

Oral Health What Should it Mean to You?

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WHO has defined oral health as the state of mouth, teeth and orofacial structures that enables individuals to perform essential functions, such as eating, breathing and speaking, and encompasses psychosocial dimensions such as self-confidence, well-being and the ability to socialize and work without pain, discomfort and embarrassment.

Oral diseases may even be related to other conditions cardiovascular diseases, diabetes & adverse pregnancy outcomes. Recent studies also show an association of gum disease with other systemic conditions like metabolic syndrome and sperm infertility.

How common are Oral Diseases?

The prevalence of oral diseases is estimated at around 3.5 billion worldwide. Oral diseases are one of the most widespread preventable diseases affecting the world population. The combined global prevalence of tooth decay, gum diseases and loss of teeth are higher than any other non-communicable diseases like diabetes, cardiovascular disease, etc., which has remained unchanged at 45% for the past three decades.

According to the *Global Burden of Disease (2019)*, untreated tooth decay is the most common health condition affecting half of the global population, most of whom are from middle and low-income countries.

What are major Oral Diseases?

1. **Dental Caries (Tooth decay):** Tooth decay is one of the most common preventable dental diseases affecting 2.3 billion population globally. A National Oral Health Survey by the Ministry of Health and Family Welfare, Government of India, showed that the prevalence of caries in India ranges from 52.5% to 84.7%. Dental caries result from plaque formation on the surface of the teeth. Plaque is a thin, sticky layer that forms over the teeth from food and saliva. The plaque provides a medium for bacterial colonization. The acid from plaque causes tooth decay. High intake of free sugars, improper tooth brushing and poor oral hygiene leads to acid formation and caries and, ultimately, tooth loss.
2. **Periodontal (gum) Diseases or Pyorrhoea:** Periodontal disease affects the supporting structures surrounding the teeth, which include gums, periodontium (thin structures surrounding the roots), and alveolar bone. Most periodontal diseases start with gingivitis (swollen gums), which progresses into a more severe condition called periodontitis (pyorrhoea). The initial symptoms are bleeding gums after brushing or eating, pain, and bad breath. As the disease progresses, teeth will lose the support of the surrounding structure, leading to loose teeth, drifting of teeth, and disfigurement. The significant risk factors for periodontal disease are poor oral hygiene, smoking and tobacco chewing.
3. **Malocclusion & Dentofacial Deformities (Crooked teeth/facial disharmony):** Malocclusion refers to the irregular alignment of teeth, jaws and their relationship. It negatively impacts a person's physical, psychological and social well-being, leading to poor quality of life. It is highly prevalent among children and adolescents worldwide, affecting one out of two individuals. Malocclusion reaches its highest prevalence worldwide in early childhood during the deciduous dentition period (54%) and remains unvaried in permanent dentition (54%). Early diagnosis and successful treatment of developing malocclusions can have short and long-term benefits.
4. **Dental Trauma:** Oral injuries account for 5% of all bodily injuries in all ages. In preschool children, oral injuries account for 17% of all physical injuries. Oro-dental injuries cause aesthetic, psychological, social, functional and therapeutic problems, not only during the accident but also during later treatment. Dental trauma has been shown to have a significant financial burden on the family, with injuries of permanent teeth strongly influencing the Oral Health-Related Quality of Life (OHRQoL) of children and adolescents. Timely performed dental management of oro-dental injuries is the key to preventing further biological and socio-psychological impacts.
5. **Edentulousness (tooth loss):** Edentulousness refers to one or more missing teeth in the dental arch. It is generally the end point of untreated dental diseases, like tooth decay, periodontal disease and other causes. Complete edentulousness is reported in 7% of the global population aged 20 years or older. It is higher

in the elderly population aged 60 years or older, with a worldwide prevalence of 23%. The partial and complete edentulous state can affect the physical and mental well-being of the person and cause poor quality of life.

6. **Oral Cancer:** Oral cancer develops in any part of the mouth and oropharynx. It is the thirteenth most commonly occurring cancer. This shows predilections towards the male gender and older age. The most common causes of oral cancers are tobacco, alcohol and areca nut (betel quid) chewing.
7. **Temporomandibular Joint Disorders (TMD) & Orofacial Pain:** TMD ranges from pain in the Temporomandibular joint (TMJ) and facial area to inability to open mouth and eat food in end-stage disease. The affliction of TMJ is more common in women during the reproductive years. It is thought to be a factor in day-to-day disability and loss of man-hours. The disease can be managed by conservative means, provided a diagnosis is made. Advanced stages, however, require surgical intervention and total joint replacement surgery.
8. **Craniofacial Anomalies like Cleft lip & Palate:** Orofacial clefts, are the most common of congenital craniofacial disabilities, with nearly 35000 cleft children born in India every year. The primary cause for this anomaly is genetic. Other causes include maternal nutrition deficiency (predominantly folic acid, zinc deficiency), radiation exposure, drugs like antiepileptics, and tobacco and alcohol consumption. Treatment of cleft children requires a holistic approach involving multiple specialties from infancy to adulthood.

Why are Oral Diseases on the rise?

1. Poor oral hygiene
2. Intake of unhealthy diet high in sugar content
3. Inadequate exposure to fluoride (in the water supply and oral hygiene products such as toothpaste)
4. Poor access to oral health care services in the community
5. Marketing of food and beverages high in sugar, as well as tobacco and alcohol

Prevention is better than cure

- Maintain good oral hygiene, brushing twice daily teeth with fluoride-containing toothpaste (1000 to 1500 ppm), rinse the mouth with water after meals.
- Eat a balanced diet involving fruits, vegetables and fewer free sugars.
- Restrict usage of tobacco-related products and alcohol consumption.
- Be aware of crooked teeth, especially protruding teeth.

Conditions requiring special attention for oral care

1. **Pregnancy:** Gum diseases during pregnancy may become severe due to hormonal imbalances, which may affect both mother and baby and may result in preterm (early) delivery and low birth weight. Undergoing routine dental checkups or treatment is essential during the second trimester of pregnancy.
2. **Newborns & Infants:** Cleaning gumpads should be started one week after the child's birth. The gum pads

need to be cleaned with wet & clean cotton or cloth morning and evening before putting the baby to sleep and every time after the child has milk and burps.

3. **Toddlers:** Milk teeth are essential for eating, speech, space maintenance for well-aligned permanent teeth, and prevention of aberrant habits and aesthetics. Brushing teeth with a baby brush should begin with the eruption of the first tooth in the mouth using smear of toothpaste equal to grain of rice till the child is of 3 years after which pea size amount of fluoride toothpaste is to be used. Brushing a child's teeth by the parent or caretaker in a circular motion is important to prevent early childhood caries.
Putting a child to bed with a bottle containing milk or a sweetened drink is a risk factor for nursing bottle caries, in which the upper front teeth become decayed & painful (appear black). Pacifiers should be avoided as they might result in tooth decay and crowding of teeth.
4. **Tooth Avulsion:** If the tooth comes out of the mouth due to injury in children, immerse the tooth in milk immediately for transportation and try to reach the nearby clinic within 30 minutes of injury so that the tooth can be transplanted back into the oral cavity.
5. **Oral Habits:** Oral habits like thumb sucking, mouth breathing (breathing through the mouth rather than the nose), nail-biting, grinding of teeth (Bruxism) may lead to malocclusion and also affect facial appearance. Thumb sucking is considered abnormal after 4 years of age.
6. **Cardiovascular Disease (CVD):** In people with CVD, gum disease may aggravate their CVD and requires lifelong attention and professional care.
7. **Diabetic Patients:** Diabetic patients are prone to persistent gum diseases and should visit their dentist regularly.

Oral Health under Universal Health coverage

Oral diseases are one of the leading contributors to disability in India and affect individuals of all age groups, irrespective of any socioeconomic factors. Access to quality oral healthcare services is limited and restricted to urban areas. It is closely related to general health and people's Quality of Life (QoL) by affecting their oral functions and social interactions.

Treatment for oral health conditions is expensive and places a substantial financial burden on the country's economy. Dental treatment is not covered under health insurance policies. Hence, most of the dental treatment cost consists of out-of-pocket expenses. High and increasing health care cost is one of the significant public health challenges in developing countries such as India.

WHO has envisioned bringing oral health under universal health coverage by 2030. The current National Health Policy in India, released in 2017, has yet to pay oral health the attention it deserves. Though the National Oral Health Program (NOHP) initiated in 2014 in India has been working on providing oral health facilities to all, it still has a long way to go.

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