

## ORAL HEALTH –AS A PRODROME OF SYSTEMIC DISEASES

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### Abstract

Oral health is an essential component of health throughout life. Poor oral health and untreated oral diseases and conditions can have a significant impact on quality of life. They can affect the most basic human needs, including the ability to eat and drink, swallow, maintain proper nutrition, smile, and communicate. Oral cavity is like a gateway of our body. Not only does it predispose the body to various commensals but an insight to the early lesions displayed here can give a substantial hint about the systemic involvement of various diseases.

### Key words

Caries, Oral Health, Infection

### INTRODUCTION

Health is literally defined as a state of physical, mental, social and emotional well being in which the body functions with comfort, confidence, creativity and contentment eventually leading an economically productive life. In essence, health is fundamental to human progress.

Oral and dental diseases have afflicted mankind for ages Oral cavity is like a gateway of our body. Not only does it predispose the body to various commensals but an insight to the early lesions displayed here can give a substantial hint about the systemic involvement of various diseases. The overwhelming evidence now available shows that major health problems of dental origin like caries, periodontal diseases, precancerous lesions, oral and maxillofacial trauma commonly affect a large group of population. Though on one hand lack of oral health care can be attributed to lack of awareness of general people against dental well being and on the other hand to poverty, malhabits of intake of tobacco products (in various form of chewing, snuffing, smoking) unrestrained consumption of refined sugar, unattended malnourishment and faster lifestyle with reckless driving and disobey of traffic rules. In order to battle dental problems, it is essential that dental health education must be emphasised and the people must be made aware of the basics of maintenance of oral healthcare and hygiene and the factors that are responsible for tooth decay and tooth loss. Hence, the answer to solve the oral health problems of the society lies in lifestyle modification as well mental, behavioural and educational motivation of the human race.

Oral hygiene and oral diseases are one of the most common public health problems causing

considerable morbidity, particularly for disadvantaged population. Good oral hygiene maintenance with proper brushing and flossing is not practised by majority of population. Rather many people use datun, household powders, detergents and tobacco etc. for cleaning teeth. These products are damaging their teeth and gums instead of taking care of oral tissues.

### EPIDEMIOLOGY

Common dental ailments prevailing in the country are dental caries, bleeding gums and periodontal issues, dental flourosis and oral cancers. In has been studied that-

22.24% of 6-11yrs old have untreated primary tooth decay.

11.2 % of population is in some stage of oral or pharyngeal cancer.

More than 90% of all systemic diseases produce oral signs and symptoms

Over 22% of adults have untreated tooth decay

According to WHO global oral health data bank – 2002

- Dental caries affects 60%-90% of school children and majority of adults
- Severe periodontitis affects 5%-15% of most of the population
- Edentulousness ranges from 6 %-78 % among countries around the world. Oral and pharyngeal cancers are related to tobacco and alcohol use.
- In India prevalence of Dental caries in the age group 12-15yrs is
- 45%-55% in UP, Delhi and Rajasthan as compared to 40%-80% in northern states.
- Oral cancer and pre-cancerous conditions is 7% in Orissa as compared to 0.3% in Delhi and prevalence of edentulous ness is 19.9%.

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## ORAL HEALTH IN RELATION TO OTHER SYSTEMIC DISORDERS/CONDITIONS

While your eyes undeniably form the windows to the soul, your mouth, on the other hand, unquestionably is a window to your body's health. The status of your oral health can offer lots of clues about your overall health. Oral health and overall health are intimately connected in many ways that you might ordinarily imagine.

Oral tissues are in direct physical continuity with the rest of the body. They are related with each other via blood, lymphatics and neural pathways. Furthermore, systemic influences such as endocrinal, immunological and psychological factors have an important role in the balance between oral health and diseases.

Your oral health is intimately linked to many other health conditions that extend beyond your mouth. Very often the first sign of a disease shows up in your mouth such as gum disease, can cause problem in other parts of your body. It's time that you gain more knowledge about the intimate connection that exists between the two, viz, oral health and overall health. Most infections in the mouth may provide a focus for causing distant medical problems that do not present any swelling or painful conditions and may be even difficult for the physician to detect. It might be an old filling, root canal tooth or an extraction site that may harbour bacteria and viruses that may disseminate toxins in the entire body and may concentrate in a particular organ like heart causing its dysfunction.

Here's a look at some of the diseases and conditions that may be linked to oral health

### - Cardiovascular Disease

There is evidence to show that several types of cardiovascular disease may be linked to oral health. In a recent study at Columbia University Medical Centre, a link was found in the levels of oral bacteria to the thickness of carotid arteries that carry blood to brain. These include heart diseases, clogged arteries, stroke and bacterial endocarditis. Some believe that bacteria from gum diseases can enter bloodstream and travel through your arteries to heart, affecting your cardiovascular system. A recent study was confirmed by the American Heart Association stating that the bacteria linked with atherosclerosis was the same that causes gum disease. It believes that there might be a link between heart disease and gum disease through high sensitive C-reactive protein. Increased amounts of C-reactive proteins is associated with increased tooth decay and gum disease. Although periodontal diseases seem to be associated with the disease, more studies are needed before the link can be confirmed with certainty. A study conducted by University of Buffalo published in the journal of periodontology has shown that periodontal disease can cause liver to produce high amount of Hs-CRP's in blood stream.

### -Pregnancy and Effects on Birth

Gum disease has been linked to premature birth. Some research have shown disease causing organisms in pregnant women's mouth can wind up in the placenta or amniotic fluid, possibly causing premature birth. Unfortunately, treating periodontal disease during pregnancy may be too late, because the infection may have already spread in the woman's body. This is why it is vital to maintain excellent oral health during pregnancy. A researcher of Periodontics in Case Western Reserve University School of Dental Medicine reported the first documented case linking a mother having pregnancy associated gum disease to the death of her foetus. The bacteria from the mouth had entered the immune free amniotic fluid and were ingested by the foetus. The baby eventually died of a septic infection.

### -HIV/AIDS

In some cases, one of the first sign of AIDS may appear in the mouth, with severe gum infection. Persistent white spots or unusual lesions on tongue or in mouth may also develop. Oral manifestations of AIDS include candidiasis, pneumococcal infections, histoplasmosis, ANUG, HSV Infections, Kaposi Sarcoma, Lymphomas, Recurrent Aphthous Stomatitis etc

### -Diabetes Mellitus

It may manifest in the form of atypical pain, dysgeusia or dysesthesia. Patient is more susceptible for easy ulceration in oral mucous membrane or delayed healing of the wounds. Patients exhibit signs and symptoms of diseases like periodontitis in enhanced manner due to altered tissue response.

### -Osteoporosis

The first stage of bone loss may be seen in the teeth. A dentist may be able to spot this on routine dental -X - rays. If bone loss worsens from year to year, dentist can suggest further consultation. Also bisphosphonates used in the treatment of osteoporosis may affect the prognosis of dental treatment.

### -Other conditions

- Many other conditions may make their presence known before one realises anything is wrong. These may include
- Approximately, one third of patients with vitamin B and iron deficiency anemia have chief complaint of burning sensation of tongue which can be detected by a dentist.
- Multiple myeloma- a strong suspect for chronic bone pain usually manifests in jaws only.
- Paget disease in its osteoblastic phase by producing occlusion of bony foramina may cause neurologic symptoms that have no explanation.
- Diabetes mellitus may manifest in the form of atypical pain, dysgeusia or dysesthesia.
- Upper respiratory tract infections are always interrelated to maxillary molars and premolars as their roots are in close proximity to the lining of maxillary sinus.
- Bacterial infections like tuberculosis, syphilis, gonorrhoea may manifest as ulcers in floor of mouth, tongue etc.

## MANIFESTATION OF SYSTEMIC DISEASES THROUGH THE REVIEW OF ORAL MUCOSA

Gingival hypertrophy, Petechiae, widespread ulcerations	Haematological disorders(CML, TCP, plummer Vinson syndrome), hormonal diseases, nutritional (vitamin deficiency), allergic (plasma cell gingivitis)
Reddening of tongue, petechiae, Bald tongue	Vitamin deficiency disorders
Gummas, large ulcer with caseous necrosis, thrush	Bacterial and fungal infections
Ruptured bullae	Dermatological disorders (Steven Johnson syndrome)
Painful ulcers inflammatory lesions	Recurrent aphthous stomatitis, Behcet's syndrome, Crohn disease, malabsorption syndrome, ulcerative colitis.
Enamel hypoplasia	Rickets, osteomalacia, malabsorption, hypoparathyroidism

## ORAL HEALTH CARE POLICIES

WHO has set priorities for a coordinated effort for addressing oral disease and disparities worldwide.

WHO has developed worldwide priority action areas for oral health. First action area is centered on use of fluorides  
Second action area is associated with diet, nutrition and oral health; many oral diseases are prevented by changing lifestyle

Preventing tobacco use and its cessation is third action area. WHO has also targeted both ends of age spectrum. It has also launched programme in schools.

WHO 2003 indicated that because of its high prevalence and incidence ,in almost all the regions of world, oral disease is major public health problem. Many changing oral disease patterns may be linked to changing lifestyle including dietary modifications like sugar rich diets, refined food; widespread use of tobacco and increased consumption of alcohol. Delay in seeking treatment may be attributed to structural, financial, personal and cultural barriers of the society

There is a gap between research findings of oral disease prevention, health promotion, practices and knowledge of the public and health professions. Expansion of community based disease prevention and lowering of barriers to personal oral health care are needed to meet the needs of the population.

The burden of oral diseases and needs of population are in a transition and oral health systems and scientific knowledge are changing rapidly. In order to meet these challenges effectively public health care administrators and decision – makers need the tools, capacity and information to assess and monitor health needs. They have to choose intervention strategies, design policy options appropriate to their own circumstances and to improve the performance of oral health system

## CONCLUSION

Your mouth usually harbours millions of commensals in the form of microorganisms. Usually you can keep these bacteria under control with good oral health care, such as brushing twice daily and flossing once at night. Even among the educated class brushing at night and floss is practised rarely. Saliva is also a key defence against microorganisms causing dental decay. It contains vital enzymes and immunoglobulins that destroy harmful bacteria and prevent dental decay.

Gum disease can let germs enter your bloodstream and wreak havoc elsewhere in your body. Sometimes invasive dental treatments can also allow bacteria to enter you bloodstream. And medication or treatments that reduce saliva flow or disrupt the normal balance of bacteria in your mouth also lead to oral changes, making it easier for bacteria to enter systemically

Almost all oral diseases can be prevented and oral health is a part and partial of overall health care system. A basic knowledge of oral diseases must be compulsory to all medical professionals. There must be a national oral health policy to take care of dental and oral health of masses at urban as well as rural basis.

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