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# Geriatric Dentistry- A Review

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***Abstract***

***Dental care of geriatric patients is challenging due to the systemic diseases as well as the changes occurring in oral tissues with age. The main goals of geriatric dentistry are timely diagnosis and treatment of such patients so as to maintain their oral and general health. The elderly patients must be motivated and educated with the ways of preventive dental care.***

***Keywords: Dental care, geriatric care, oral health.***

## Introduction:

Old age is regarded as a normal inevitable biological phenomenon. The study of the physical and psychological changes which is incident to old age is called gerontology and care of aged is called clinical gerontology or geriatrics(1). With the advancement in medicine and public health measures, there is increase in number of geriatric people. In India, with its population of over one billion people, people older than 60 years constitute 7.6% of the total population, which amounts to 76 million(2).

*The "elderly" segment of the population is divided into*

1. People aged 65-74 years are the new or young elderly who tend to be relatively healthy and active;
2. People aged 75-84 years are the old or mid-old, who vary from those being healthy and active to those managing an array of chronic diseases;
3. People 85 years and older are the oldest-old, who tend to be physically frailer. This last group is the fastest-growing segment of the older adult population.

There is a sudden blast of the "65 plus" population in the last decade, and India is no exception to that(3).

Some older adults have physical and/or psychological conditions that require special attention in the dental office setting. Geriatric dentistry or Gerodontics can also be defined as the

delivery of dental care to older adults involving the diagnosis, prevention and treatment of problems associated with normal ageing and age-related diseases as part of an interdisciplinary team with other health care professionals(4).

**Oral Health Status in Geriatric Patients**

Nutrition in Old Age

Dental problems in elderly patients like ill-fitting dentures and mobile teeth lead to difficulty in mastication which results in inadequate nutrition. The dentist can contribute in improving mastication and nutritional status of elderly by correcting edentulousness through partial and removable dentures(5).

**Changes in Salivary Glands and Saliva**

Xerostomia and dental caries are the major oral health problems of old age. With advancing age, there is an atrophy of acinar tissue, a proliferation of ductal elements and some degenerative changes in the major and minor salivary glands which may contribute to reduced salivary flow(6).

**Changes in Oral Mucous Membrane**

The oral mucosa constitutes a physical barrier that interferes with the entry of toxic substances and microorganisms. Mucosal epithelial cells also synthesize several substances that are critical for maintenance of the mucosal surface, such as keratin and laminin(7). A decline in protective barrier function of the oral mucosa could expose the aging host to myriads of pathogens and chemicals that enter the oral cavity during daily activities. With old age, there is also increased susceptibility to candidal infection and decreased rate of wound healing. The prosthetic appliances also alter the mucosal integrity in the elderly(8).

**Changes in Teeth**

Geriatric patients are more prone to regressive alterations of teeth like attrition, erosion, abrasion and abfraction. Pigmentation of anatomical defects, corrosion products and inadequate oral hygiene may also change the tooth color. Periodontal inflammation, loss of attachment, missing teeth and root caries are other important manifestations in old age(9).

**Systemic Diseases and Oral Implications**

Most common diseases seen in elderly patients are cardiovascular diseases, diabetes, respiratory diseases, blood dyscrasias and other systemic diseases which predispose them to oral diseases. Cardiovascular diseases (CVD) and periodontitis has interrelationship because of common bacteria associated with its pathogenesis. Periodontal inflammation leads to bacteremia caused by common oral pathogens like PorphyromonasGingivalis(10).

The bacteria like viridians streptococci normally found in oral cavity, whereas the bacteria found in dental plaque like Actinobacillusactinomyce-temcomitans, EiknellaCorrodens, FusobacteriumNucleatum and BacteriodesForsythus have been isolated from the blood samples of patients of Infective endocarditis(11).

Diabetes Mellitus (DM) is the other most common disease of adult and elderly individuals. It has been found that the patients suffering from Type 1 and Type 2 DM have distinguished

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dental manifestations such as loss of periodontal attachment, gingival and periodontal abscess and early loss of teeth(12).

Respiratory infections are usually caused by aspiration oforopharyngeal and periodontal microorganisms. This micro flora habitats in inadequate oral hygiene resulting in formation of dental plaque further acting as a reservoir for respiratory pathogens(13).

**Habits and Oral Implications**

Habits such as smoking, tobacco chewing, betel nut chewing have a deleterious effect on oral cavity and may lead to development of cancerous and pre-cancerous lesions and conditions of the oral cavity(14).

**Objectives of Geriatric Dentistry**

Maintaining oral and general health of elderly patients

Recognizing and relieving difficulties of elderly patients

Helping in restoration and preservation of function for maintaining normal life in elderly patients.

**Preventive Dental Care for elderly people**

Globally, poor oral health among older people has particularly been seen in a high level of tooth loss, dental caries experience, high prevalence rates of periodontal disease, xerostomia, and oral precancer/cancer(15).

The general ill health of patients and functional limitation poses a problem in providing dental care. The financial constraints and lack of awareness may be the other important reasons.

The preferred method of brushing for most elders is sulcular brushing with soft toothbrush (Bass method). Persons with gingival recession should be instructed to observe certain precautions to avoid further recession or cemental abrasion. These include the use of an extra soft toothbrush, use of light pressure, modification of the brushing method. The plaque retention in the elderly is exacerbated by the presence of restorations, missing teeth and gingival recession and wearing of removable dentures. In addition, they often face difficulty in maintaining proper oral hygiene because of reduced manual dexterity or impaired vision or due to physical limitations associated with conditions such as stroke, Parkinson's disease or severe arthritis. To overcome this problem, therapeutic rinses containing chlorhexidine, sodium benzoate, sanguinaria, a fluoride, or other remineralizing agents should be recommended to the elderly patients(16).

The electric toothbrushes can also be used by elderly patients.The major advantage is that they are motor driven and thus require little or no arm or wrist movement. Some of the electric plaque removal devices are designed in such a way that the action stops if too much pressure is applied. However, an elderly person who has congenital heart disease or any condition affecting heart valves should be cautioned about it. There is danger of developing subacute bacterial endocarditis secondary to soft tissue trauma caused by improper use of electrical devices in such patients.

Toothbrushes with enlarged handles should be recommended to patients of arthritis for enhanced grasp. Patients wearing dentures should be educated about the methods of cleaning them. They must be recalled for regular check-ups and counselled on a regular basis.

## Conclusion

Good oral health is important for general well being of the patient so there is need of awareness for oral health among the elderly patients. There should be provision of adequate dental services for early detection of problems, prevention and treatment for the elderly patients. Due to systemic illness of elderly and functional limitation, the idea of providing dental care at home seems to be a better option but this is still an infrequent practice.

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