

## Oral Health-Related Quality Of Life in Geriatric Patients: A Narrative Review

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### ABSTRACT

An oral cavity is an imperative part of our body, which has a noteworthy role in chewing, swallowing, speech, nutritional status, facial expression as well as self-reliance. Thus, oral health significantly related to the quality of life. Geriatric patients make a significant group of our community have a high prevalence of oral diseases including root caries, periodontal problems, edentulousness, dry mouth etc. Dental needs of geriatric patients are a very sensitive issue due to its critical management that requires an understanding of medical as well as dental aspects of aging. Therefore, this review aims to assess oral health-related quality of life among the geriatric population and the data obtained from the published articles, books and online manuals.

**Key words:** Oral health, Geriatric, Quality of life

Due to demographic transition worldwide, a strong trend of global population aging is observed which expect to continue in the 21<sup>st</sup> century. India acquired the label of an aging nation with the elderly population currently being over 77 million [1-2]. This considers the fact that 177 million population of India is graying by the year 2025 [3]. Geriatric dentistry is a science that deals with diagnosis, management, and prevention of all types of oral diseases in the elderly population. It focuses on the delivery of dental care to the older population and addresses age-related dental ailments. The elderly population is more prone to dental diseases such as root caries, attrition, periodontal disease, missing teeth because of earlier neglect, poor quality of alveolar ridges, ill-fitting dentures, mucosal lesions, oral ulceration and dry mouth (xerostomia).

Most of the oral diseases are the sequel of neglected oral health in the early years of life, for example, intake of a cariogenic diet, lack of awareness and the occurrence of certain habits like smoking, tobacco, pan, and betel nut

chewing. In old age the immunity of individual declines, lack of awareness increases and several co-existing medical problems persist together, which altogether increases the magnitude of dental diseases. In addition, certain medications like antihypertensive, antipsychotics, etc., can lead to xerostomia. Therefore, an absence of the protective influences of saliva in the oral cavity, which may also, increases the chances of oral diseases. Apart from the health related barriers, some social barriers like financial constraint, lack of family support and transportation facilities exist that creates a hindrance in accessing the dental services for older people. The untreated oral cavity has its deleterious effects on comfort, aesthetics, speech, mastication and consequently, on the quality of life in old age [4]. Therefore, the aim of this review is to assess oral health-related quality of life in the geriatric population.

### EFFECTS OF AGING ON ORAL CAVITY

#### Mucous membrane

An oral mucosal surface has a protective self-cleansing mechanism provided by the natural turnover of the epithelial cells that affect the oral health and well-being of individual [5]. Earlier studies reported that with increase age, the oral mucosa becomes increasingly thin, smooth and acquire satin like edematous appearance with loss of elasticity and stippling [6]. This declines the protective barrier of oral mucosa and facilitates the entry of chemicals into oral cavity [5]. Age-related changes and dietary or hormonal deficiencies in the oral mucosa lead to diminished keratinization, dryness, and thinning of the epithelial structures [7].

#### **Tongue and salivary glands**

Taste sensation is an important function of the tongue that loss due to aging. Ageing results changes in the membranes of the gustatory cells, which alter the function of ionic canals and receptors [8]. A study done by Baum BJ et al stated that pathologic conditions or pharmacologic effects of medications are responsible for decreased salivary flow in older age group [9].

#### **Teeth and supporting structure**

Because of aging, the appearance and structure of teeth tends to change. Teeth occurs more dark and yellow due to the change in thickness and composition of the underlying dentin and enamel. The number of blood vessels entering a tooth and the enamel decreases with age leading to reduced sensitivity. Additionally, the width and fiber content of the periodontal ligament decreases with aging. Gingival recession is another common condition in older persons which exposes the cementum to an oral environment and responsible for root caries [7]. The prevalence of wasting diseases also increases with age.

### **ORAL HEALTH PROBLEMS AMONG GERIATRIC POPULATION**

#### **Dental caries**

Tooth loss is the most significant oral health-related negative variable that affects the quality of life for the elderly [10] and root caries is the major cause of tooth loss. The main reason behind root caries is the reduction of salivary flow that may be due to various factors like medications, psychological, systemic etc [11].

#### **Periodontal health**

Tissues that support the teeth called periodontium, which includes gingiva, periodontal ligament, cementum, and alveolar bone. Anatomical and functional changes in periodontal tissues with the ageing process reported in various studies [12-13]. They concluded that an increased age is responsible for alteration of the composition of the subgingival microbiota and thus, increases the risk of periodontal diseases [13].

#### **Prosthetic considerations**

It found in studies that more than 50% of the elderly population is edentulous [5]. This depicts that edentulousness is a major problem in older people as edentulous mouth directly affect the nutritional status of the patients, thus rehabilitation is mandatory.

### **ORAL HEALTH STATUS AND TREATMENT NEEDS OF GERIATRIC PATIENTS**

Various studies conducted in the past for the assessment of oral health status and treatment needs of geriatric patients. A study conducted by Khan IM et al showed that 28.13% elderly population had a problem of gingival bleeding and the highest loss of attachment (6-8mm) seen in 17.6% elderly. More than 37% of elderly population required some form of periodontal treatment and total mean DMFT per person was 22.8 [14]. The prevalence of root caries was significantly higher among geriatric patients. According to Kumara RB et al, the prevalence of root caries among was 46.4% [15]. A study conducted by Al Zarea BK. showed that out of 286 edentulous patients, 69.06% need some form of prosthetic treatment, 73.77% did not have any prosthesis in the upper arch and 80.06% did not have any prosthesis in the lower arch. The need for multiunit prosthesis was more in both arches in both genders. The need for complete denture and combination of a single or multiunit prosthesis was more among the males as compared to females in the maxilla and vice versa for the mandible [16]. According to Shaheen SS et al, out of 812 inmates, 431 (64.0%) of the study participants had oral mucosal lesions. In periodontal status, all sextants were excluded (Code "X") in 324 (39.9%) subjects. Out of dentate population, a majority of the inmates (219; 27.0%) presented with deep pockets (Code "4") followed by shallow pockets (Code "3" - 183; 22.5%). The majority of the subjects had no prosthesis in the upper arch (85.0%) and lower arch (86.6%) [17]. According to all these studies, geriatric population needs significant attention to uplift their oral health profile.

### **ORAL HEALTH SERVICES IN INDIA**

Oral health services in India rendered through the government and private institutions, private practitioners, professional employed by the government, e.g. dentists in defence services, dental services rendered in district hospitals and in a nursing home with dental wings etc [18-19]. The oral health care in India mainly delivered by private practitioners, but dental treatment is expensive in the private sector and considered optional by the majority of elderly and their care providers. Oral health care services neglected at Primary health care because of limited resources, infrastructure and workforce. There is an

unavailability of dental surgeons and essential facilities at primary health centres (PHC) [20].

A study conducted on perception of health care providers toward geriatric oral health in Belgaum district also showed that doctors practicing in urban areas assessed dental care needs more frequently and performed greater practices for geriatric population [21]. Thus, PHC team members exhibit less concern for oral health problems, dental care need assessment and adequate referral of older persons to the dentist practicing in the urban areas. A number of factors exist to explain these unmet needs among the older population, viz. lack of facilities for a regular oral health check-up, no provision for treatment due to the lack of materials and lack of knowledge regarding oral health as there is no dentist attached to these centers. As PHC centers act as the backbone of a developing country like India, adequate measures should be initiated to further increase interdisciplinary competencies to provide care and rural people and more especially geriatric rural population. Geriatric population forms a significant part of total population. In a country like India where primary health services are not well to cater oral healthcare and private dental care is unaffordable by everyone prevention is the only choice. Various measures like oral health education, dietary counselling, and denture care should be adopted to prevent dental diseases in geriatric patients.

## CONCLUSION

To conclude, the geriatric population has compromised oral health due to a high prevalence of caries, periodontal disease, and tooth loss, which is responsible for poor oral health-related quality of life, with direct effects on the individual's general quality of life and well-being. Enhancement of the oral health of the geriatric population is one of the prime responsibilities of health care providers including dentists, dental hygienists, geriatricians, and caregivers.

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