

## Oral Health in 21<sup>st</sup> Century–An Emerging Challenge

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Health is the real wealth and keeping ourselves healthy, not only depends on the quality of food, water and air we take but also we need routine exercise to keep ourselves sound and fit. Above all, the enigma of keeping ourselves fit, healthy and sound we must pay attention to our oral health. The World Health Organization (WHO) defines oral health as ‘a state of being free from mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal disease, tooth decay, tooth loss, and other diseases and disorders that limit an individual’s capacity in biting, chewing, smiling, speaking, and psychosocial wellbeing’.

Intelligently designed oral cavity which extends from anteriorly guarded by lips to the oropharynx posteriorly, roofed by palate, well-furnished floor of the mouth, jaws with teeth, piston-like mobile tongue and fully protected by guard-wall-like cheeks on either sides. Oral cavity acts as the gate-way to the food and water and collectively serves as an organ of sound, speech and unique production of voice. Moreover, it stands for face value, image and personal identity in the society. Although it is confined to oral cavity only, the state of oral health-good or bad, determines the physical health of the whole body at large.

Polluted environment, intoxicated food and modern life-style contribute a lot in affecting the oral mucosa causing various oral diseases. Multifactorial oral diseases such as dental caries, periodontal disease, tooth loss and gingivitis; tobacco related oral diseases such as oral submucosa fibrosis (OSMF), nicotina stomatitis, leukoplakia, erythroplakia and oral cavity cancers and microbes such as Candida, EBV, HPV and HIV interfered oral diseases are noted to be the major public health problems worldwide. Victimized persons experience acute pain and problems with eating, chewing, drinking, swallowing, smiling, and communicating in day to day life.

Due to environmental pollution, the concentrations of heavy metals like Ni, Cr, Zn, Hg and Pb are found to be in increasing trend which severely affect both oral and general health. Higher Fluoride concentration in water in various parts of the developing countries becomes the cause of fluorosis and dental caries irrespective of age and sex. The risk of dental caries is reported to be high among the population expose to inappropriate fluorides concentration in their drinking water. Similarly, insecticides and pesticides-induced chemical-overloaded food grains, severely affect the oral mucosa in the form of irritation and inflammation which become the root cause of neoplastic initiation.

The lifestyle factors also significantly impact on oral health, and oral diseases become major public health problems owing to their high prevalence and incidence in all regions of the world [1]. Attraction towards the fast (junk) foods which include diets rich in sugar and flavoured salts, widespread use of tobacco and reckless consumption of alcohol have become an essential part of modern lifestyle among the children, adolescent and middle-aged people. As a result, various types of tobacco related diseases, obesity, unusual fall of teeth, dental caries, periodontitis, gingivitis and glossitis are the common occurrence among different sects of the people.

World Health Organization has recognized that dental diseases are the most prevalent non-communicable diseases, globally. Dental caries (tooth decay) and periodontal diseases (gum disease) have been considered the most important global oral health burdens. Dental caries is still a major health problem in most industrialized countries as the disease affects 60% to 90% of school-aged children and the vast majority of adults [2]. Caries is caused by the decalcification of tooth enamel and destruction of the protein matrix. In presence of

sugar, acid produced by bacteria, mainly *Streptococcus mutans*, in dental plaque is the precipitating factor. After the enamel is destroyed, bacteria enter the dentin and may extend to the pulp of the tooth [3]. Generally, poor oral hygiene, excess and frequent consumption of sugars (sucrose) creates a conducive environment for caries causing pathogens to flourish in the oral cavity [4].

One of the most common applicable methods related to sound oral health is brushing of teeth and flushing of oral cavity. At least twice in a day- before and after the meals, brushing and flushing can clean and remove the remaining food-stuffs from the inter-dental space, gum and tongue. As a result, harbouring and proliferating microbial colonies can be checked and thereby, we will be able to control almost all of microbes-borne oral diseases.

Tobacco products are basically found in two forms such as smokeless/non-smoked and smoked items. Oral snuff, khaini, gutkha, toombakhu etc. are used as non-smoked items whereas pika (home-made bidi), bidi, cigar and cigarettes are smoked items. Both items are absolutely unsafe and lethal for human consumption as these contain huge amount of carcinogens. In addition to their serious systemic effects, all have adverse oral health consequences, and risks usually are in proportion to the intensity and duration of tobacco use. The use of tobacco products is a major risk factor for oral and pharyngeal cancers [5]. It also increases the risk of periodontal diseases and decreases the ability of oral tissues to heal. Other oral effects include halitosis (bad breath), decreased ability to taste, and increased staining of teeth, gingival pigmentation, and a variety of mucosal lesions [6,7].

World-wide consumption of alcohol has been increasing geometrically. Besides various forms of branded foreign liquors, the tribal people of South-East Asia are addicted to traditionally prepared *handia* (fermented form of rice, commonly known as ABCD-Adibasi Cold Drink used in day to day life), *mahuli* (a type of alcoholic fermentation prepared from mahua flower of mahwa plant, *Madhuca longifolia*), and *tadi* (raw palm juice collected and extracted from the sap of the palm tree)- are also found to be carcinogenic to the oral cavity. Acetaldehyde- a major metabolite of alcohol is proved to be a potential carcinogen responsible for oral, gastric and liver cancer. The oral cancer risk increases when tobacco is used in combination with alcohol, betel quid and areca nut. In Asia, incidence rates of oral cancer are very high and directly related to the chewing and smoking of tobacco and drinking of alcohol [8-10].

Oral health and general health share most of the common etiological risk factors related to life-style are imbalanced diet, abuse of tobacco, and the excessive consumption of alcohol. Instead of natural nutritious food and safe drinking water, our ultimate choice to instant, ready-made packaged, coloured and preserved food, synthetic ice-cream with carbonated cold drinks have become the order of the day. Unhygienic adulterated food, contaminated water and air are the cheapest source of oral and systemic diseases in this 21<sup>st</sup> century-which become an emerging challenge for us. To live healthy, simply, we have to change our attitude and to keep ourselves 'smiling', we have to change our life-style also.

### Bibliography

1. Petersen PE. "Oral Health". In: Kris Heggenhougen and Stella Quah, editors, *International Encyclopedia of Public Health, San Diego: Academic Press* 4 (2008): 677-685.
2. Petersen PE. "Challenges to improvement of oral health in the 21<sup>st</sup> century-the approach of the WHO Global Oral Health Programme". *International Dental Journal* 54.6 (2004): 329-343.
3. Dunlap CL and Barker BF. "Dental caries". In *A Guide to Common Oral Lesions*: 29.
4. Sheiham A and James WPT. "Diet and Dental Caries- the Pivotal Role of Free Sugars Reemphasized". *Journal of Dental Research* 94.10 (2015): 1341-1347.
5. Anonymous. "Tobacco habits other than smoking; betel quid and areca nut chewing; and some related nitrosamines". IARC Working Group. Lyon, 23 30 October 1984". *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans* 37 (1985): 1-268.

6. Anonymous. "The Liverpool Declaration: Promoting Oral Health in the 21<sup>st</sup> Century: A Call for Action". The 8<sup>th</sup> World Congress on Preventive Dentistry (WCPD) took place from 7-10 September, 2005 in Liverpool, United Kingdom.
7. Anonymous. "ASH research report - Tobacco and Oral Health" (2016).
8. Znaor A., *et al.* "Independent and combined effects of tobacco smoking, chewing and alcohol drinking on the risk of oral, pharyngeal and esophageal cancers in Indian men". *International Journal of Cancer* 105.5 (2003): 681-686.
9. Muwonge R., *et al.* "Role of tobacco smoking, chewing and alcohol drinking in the risk of oral cancer in Trivandrum, India: a nested case-control design using incident cancer cases". *Oral Oncology* 44.5 (2008): 446-454.
10. Lin WJ., *et al.* "Smoking, alcohol, and betel quid and oral cancer: a prospective cohort study". *Journal of Oncology* (2011): 525976.

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