless steel crowns in severely affected molars. Long-term monitoring is essential due to the risk of enamel breakdown over time. [18]

# 7. PREVENTIVE PEDIATRIC DENTISTRY

**Preventive pediatric dentistry** focuses on maintaining oral health in infants, children, and adolescents by preventing dental diseases before they start. It combines **education, early intervention, and protective treatments**.

## Primary Prevention (Before Disease Starts)

**Infant Oral Care**
- First dental visit by age **1 year**
- Clean gums before teeth erupt
- Start brushing when first tooth appears (smear of fluoride toothpaste)

**Oral Hygiene Education**
- Twice daily brushing with fluoride toothpaste
- Parental supervision until 6–8 years
- Flossing once contacts close

**Fluoride Therapy**
- Fluoridated toothpaste
- Professional fluoride varnish applications
- Community water fluoridation

Fluoride strengthens enamel and prevents demineralization.

**Dietary Counseling**
- Reduce frequency of sugary snacks
- Avoid bedtime bottles with milk/juice
- Encourage structured meal times

## Secondary Prevention (Early Disease Control)

**Early Caries Detection**
- Regular dental check-ups
- Bitewing radiographs when indicated

**Pit and Fissure Sealants**
- Applied to permanent molars (6-year and 12-year molars)
- Protect deep grooves from decay

**Remineralization Therapy**
- Fluoride varnish
- Silver diamine fluoride (SDF) in high-risk cases

## Tertiary Prevention (Limiting Damage)

- Restorations (fillings)
- Pulp therapy (pulpotomy)
- Stainless steel crowns
- Space maintainers after early tooth loss

## Behavior Management

An essential part of pediatric prevention:
- Tell–Show–Do technique
- Positive reinforcement
- Parental counseling

# 8. PRIMARY PREVENTION FOR CAREGIVERS

**Goals of Primary Prevention for caregivers**

Primary prevention means preventing oral diseases before they start — mainly:

- Early Childhood Caries (ECC)
- Gingivitis
- Malocclusion related to habits
- Enamel defects related to nutrition

Key Topics to Include in a Mothers' Oral Health Program:

### 1- Oral Health During Pregnancy

(will be discussed in next section)

### 2. Infant Oral Care (0–12 months)

- Clean gums with gauze after feeding
- First tooth eruption (~6 months)
- First dental visit by age 1
- Avoid putting baby to sleep with milk bottle

### 3. Feeding & Nutrition

- Breastfeeding vs bottle feeding

Breastfeeding promotes proper jaw and facial development due to natural sucking mechanics. Lower early risk of cavities compared to bottle feeding (especially in the first year).Breast milk alone is less likely to cause tooth decay than formula.

- Avoid prolonged on-demand night feeding after tooth eruption
- No sugary drinks in bottles
- Limit juice
- Healthy snacks vs sticky sugary snacks

### 4. Fluoride Use

- When to start fluoride toothpaste
- Amount:
  - Rice-sized (under 3 years)
  - Pea-sized (3–6 years)
- Supervised brushing
- Community water fluoridation (if applicable)

### 5. Dental Trauma Prevention

- Safe play environment
- Mouthguards (for sports children)

# 9. ORAL HEALTH AWARENESS FOR PREGNANT WOMEN. [19-20]

## Why This Matters

Pregnancy is a **unique period marked by physiological and hormonal changes** that can affect the oral health of both the mother and the developing baby. Behavioral and dietary changes during pregnancy may increase the risk of gingival disease and dental caries. Improving oral health during pregnancy is an effective strategy to prevent oral diseases in mothers. Poor maternal oral health may increase the **transmission of caries causing bacteria from mother to child,** raising the risk of early childhood caries.
Dental students and healthcare providers play an essential role in identifying oral health risks, educating pregnant women, addressing misconceptions, and promoting **preventive** behaviors.

## How Pregnancy Affects Oral Health

- Hormonal changes may increase gingival inflammation.
- Nausea and vomiting may lead to enamel erosion.
- Dietary changes and frequent snacking increase caries risk.
- Dry mouth reduces natural oral protection.
- Fatigue and gag reflex sensitivity may affect oral hygiene.

## Common Oral Conditions Associated with Pregnancy and Their Management

Pregnancy related hormonal and behavioral changes may increase the risk of certain oral conditions. Dental students should be able to **recognize common presentations**, provide **basic management**, and **refer when appropriate**.

**Pregnancy Gingivitis**

- **Description:** Increased gingival inflammation due to heightened response to plaque.
- **Management:** Reinforce oral hygiene, provide professional plaque control, monitor throughout pregnancy.

**Periodontitis**

- **Description:** A chronic inflammatory disease caused by plaque that leads to loss of periodontal attachment and supporting bone, often presenting with bleeding, deep pockets, and possible tooth mobility.
- **Management:** Screen and assess periodontal status, reinforce oral hygiene, provide initial periodontal care under supervision, and refer when disease is advanced or complex.

**Pyogenic Granuloma (Pregnancy Tumor)**

- **Description:** A benign, reactive gingival overgrowth associated with pregnancy hormones and local plaque irritation; appears red and bleeds easily.
- **Management:** Reassure the patient, improve plaque control, monitor the lesion, and refer for removal only if symptomatic or interfering with function. Many lesions regress after delivery.

**Increased Caries Risk**

- **Description:** Higher risk due to frequent snacking, vomiting, and reduced salivary protection.
- **Management:** Dietary counseling, fluoride use, regular dental visits.

## What Is My Role as a Dental Student?

- Take a comprehensive medical and dental history
- Identify the trimester of pregnancy
- Perform oral and periodontal assessment
- Conduct dietary analysis
- Provide oral hygiene instructions
- Reassure patients about safety of dental care
- Refer when advanced care is needed

## Preventive Guidance for Pregnant Women

- Brush twice daily with fluoridated toothpaste
- Use a soft toothbrush
- Rinse with water after vomiting
- Delay brushing after acid exposure
- Limit sugary snacks
- Attend dental check-ups during pregnancy

# 10. SUGGESTED ACTIVITIES FOR PAEDIATRIC CAMPAIGNS

- Toothbrushing demonstrations using models
- Interactive talks for mothers and pregnant women
- Poster and colouring activities for children
- Diet counselling using food charts
- Behaviour management role-plays for students
- Distribution of oral hygiene kits and educational leaflets

**Overview:**
These interactive activities are designed to support oral health awareness and encourage positive behavior change among pregnant women. They can be easily implemented by dental students in both clinical and community-based settings.

**Where and How to Use These Activities?**

· Waiting-area engagement (clinical settings)

Place the Myth/Fact or Advice of the Day cards in clinic waiting areas and briefly discuss one card with patients during appointment preparation.

· Small-group education (outreach campaigns)

Use the cards as short, interactive teaching tools during community visits, antenatal classes, or awareness sessions.

· Icebreakers for student led awareness events (outreach campaigns)

Begin outreach sessions with one Myth/Fact card or one Advice of the Day card to encourage participation and open discussion.

· Take home education tools

Provide one selected card to the patient as a clear, simple take home message to reinforce learning after the visit.

## Activity 1: Myth/Fact Cards

This activity supports dental students in addressing common misconceptions about oral health during pregnancy and infancy. By using short myth/fact statements, students can reduce fear, build trust, and deliver clear, evidence-based messages during clinical encounters and outreach activities. The cards are designed to encourage dialogue and reinforce the safety and importance of dental care during pregnancy.


## Activity 2: Advice of the Day Cards

This activity helps dental students encourage simple, achievable behavior changes. Each card contains one clear action that can be easily discussed during clinical encounters or outreach activities. Mothers are invited to choose one advice only, making it their personal take-home message for the day.

# 11. GUIDELINES FOR STUDENTS ORGANISING ORAL HEALTH CAMPAIGNS

Before initiating any campaign, students should establish specific, measurable goals such as **improving awareness** of oral hygiene practices, reducing untreated dental caries in the target group, or encouraging regular dental check-ups. **Clear objectives** help tailor messages and activities and allow evaluation after the campaign ends. For structured planning guidance used by dental associations internationally, **see the FDI Advocacy Guide on oral health campaigning strategy.** [21]

### Conduct Needs Assessment & Identify Target Population

Effective **outreach** begins with understanding the **community's oral health needs**. This includes reviewing local **epidemiological** data (e.g., prevalence of dental caries or unmet dental needs in children) and **identifying the age group** or community you wish to reach such as primary school students, orphanage children, pregnant women, or caregivers. School-based promotion has been shown to improve student oral hygiene in multiple settings. [22]

### Form Interprofessional Student Teams

Paediatric outreach campaigns are most successful when organised **collaboratively**. Dental students often work with **oral hygiene students, teachers, community health volunteers, and faculty supervisors**. Interprofessional readiness in outreach training enhances communication skills and campaign delivery. [23]

### Secure Permissions & Ethical Considerations

Before any visit or activity, students must obtain **formal approval from relevant authorities,** such as school principals, orphanage administrators, or local health offices—and ensure respect for consent, child protection, and confidentiality throughout the campaign.

### Plan Educational Content with Evidence-Based Messages

All campaign materials and sessions should use **accurate, evidence-based information about oral health, preventive behaviours** (like twice-daily brushing), nutrition and sugar reduction, and regular dental visits. Messages should be age-appropriate.

### Prepare Tools & Materials

Successful campaigns need **visual aids and practical tools**—tooth models, pamphlets, posters, brushing demonstration kits, educational leaflets, and oral hygiene kits (toothbrush, toothpaste). Printed and digital materials augment learning and remain useful for families after the event. In addition to offering handouts for the children to encourage them to engage and be part of the presentation, not just listeners. [24]

### Use Engaging Communication Strategies

Adapt your **language** and **delivery** methods to suit young children. **Interaction, demonstrations, games, and visual storytelling** make learning about oral health fun and memorable. Incorporating themes like **"Happy Mouth, Happy life"** boosts engagement—this concept has been used internationally for WOHD campaigns. [25]

### Involve Stakeholders (Teachers, Parents, Community Workers)

Campaigns are more impactful when they **involve parents, teachers and caregivers**. Short parent education **talks, Q&A sessions,** and **take-home materials** help reinforce healthy habits beyond the event.

### Offer Basic Screening & Referral Pathways

While students should not provide clinical treatments, campaigns can include visual screenings for **obvious** dental issues (e.g., untreated cavities, pain, swelling) and **refer** participants to professional dental services as needed. Many outreach programs include early diagnosis and appropriate follow-up. [26]

### Monitor Safety & Infection Control

Follow strict infection control standards—hand hygiene, gloves, clean equipment, and safe disposal of waste—especially when handling demonstration tools or distributing hygiene kits.

### Engage with Digital & Social Media Platforms

Use social media channels to promote the campaign before, during, and after the event. Tailored messaging boosts reach and engagement, especially with older children and caregivers. Strategies include hashtag challenges, short educational videos, and live Q&A sessions online. [27]

### Document Activities & Collect Feedback

Keep records of attendance, activities conducted, educational content delivered, and feedback collected from participants and supervisors. This documentation is essential for academic evaluation and future campaign improvement.

### Evaluate Outcomes & Impact

Evaluate the campaign against the initial objectives using simple tools such as pre-/post-event surveys, quizzes, or **observation checklists**. This evidence supports both improvement and academic reporting.

### Promote Sustainability & Follow-Up

Encourage schools and community partners to **continue** oral health education regularly. Suggest **establishing** school oral health **clubs**, **periodic** check-ups, and ongoing educational sessions to reinforce healthy behaviours over time.

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