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Review Article

# Proper Oral Hygiene Importance for Elderly Oral and General Health

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## Abstract

The influence of oral health on quality of life, regardless of age is unquestionable, especially in elderly. Good oral health makes it possible for elderly to have a quality chewing, normal communication with the surrounding, lack of pain and facial aesthetics, which even more effect on psychological health, self-confidence and self-esteem. The number of bacteria and the microbiological profile in the oral cavity are potential risk for overall health. The connection between the various systemic diseases and periodontitis and oral biofilm has been determine by numerous studies and is still subject of nowadays-clinical trials in elderly. More than five decades of clinical experiments suggests that mechanical cleansing procedures reliably control plaque (biofilm). The cleansing of the teeth, oral tissues and prosthetic appliances has to be perform regularly and effectively, which is the basis of good oral health.

**Keywords:** Oral Hygiene; Dental Care; Pneumonia; Elderly; Periodontitis; Gingivitis

## Introduction

Medicine and dentistry nowadays largely focuses on the growth of elderly population and treatments of specific conditions and diseases that are associated with ageing. The quality of dental care, just like the general health care, with the advancement of science and technology, has generally increased remarkably back a decade. There are still large differences in its accessibility between developed and developing countries. Oral health is inseparable from the general health and the elderly population is expose to the risk of chronic oral and dental diseases such as periodontitis, caries, consequent loss of teeth and benign and malignant changes of the oral mucosa. The relationship between oral health and systemic health, with emphasis on periodontitis in all age groups is subject of intensive research [1-8].

The influence of oral health on quality of life, regardless of age, is unquestionable. Good oral health makes it possible for an individual to have a quality chewing function, normal communication with the surrounding, lack of pain and facial aesthetics, which even more affect on psychological health, self-confidence and self-esteem.

A large group of elderly people is functionally limited and dependent on family care, careers or other health care staff in their own home or elderly home residences. Most of the elderly people by entering into advance ages at one point can be identify as fragile. The number of remaining teeth is as one of the indicator of life longevity, suggesting that people with 20 remaining teeth or more have a lower risk of developing fragility. The development of fragility in elderly people contributes most to the tendency towards various diseases, because of the decline in normal biological functions. Especially the immune system and malnutrition are largely associated with decreased chewing ability [9,10].

### Oral hygiene as a risk factor related to oral infections

The role of oral hygiene in achieving and maintaining oral health is increasingly promote and recognized in the wider public through

marketing campaigns and public health programs. More than five decades of experimental clinical trials suggest that mechanical cleansing procedures reliably control plaque (biofilm). Standard procedure is assuming that the cleansing is perform regularly and effectively, which is the basis of good oral health. Oral hygiene procedures reduce the mass of dental bacterial plaque in a non-specific manner, with a total reduction in the number of bacteria. This prevents the formation of gingivitis primarily. The most successful "therapy" is: to primary prevent inflammatory diseases of the dental tissues caused by biofilm, educate the elderly patients about caries, gingivitis periodontitis and how to perform regular oral hygiene at home. Professional removal of soft and hard deposits can be perform in dental offices. In older persons, institutionalized persons and self-reliant elderly relying on the assistance of medical and other auxiliary staff is the major problem to achieve the complete self-cleaning of the oral cavity. The other problem is the unavailability of regular and appropriate dental care and oral hygienist care (Figure 1 and 2).

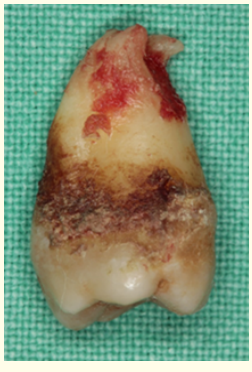

**Figure 1:** Abundant subgingival calculus of the extracted molar with long-lasting untreated periodontitis due to the very bad oral hygiene

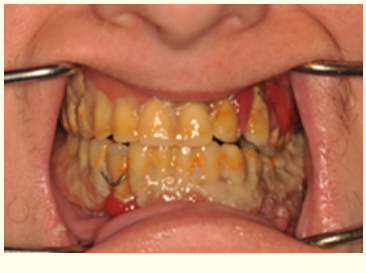

**Figure 2:** Very rare case of extremely poor oral hygiene of the tooth and both partial dentures.

The connection between the various systemic diseases and periodontitis and oral biofilm has been determine by numerous studies and is still subject of clinical experiments. The number of bacteria and the microbiological profile in the oral cavity are potential risk for overall health. Research data show the population over 65 year old have in most cases, moderate or advanced periodontitis, chronic inflammatory diseases that are multifactorial associated with cardiovascular disease and diabetes. In the case of elderly residents of health care institutions, infections of the lower respiratory tract are very common, usually caused by aspiration of oral anaerobic and facultative anaerobic microbiological flora. Prevalence of infections is increasing in the specific population of elderly people with reduced swallowing and neurodegenerative diseases. Poor oral hygiene of natural teeth and prosthetic appliances associated with hyposalination and reduced effect of the natural saliva function represent an extremely significant risk for aspiration pneumonia [11-16].

## Tooth cleaning

Removal and control of supragingival (surface) plaque on hard and soft dental tissues with regular mechanical cleaning is necessary because saliva and natural cleansing mechanisms only remove large particles of food residues only in certain places available for cleansing. They does not remove bacterial biofilm, tightly bound on dental surfaces. Self-mechanism involves contacts of the tongue with lingual surfaces of the posterior teeth and to a lesser extent the cleansing of available vestibular surfaces. Cheeks may only partially prevent accumulation of abundant deposits on the buccal surfaces of the upper posterior teeth. The saliva only partially removes food residues from interdental spaces and occlusal surfaces. Limited cleaning mechanisms in the elderly is further disrupt due to the decrease in muscle mass of the tongue and changes in the amount of salivation (reduction or lack of saliva) and consequently the absence of its natural immune protective role. For these reasons, oral cavity self-healing cannot be considere sufficient to maintain hygiene and plaque control, regardless of the individual's age. It is recommended to use standard and additional mechanical devices for maintain tooth and oral proper cleaning [17-19].

## Flushing oral liquids

Recommendations for the use of rinse fluids are base on their action in the form of inhibition of plaque formation and gingivitis. They can be used as a (temporary) replacement or a supplement to the mechanical brushing procedure, especially in the age groups where mechanical cleaning is not adequate (children and elderly)

or after a surgical procedure in the mouth cavity. Although rinsing fluids enter subgingivaly very little, they reach interdental spaces.

Chlorhexidine bisbigvanide, delmopinol and essential oils are chemical compounds, which are known to have an inhibitory role in the formation of plaque and the consequent formation of gingivitis. Although there is no consensus recommendation on the frequency of use of rinse liquid, general guidelines recommend using it twice a day, in the morning and in the evening. In addition, data show that chlorhexidine fluids provide 12-hour protection in the form of inhibition of plaque formation. Fluids with essential oils also reduce the number of anaerobic bacteria in the elderly up to 12 hours after use. Chlorhexidine fluids are available as solutions at concentrations of 0.05%, 0.12% and 0.2%. Option concentrations 0.12% and 0.2% have, if used in the same doses, approximately equal action. Chlorhexidine fluids can also be used to clean oral mucosa, removable prosthesis and to maintain the oral hygiene of unconscious and immovable persons. twice a day, in the morning and in the evening. Rinses liquids are suitable for use without alcohol [21,22].

### Hygiene and maintenance of removable dentures

Although the prostheses are made of artificial materials, it is of utmost importance of their maintenance and hygiene, because their surface are the perfect medium for bacterial retention and reproduction. Bacterial species such as Staphylococcus aureus, Streptococcus mutans, Klebsiella pneumoniae and Escherichia coli can be isolated from the porous acrylic material of the prosthesis, which are the cause of serious illnesses, especially in weaker and immunocompromised elderly individuals. The prosthesis in the mouth are still part of the body but needs to be removed overnight in order to free the supporting tissues of the prosthesis from constant pressure and disinfect the denture and fundamental tissue. Chronic oral candidiasis, which is most commonly seen as an erythematosus change in the lining surface and alveolar ridge covered by the prosthesis, is regularly associated with inadequate oral hygiene.

The role of Doctor of Dental Medicine is not only the prosthetic therapy but also the education of the patient how to perform proper oral hygiene. Oral care and hygiene of the prosthesis in elderly or disabled who can not independently perform hygienic procedure is dependent on the family, medical or auxiliary staff and educated oral hygienists [22,23].

## Conclusion

Oral health is inseparable from the general health of the elderly population. Elderly are expose to the risk of chronic oral and dental diseases such as periodontitis, caries, consequent loss of teeth and benign and malignant changes of the oral mucosa. Poor oral hygiene of natural teeth and prosthetic appliances associated with hyposalivation and reduced effect of the natural saliva function represent an extremely significant risk for systemic disease including aspiration pneumonia. Mechanical cleansing procedures reliably control plaque (biofilm) assuming that the cleansing is perform regularly and effectively, which is the basis of good oral health.

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