

**IJDSDR : Dental Publication**Available Online at: [www.ijdsdr.com](http://www.ijdsdr.com)

Volume – 1, Issue – 2, November – December - 2022, Page No. : 14 – 21

**Geriatric Dental Care Study Based on Present and Future Perspectives**<sup>1</sup>Derkey B, Dental Surgeon, Egypt<sup>2</sup>Verg S, Dental Surgeon, Egypt**Correspondence Author:** Derkey B, Dental Surgeon, Egypt**How to Cite This Article:** Derkey B, Verg S, “Geriatric Dental Care Study Based on Present and Future Perspectives”, IJDSDR – November – December - 2022, Vol. – 1, Issue – 2, P. No. 14 – 21.**Open Access Article:** This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.**Type of Publication:** Review Article**Conflicts of Interest:** Nil**Abstract**

The proportion of elderly people in populations is rapidly increasing over the world. Due to efficient dental public health interventions like fluoridation, there is also a tendency toward more teeth being retained as people get older. As a result, geriatric populations will certainly have a greater need for dental care. Dentists and physicians must collaborate to give the best possible treatment to older patients because dental health has such a big impact on overall health. This article conducted a literature review before going into the several issues raised and making recommendations for a course of action. Understanding unique oral health concerns and challenges will help us better position ourselves to develop approaches for offering better oral healthcare to elders in addition to existing systemic care. The elderly will make up a major segment of the population who will visit the dentist regularly for a variety of oral health issues in the future. As a result,

oral health practitioners must be adequately trained and experienced in dealing with the needs of this senior population. Preventive and treatment services can help people age well, improving their quality of life.

**Keywords:** Geriatric Populations, Diagnosis, Chronic Illnesses, Disabilities.**Introduction**

Aging is a normal part of life. Age should be viewed as a natural, unavoidable biological process. One of the most important characteristics of the twenty-first century worldwide is the aging population, which will be one of the primary concerns of the new millennium. The number of children and young people in the population is declining, while the proportion of individuals aged 60 and up is increasing.

Clinical gerontology, often known as geriatrics, is the care of the aged. Gerontology is the study of the physical and psychological changes that occur as people age. Geriatric dentistry is the diagnosis, prevention, and

treatment of problems associated with normal aging and age-related disorders in the elderly as part of an interdisciplinary team alongside other health professionals. Geriatric dentistry is a multidisciplinary and multimodal approach to treating the oral health issues of the elderly. Based on their age, this heterogeneous group can be categorized into the following categories:

- 65 to 74 years old (young-old) - relatively healthy and active;
- 75 to 84 years old (old old) - ranging from healthy and fit to those with a slew of comorbidities;
- 85 years (oldest-old) - skinniest group; this sector is rapidly growing in numbers due to improve healthcare in industrialized countries, which is extending the life span.

#### **Oral Healthcare Needs of the Elderly**

The elderly has specific treatment requirements compared to the rest of the adult population. Hormonal changes decreased physical activity, the advent of chronic illnesses/disabilities, and the use of numerous drugs all influence metabolic alterations as people get older. Oral homeostasis is affected by decreased salivary output, muscular tone, impaired taste sensitivity, and mucosal atrophy. Coronal and root caries, recurrent caries, tooth attrition and abrasion, gingival recession, and periodontal disease all increase with age. **Socio-demographic trends of geriatric population in the world**

People aged 60 and up are expanding at a greater rate than any other age group in the world. The 'greying' of the world's population will be due to lower birth rates and longer lifespans. According to the WHO, the world population is growing at a 1.7 percent annual rate, while the population of people over 65 years old is growing at a 2.5 percent yearly rate. By 2050, both industrialized and developing countries are predicted to see

considerable alterations in the population age distribution.

#### **Geriatric dentistry's goal**

- To maintain the health of people's teeth.
- Taking proper preventive measures to maintain the health and function of the masticatory system.
- Maintaining oral and general health in patients who are sick.

#### **The objectives of geriatric dentistry are as follows:**

- Recognize and alleviate elderly people's problems.
- Function restoration and preservation for older patients to maintain a normal life.

#### **The shift in disease pattern and economic impact**

The average human life is increasing as medical technology advances, increasing the number of people who require health care in their older life. Infectious diseases are giving way to non-communicable and chronic diseases as the global disease profile shifts. As people become older, non-communicable diseases (NCDs) become the leading cause of morbidity, disability, and mortality, and they're also expensive to cure.

The rising costs of non-communicable diseases will almost certainly result in substantial human and socio-economic losses. Policymakers and public health systems may need to adapt to this increase in illness burden by making significant policy adjustments and planning ahead of time. This study highlights the need to update and enhance the geriatric curriculum to improve the knowledge, abilities, and attitudes of future oral healthcare practitioners.

#### **Oral Healthcare Problems for The Elderly**

The elderly in India suffers from a variety of dental and oral health problems. The following are some of the

causes for the increased prevalence of oral health concerns among the elderly:

Poor nutrition and oral hygiene practices increase the occurrence of common dental illnesses such as periodontal disease and tooth decay as people get older. Caries are more common as a result of a change in diet, reduced salivary secretions (due to the use of several drugs), and gingival recession. New coronal and root caries, as well as recurrent cavities behind existing restorations, are common among the elderly. Edentulous and insufficient prosthodontic rehabilitation are widespread among the elderly from lower socioeconomic classes, as well as the uneducated

Tobacco chewing, inhalation of betel nut, inhalation of betel quid, and tobacco use are all common habits that increase the risk of dental problems such as severe attrition, abrasion, mucosal lesions, and oral cancer. Oral cancer, which is regarded as a disease of old age in India, is widespread, accounting for 13-16 percent of all cancers. Elderly people seeking treatment for oral health disorders face a lack of understanding and social support. Oral healthcare is unavailable to the elderly who live alone or in institutions. Because the state's financial assistance to the poor elderly is insufficient to cover their fundamental requirements, healthcare is the last thing on their minds.

### **Systemic Diseases and their Dental Consequences**

When it comes to dental treatment, this group requires special concern. The causes are as follows:

Oral manifestations can be detected by a dental clinician as the initial sign of almost all systemic disorders. According to new research, the oral disease has been related to systemic problems such as diabetes, cardiovascular disease, stroke, respiratory infections, Alzheimer's disease, and other medical conditions.

### **Dental changes in the elderly**

Geriatric patients are more likely to suffer from tooth-wasting diseases such as attrition, abrasion, abfraction, and erosion. This is related to the ability of the teeth to work for long periods. Periodontal inflammation, loss of attachment, missing teeth, edentulism, ill-fitting dentures, oral ulcerations, xerostomia, and oral carcinomas are some of the age-related alterations. Additionally, root caries is common caries found in the elderly.

### **Habits and Oral Consequences**

Smoking tobacco use and beetle nut chewing are all practices that lead to the establishment of precancerous or cancerous tumors in the elderly. As a result of the combination of systemic and oral issues, elderly people's immunity begins to deteriorate. In comparison to the urban population, elderly individuals in rural regions chew tobacco and betel nuts, necessitating the integration of primary health care with oral care in the rural population.

### **The Elderly's Dental Health Concerns**

#### **Periodontitis and its consequences in the elderly**

According to the National Institute of Dental and Cranio facial Research, 17.2% of older persons suffer from this ailment. According to one of the earliest experimental gingivitis studies, supragingival plaque formed faster in aged patients than in younger ones. These findings could be due to differences in periodontal health, but they could also be since oral circumstances in the elderly favor the development of aerobic bacteria. Bacteria can accumulate and attack the mouth cavity more easily as individuals get older because their immune systems aren't as active as they were when they were younger. As a result, even a small amount of bacteria can cause a dental infection more easily in older people than in younger people. As a result, we may notice a correlation between getting older and developing periodontitis.

It manifests as a lack of self-confidence and a significant reduction in their quality of life, leading to a vicious cycle in which they neglect to look after themselves, endangering their position even further. Poor socio-economic status and unhealthy habits such as smoking or chewing tobacco make it far more difficult for the elderly to maintain good oral hygiene since they promote periodontitis. In its present form, smoking raises the risk of periodontitis in patients of all ages. Smoking, on the other hand, increases the risk of periodontitis in the elderly substantially.

#### **Caries in older adults' teeth**

Around half of all elderly persons over the age of 75 have at least one tooth damaged by root caries.<sup>132</sup> This group is at a higher risk for root caries due to increased gingival recession, which exposes root surfaces, and increased use of medicines that promote xerostomia. Secondary coronal caries affects 10% of people aged 75 to 84, most likely due to the high prevalence of restorations in this age group.

Due to a weakened immunological response to external microorganisms, dental caries is more common in the elderly than in the younger population, similar to periodontitis. According to a study on elderly people, coronal caries had an annual incidence of 1.4 surfaces per 100 susceptible coronal surfaces, while root caries had an annual incidence of 2.6 surfaces per 100 susceptible root surfaces. It shows that both types of caries are present in the old, leading to the conclusion that dental caries prevention and treatment in the elderly are crucial.

#### **Xerostomia and salivary hypofunction**

Geriatric patients are more likely to experience a decline in salivary function as a result of certain drugs, radiation, and chronic diseases. These people are commonly afflicted by a variety of physical and oral health conditions, and they frequently lack access to dental

care. Salivary hypofunction occurs as the reserve capacity for saliva production by the salivary glands decreases with age. Caries and candidiasis are more likely to occur with a decrease in salivary function, and also denture discomfort. Medications such as antidepressants, anti cholinergics, antipsychotics, antihypertensives, diuretics, tranquilizers, and anxiolytics, among others, cause xerostomia in geriatric patients.

#### **Cognitive change in the elder individuals**

The loss of function over time, combined with a deterioration in cognitive ability, is a common symptom of growing older. When working with persons who have had a lot of life experience and used to be able to make their own decisions, recognizing cognitive abilities might be difficult. When it comes to providing healthcare to such people, competence is a major concern.

#### **Elderly Patients and their medications**

Older persons must take a variety of medications as a consequence of their rising age since they must deal with a range of comorbidities. They are more likely to develop medication-related problems, such as harmful drug interactions, as a result of taking too many medications. The most vulnerable to poor health outcomes are those who are institutionalized, have complex medical conditions, or do not follow their drug regimens. Dental professionals should be able to identify geriatric patients who are at risk of hazardous medication interactions. The most typically recommended medications for the elderly are antibiotics, antihypertensive drugs, NSAIDs, and pharmaceuticals for gastrointestinal, neuro psychiatric, and endocrine systems.

#### **Specific Oral Concerns and Issues in The Care of the Elderly**

When caring for the elderly, keep the following in mind:

### **Caries**

In older people, decay is a major cause of tooth loss. Caries risk rises with age, especially as drugs disrupt salivary flow and sugar consumption rises.

### **Oral hygiene is important.**

Because it is not always possible to clean one's denture manually, the relevance of chemical cleaning methods for the prosthesis must be conveyed to the denture wearer to ensure appropriate denture care and oral hygiene.

### **Inclination towards treatment**

After a lifetime of coping with oral illnesses, the elderly only want to be treated for conditions that they consider exceedingly serious, and they want them treated to the best of the dentist's capacity. We need to teach children that any tooth issue, no matter how minor or insignificant, should be treated as soon as possible since owing to their weakened immune system, it could turn into something more serious.

### **Present scenario of geriatric dentistry**

Geriatric medicine developed in the 1950s in response to the special health needs of frail older individuals, but dental care remains a challenge for all geriatric groups. The following are some of the reasons why the elderly has such a low percentage of dental treatment:

- The lack of experience and fear of dental surgeons in treating elderly illnesses.
- There are no further financial incentives for dental surgeons.
- Issues with transportation and access to the dentist's office
- Issues with providing dental care to people who are housebound or institutionalized.
- Difficulties dealing with debilitating and life-threatening diseases.

- Negative attitudes concerning the elderly's need for dental care.

### **Oral health services in India**

According to the World Health Organization (WHO), oral healthcare services are limited in rural India, where 80 percent of the elderly reside. India has 313 dental colleges, accounting for about one-third of all dental schools around the world. In India, about 27,000 dentists graduate each year, with over 4,000 specialists graduating each year. In India, there are currently about 200,000 dental practitioners, with the number predicted to rise to 350,000 shortly. The vast majority of dental surgeons (95%) work in private practice in suburban areas. The WHO recommends a dentist-to-population ratio of 1:7500. In India, the dentist-to-population ratio has decreased from 1: 300,000 in the 1960s to 1: 10,271 now. In rural areas, the average dentist-to-population ratio is 1:250,000. Financial affordability becomes a barrier to care for the less well off when dental professionals are disproportionately located in the private sector compared to a public sector that provides subsidized services.

### **Future of geriatric dental care**

#### **Strategies to improve the situation**

To effectively reach the geriatric population, a combination of strategies can be planned. First and foremost, the dental team should provide a sensitive and caring professional service. These patients' particular situations should be discussed with the dental staff, and treatment plans should be adjusted accordingly.

### **Education**

The dental team's ability to successfully treat and manage the elderly will be substantially enhanced by engaging in educational initiatives and subscribing to

related journals. Dental surgeons must be well-trained, understanding, and caring, as well as sensitive to the requirements of the elderly. Once these patients are no longer able to visit our offices, dental surgeons who have been well paid to restore and maintain their teeth forget or lose track of them. We must fulfill our obligation to educate caregivers, relatives, and other healthcare professionals about the daily preventive dental care of these patients, whose teeth may eventually be lost.

### **Facilities**

Dentist facilities for the elderly should be easily accessible, and private dental offices or dental departments should be developed with this in mind. Here are some important variables to think about:

1. Supporting the older patient's independence by using firm, standard-height chairs with arms and carefully selecting and placing signs.
2. Setting up dental furniture to promote and facilitate good communication and access, as well as providing adequate lighting in each room to reduce any visual disorientation or mental confusion. Patients who use wheelchairs or walkers should be able to use the surgery as well. In some circumstances, dental surgeons may consider purchasing equipment to treat wheelchair-bound patients.

### **Gerodontology – future implications for developing countries**

As more people live longer lives, geriatric oral health problems continue to be a challenge in most countries. Each country has a certain amount of resources. Rather than being too ambitious in its desire to give everyone all the necessary therapy, this critique presents a roadmap for how we can best handle current and future geriatric oral health concerns. An oral health policy that is implemented is central and essential to a developing country's oral health planning. Only then can we

determine if there are enough resources for the overall population or just the high-risk groups. If finance is an issue, free geriatric care may be provided to the elderly who fall below the poverty line. Cost-effectiveness should be a primary consideration when deciding what type of treatment to provide. In India, there is currently no oral health policy. Our recommendation is to create a well-articulated oral health policy that includes all target groups, including the geriatric population. Only until an oral health policy has been enacted can we concentrate on geriatric oral health issues. Dental hygienists can also be used in geriatric oral health education as an operating auxiliary.

The next most important step in the correct path is the establishment of a separate specialty for geriatric dentistry. Through scheduled conferences, seminars, and other health educational meetings, this unique innovation will give voice to the health requirements of the elderly, both directly and indirectly, all of which will contribute to policy formation and implementation for the elderly. At least 5%–10% of the health budget should be allocated to oral health programs, as well as to addressing geriatric oral health concerns.

### **Summary of Geriatric Dental Public Health**

As the 20th century progressed, the global population's composition shifted dramatically, as a growing amount of people began to live to even older ages. This judgment has far-reaching implications for both general and dental healthcare. The majority of epidemiological studies around the world have found that geriatric people have poor oral health, a higher risk of destructive periodontal disease, and limited access to dental care, particularly in pastoral or rural areas.

The most difficult aspect of geriatric care is focusing on the elderly and feeble, which is complicated by the presence of many medical, dental, and psychiatric

disorders. With the current situation, oral health providers must evolve and get a thorough understanding of elderly patients' systemic and oral health status, their changing physiology, and how to effectively handle these issues.

When compared to today's geriatric population, future geriatrics will have more teeth, visit the dentist more often, be more educated, be better off financially, and have a drastically different outlook on healthcare needs.

### Conclusion

However, it gives a realistic goal that could ensure a good quality of life for geriatric patients while also reducing dental expenses. Around the world, the elderly population is rapidly increasing. Supporting these people presents plenty of problems for family breadwinners, society, governments, and healthcare practitioners.

Oral health services should be organized and formed to ensure that all elderly people, whether living at home, in hospitals, or institutions, receive proper early detection, prevention, and treatment of oral health problems. Such a service is beyond the scope of what the dental profession can accomplish on its own. Additional health professionals, as well as aged care workers, must be involved.

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