

LINKING GENERAL HEALTH WITH ORAL HEALTH IN AGEING SOCIETIES: A REVIEW

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ABSTRACT

This paper highlights the factors that interact and determine the oral and general health of older adults. It also describes in brief various components of staying healthy in ageing population. Nutrition, systemic conditions and pharmaceuticals play vital role in determining good oral health care of elderly population. This article also explains various age related changes in the oral cavity and the role of care givers to detect and report these changes to oral health care providers. Thus this article not only provides an insight on the oral health and its significance in geriatric population but also mentions the ways to develop a senior-friendly dental officer.

Key words: Ageing, General health, Geriatrics, Oral cavity

INTRODUCTION

Oral health is concerned with maintaining the health of the craniofacial complex, the teeth and gums as well as the tissues of the face and head that surround the mouth. Ageing is not a disease, but it does increase our susceptibility to disease. Oral, dental and craniofacial diseases and conditions disproportionately affect the elderly and frail elders are particularly vulnerable to increased morbidity due to oral infection.¹ Dental professionals must understand the special needs of the elderly and work closely with rest of the health care team.

Ageing is an inescapable reality of the human existence on the planet earth. Oral health is an important and often overlooked component of an older person's general health and well-being. David H Solomon of UCLA Center on Ageing, UCLA School of Medicine stated that "Geriatrics is the most challenging and exciting area of patient care. The patients are the most ill, most complex, and the most dependent on our skills and wisdom for their persistence as independent living people. The opportunities for research in geriatrics are essentially unlimited".

The Canon of Medicine, written by Abu Ali Ibn Sina (Avicenna) in 1025, was the first book to offer instructions for the care of the aged, foreshadowing modern gerontology and geriatrics.

The geriatric population is the most rapidly growing segment of the general population. India has 70 million elderly population over 60 years of age.² According to projections by the UN Population Division, there will be two elderly persons for every child in the world by 2050. This implies that the aged 60 and above, which currently constitute less than 20% of the population will account for 32% of the population by 2050.³

Oral Health-Overall Health connection

"You are not healthy without good oral health."⁴ Oral health can affect general health in number of ways: It can cause pain and suffering, difficulty in speaking, chewing and swallowing, economic burden, and loss of self esteem. Although oral health problems are not usually associated with death, oral cancers result in nearly 8,000 deaths each year, and more than half of these deaths occur among persons 65 years of age and older.⁵ The Office of Disease Prevention and Health Promotion, USA has put forward the following

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goals till 2020 to prevent and control oral and cranio-facial disease.

Oral health an important component of staying healthy in older adults

Nutrition

Oral health can play a major role in the nutrition of older adults. The elderly are at increased risk for developing nutritional deficiencies disorders which show various oral signs and symptoms Table 1. Oro-facial pain caused by infections, trauma, ill-fitting prosthesis or salivary dysfunction may adversely affect food and fluid intake.

Systemic Disease

The elderly are more susceptible to systemic conditions that can lead to oral and maxillofacial pathology. These conditions directly or indirectly lead to malnutrition, altered communication, susceptibility to infectious diseases and diminished quality of life. The oral manifestations of systemic conditions are given in Table 2.

Pharmaceuticals

The oral cavity and its functions can be adversely affected by many medicines taken to treat systemic conditions. Polypharmacy is prevalent in the elderly and is also associated with nutritional deficiencies. Salivary dysfunction or dry mouth and taste disorders are common sequel of many medications taken by older adults (i.e., anticholinergic medications). The oral manifestations due to intake of medications for systemic diseases are given in Table 3.

Biological considerations for the elderly

The oral cavity is a portal of entry as well as the site of disease for microbial infections that affect general health status. Immunocompromised elders and nursing home elders are at greater risk for general morbidity due to oral infection. Oral diseases give rise to pathogens that can become blood borne or aspirated into the lungs leading to life-threatening condition.¹

Age Related Changes in Oral Health

Oral mucosa: Characterized by dry thin mucosal surfaces with loss of elasticity and stippling. *Periodontium:* Gingival recession, loss of periodontal attach-

ment and alveolar bone with deep periodontal pockets are classic periodontal manifestation of an elderly individual. *Dentition:* The age related changes in the dentition can be subdivided into external and internal. *External changes* manifests as discolorations, abrasion, erosion, loss of enamel due to attrition, exposure of underlying dentin. *Internal changes* characterized by cementum thickness, decreased pulpal dimension, pulpal calcification, external root resorption. *Salivary Glands:* Due to the advancing age and its effects on salivary gland dental caries, oral mucosal infection, speech dysfunction, difficulty in chewing and denture retention, xerostomia are seen commonly in elderly individuals. *Taste and smell:* Altered taste and function, impaired smell identification, problems of flavor, perception, food recognition and preference are common in older population. *Mastication and Swallowing:* As the age advances, older persons may complain of altered mastication, disturbed deglutination, risk of choking. *Oro-facial pain* is further divided into intraoral and extra oral pain disorders. Intraoral Pain Disorders may occur in elderly persons because of adverse effects on the periodontium (periodontal abscess), teeth (caries, root sensitivity), idiopathic (MBS), oral mucosa (neoplasia, mucosal infection), bone trauma, infection). Extraoral Pain Disorders comprise disorders of TMJ, atypical facial Pain, disorders of muscles of mastications, neuralgias (trigeminal and glossopharyngeal).⁶

Caregivers Can Improve Oral Health

Caregivers play an important role in upliftment of the oral health by assisting or performing the oral health care, monitoring patient's mouth for changes, by educating the patient about oral health information, and also by referring the problems to specialist.

Smiles for Seniors

If they are unable to hold the toothbrush put the toothbrush in a Velcro strap; stick the toothbrush handle into a tennis ball or slide it in a bicycle handle-bar grip. Additionally we should encourage the usage of tooth paste dispensers, power brushes, interdental water jets, specially designed floss holder.⁷

Getting Patients to Dentists or Dentists to Patients

Many frail older adults can be seen at a dental office, provided that they are mobile and the office is

TABLE 1: THE ORAL MANIFESTATIONS OF NUTRITIONAL DEFICIENCIES

Oral manifestations	Deficient Nutrient
Skeletal osteoporosis and osteopenia, including the lower jaw, particularly lower jaw with total tooth loss	Calcium
Tongue, gingival, lip and mucous membrane changes Niacin deficiency may cause the tongue to become swollen	Vitamin B
Ulcerated, edematous, and bleeding gingival tissues with halitosis	Vitamin C
Complication of calcium metabolism (skeletal osteopenia and osteoporosis)	Vitamin D
Taste changes	Zinc

TABLE 2: THE ORAL MANIFESTATIONS OF SYSTEMIC CONDITIONS

Oral Manifestations	Systemic Condition	Cause
Increased bleeding risk	Coagulation disorders	Anticoagulation therapy Chemotherapy Liver Cirrhosis Renal Disease
Microbial infections	Immunosuppression	Alcoholic cirrhosis Chemotherapy Diabetes Medications (steroids, Immunosuppressive agents) Organ Transplant therapy Renal disease
Salivary dysfunction Mucositis Increased caries risk Dysphagia Dysguesia	Radiation sequel	Head and Neck Radiation
Microbial infections Increased risk for adrenal insufficiency	Steroid therapy	Autoimmune diseases Organ transplant therapy

TABLE 3: THE ORAL MANIFESTATIONS OF INTAKE OF MEDICATIONS FOR SYSTEMIC DISEASES

Category of Drugs	Oral Manifestations
Analgesics	Hemorrhage, erythema multiforme
Antibiotics	Oral candidiasis, hypersensitivity reaction, vesiculo-ulcerative stomatitis
Anticoagulants	Hemorrhage
Antihypertensives	Salivary dysfunction, gingival enlargement Vesiculo-ulcerative stomatitis, pemphigus vulgaris lichenoid mucosal reaction, taste disorders
Anti-Parkinsonian	Salivary dysfunction
Anxiolytics	Salivary dysfunction
Vasodilators	Taste disorders
Psychotherapeutics	Salivary dysfunction, erythema multiforme, oral pigmentation, tardive dyskinesia

accessible and senior-friendly. More severe functionally dependent elderly persons benefit from receiving on-site, mobile care.⁸

The Senior-Friendly Dental Office

To ensure ease of access: No Stairs (ramp or elevator), adequate, safe parking. *For ease of being seated and standing again, reception furniture should not be too low to the floor. It should be firm with arms.*

To reduce risk of falls, flooring should be consistent throughout the office, no deep pile carpeting, no throw rugs or clutter on the floor (watch hoses cords) no slipper areas/surfaces.

Lighting to reduce age-related vision: Adequate lighting without glare, consistent level of lighting throughout the office, avoid small print, use contrasting paper and ink colors for written materials.

To adjust to age-related hearing loss: Stand closer to the patient, enhance visual and auditory clues, re-move mask, maintain face-to-face, eye level, eye contact, touch appropriately, drop pitch, speak distinctly, may increase volume but do not yell, minimize background noise, use quiet locations for interaction, turn off any music, turn off dental equipment whenever possible.

Other communication enhancements: Use titles and surnames unless asked specifically to use first name, provide written instructions to reinforce verbal, communicate with caregivers as appropriate, do not communicate with caregivers at the expense of speaking with the patient.⁹

CONCLUSION

In the past there were number of challenges in providing dental care for geriatric population namely multiple physical and psychological ailments, lack of dental awareness and, low dentist to population ratio for elderly. But with recent advances in the field of oral health and increased dental awareness of the geriatric population, there is overall decrease in oral and systemic diseases affecting them.

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