

Research Article

## Geriatric Patients: Data on Dental Problems at this Age

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### Abstract

**Introduction:** As the age increases, the frequency of hearing loss, visual impairment, cataract and glaucoma is increased. Most of the geriatric patients suffer from at least one chronic disease. The aim of the study is the evaluation of the presence of dental problems in geriatric age and comparison of the frequency of lesion manifestations of pre-geriatric age.

**Material and methods:** In a sample of 73 *ad-hoc* presented patients, at the University Clinic, Albanian University, for dental treatments, data on the oral status of geriatric patients were collected over a period of 2 weeks, 7-21 May 2019. The conditions for inclusion in the study were the age of the patient, 50 years and over. The mean age of geriatric age is 65 years, but the age of

the study was decided to compare the elements of dental problems before the geriatric age, such as a pre-geriatric specimen or geriatric pathologies. Patients were evaluated for age, degree of education, number of teeth in the oral cavity, number of replaceable teeth, number of teeth with caries in the tooth crown, number of denture teeth in the tooth root, number of teeth with gingival recession 3 or more mm. etc.

**Results:** Regardless of the age distribution, almost 55% of the oral cavities are full of natural tooth, the fixed prosthesis is at the highest level at age 50-65 years. Independently of the gender, the average age of the patients involved is almost the same 67 years. Crown caries expresses the highest level of 14% at oral cavity

at 66-90 years of age, caries of root amounted to 14% of oral cavity at 50-65 years of age. Xerostomia appears at 13% in the age 50-65 years, and 20% in the age of 66-90. Gingival recession and loss of attachment express the highest values at male patients, with a value over 3mm.

**Conclusions:** At geriatric patients, the aim should be to reduce the number of bacteria in the mouth and the mechanical cleaning of the teeth. At pre-geriatric age, it is more common the appearance of caries of the crown than in the geriatric age, where the most common is the caries of the roots of teeth. This fact is supported by the addition and agitation of xerostomia in the oral cavity, which increases with age. The pre-geriatric age still has naturally occurring oral cavity that can be used for fixed prosthetics. At the age of geriatric patients, the total prosthetic replacement takes the highest weight.

**Keywords:** Geriatric Patients; Periodontal Pathologies; Caries; xerostomia

## 1. Introduction

In the first half of the 21st century, the US population is expected to grow by 42%, while over the same period over 65% of the population will grow by 12.6%. Patients over 85 years old will increase by 31.6%, while the number of individuals over 100 years old will increase by 9.16% [1]. Albania's population had an average age of 35.3 years in 2011, while the average of the 27 EU member states, at this year, were 41.2 years old. In 2001, Albania had an average age of 30.6, while the European Union had 38.3 years [2]. As the age increases, the frequency of hearing loss, visual impairment, cataract and glaucoma is increased. Most of the geriatric patients suffer from at least one chronic disease. Higher-education groups are usually better economically than those with lower education, thus showing a higher level of care for oral hygiene and

dental care [3, 4]. The aim of the study is the evaluation of the presence of dental problems at geriatric age and comparison of the frequency of lesion manifestations at pre-geriatric age. The frequency of susceptibility to dental disease changes in pre-geriatric age and in the geriatric age. There are evidences from the literature that these fluctuations vary considerably [3, 5]. Xerostomia is a pathology that consists at appearance of discomfort while talking, eating, etc. There is a logical connection between xerostomia and medications. Medications (about 500 species) affect the reduction of pain and these older patients are among the most vulnerable to xerostomia for purpose of curing systemic pathologies with these medications. Drugs accused: tricyclic antidepressants, antihypertensives, diuretics. Pathologies associated with xerostomia: Sjögren's syndrome, thyroid disease, diabetes, head tumor radiotherapy. Patient complaints: speech difficulty, gastric disorder, taste disorder (4, 5). The characteristics of caries at geriatric patients are: root caries is the most common type at geriatric patients, some of the factors that cause it are: the exposure of the roots, combined with other accompanying diseases, medications. Studies have confirmed that the prevalence of root caries increases with age (6, 7, 8).

## 2. Materials and Methods

In a sample of 73 *ad-hoc* presented patients, at the University Clinic, Albanian University, for dental treatments, data on the oral status of geriatric patients were collected over a period of 2 weeks, in May 2019. The conditions for inclusion in the study were the age of the patient, 50 years and over. The mean age of geriatric age is 65 years, but the age of the study was decided to compare the elements of dental problems before the geriatric age, such as a pre-geriatric specimen or geriatric pathologies. Patients were evaluated for age, degree of education, number of teeth in the oral cavity, number of replaceable teeth, number of teeth with caries

at tooth crown, number of denture teeth at tooth root, number of teeth with gingival recession 3 or more mm . etc. The cross-sectional study was performed at a patient's sample with the aim to see if there was any connection between the age of the patient and the caries' appearance at the teeth, the presence of natural teeth, expressed in number, presence or absence of periodontal diseases Xerostomia is a pathology that consists at appearance of discomfort while talking, eating, etc. The purpose of the study is to include the collection of data on dental problems of geriatric patients, the assessment of oral status in relation to general health status, and the correlation of oral pathologies related to age.

### 3. Results

Table 1 summarizes the data on the average number of natural tooth and replaceable teeth depending on gender, found in oral cavity. These data are reflected in the appearance of clinical cases in Figure 1. Table 2 summarizes the presence of xerostomia and the number of teeth with crown or root caries. Figure 2 shows the clinical cases of the patients involved in the study regarding the presence of root or crown caries. Table 3 summarizes the data on the presence of gingival recession, periodontal pockets, and periodontal ligament loss. During the probe, continuous hemorrhage areas or point formations were also recorded.

Patients	Natural teeth		Replaced fixed prosthetic teeth		Replaced fixed prosthetic teeth	
	50-65	66-90	50-65	66-90	50-65	66-90
Female	14	22	7	0	0	Total max-man
Male	21	14	7	6	0	Total max
Average in %	55%	56%	22%	9%	0%	75%

**Table 1:** Results of data on the average number of natural tooth and teeth replaced by gender.





**Figure 1:** Clinical cases involving the presence or absence of a group of teeth in the oral cavities of the patients involved in the study.

Patients	Caries of the crown		Caries of root		Xerostomia	
	50-65	66-90	50-65	66-90	50-65	66-90
Female	3	4	4	1	1	1
Male	3	5	5	7	1	2
Average in %	9%	14%	14%	12%	13%	20%

**Table 2:** Information on the presence and the caries process of the root or crown and the relation that may be with the presence or absence of xerostomia.



**Figure 2:** This figure summarizes the clinical cases of patients with caries of root, or caries of the crown.

Patients	Gingival Recession		Loss of attachment		Periodontal pockets	
	≤ 3mm	> 3mm	≤ 3mm	> 3mm	≤ 3mm	> 3mm
Female	4	0	3	1	1	1
Male	3	5	3	5	0	1

**Table 3:** Data on gingival recession, loss of attachment and the presence of periodontal pockets, divided according to the classification in female:male ratio.



**Figure 3:** This figure summarizes the clinical cases of patients with xerostomia.

#### 4. Discussion

47% of the patients involved in the study were with secondary education. Regardless of the age distribution done at this study, almost 55% of the oral cavities were with natural teeth, the fixed prosthesis was applied at the highest level at age 50-65 years old, while the high level of total prosthesis was in the second group at age 66-90 years old. Independently of the gender, the average age of the patients involved was almost the same, 67 years old. Crown caries expressed the highest level at 14% of oral cavity at age 66-90 years old, root caries amounted to 14% level of oral cavity at age 50-65 years old. Xerostomia appears at 13%, in the age of 50-65, and 20% in the age of 66-90. Gingival recession and loss of attachment, expressed the highest values in males, over 3mm. General health problems and poor

oral condition are significant risk indicators for tooth loss among the long-term institutionalized geriatric patients [9]. This suggests that the number of remaining teeth has a strong effect on oral health-related quality of life. Poor oral health status, together with a reduction of autonomy can seriously affect the general health and increase the risk of death in elderly people [9]. Those with total tooth loss and in need of assistance are the most at risk. Modification of standard procedures within the limits of medical, functional and psychological status can make the difference between success and failure [10]. Clinical adaptability is the key to Prosthodontic success with the geriatric patient. No one procedure, material or technique is adequate for all elderly edentulous patients' treatment success [11]. 47% of the patients involved in the study were with

secondary education. Regardless of the age distribution done in this study, almost 55% of the oral cavities were with natural teeth, the fixed prosthesis was applied at the highest level at age 50-65 years old, while the high level of total prosthesis was in the second group at age 66-90 years old. Independently of the gender, the average age of the patients involved was almost the same, 67 years old. Crown caries expressed the highest level at 14% of oral cavity at age 66-90 years old, root caries amounted to 14% level of oral cavity at age 50-65 years old. Xerostomia appears at 13%, in the age of 50-65, and 20% in the age of 66-90. Gingival recession and loss of attachment, expressed the highest values in males, over 3mm. Periodontal disease should be diagnosed regardless of the age of the patient. This disease has a phase of rearing and calmness. The key to success lies in the preservation and function of teeth, periodontitis, and the elimination of inflammation [12, 13]. When designing a periodontal plan treatment, consideration should be given to: health and mental condition, functional condition, lifestyle, medications, gravity of periodontal disease. Micro oral flora are a potential source of temporary periodontal bacteria, with the potential of promoting atherosclerosis, through increased interaction with blood cells. Nonsurgical periodontal treatment significantly reduces the level of fibrinogen, known as a risk factor for the development of arterial arteriosclerosis [13], the latter, as one of the major diseases from which geriatric patients suffer.

## 5. Conclusion

Different age ranges represent different preferences for prosthetic, fixed, or removable dental treatment. Root caries has a higher prevalence in pre-geriatric age, whereas crown caries in geriatric age. xerostomia is higher in geriatric age compared to pre-geriatric age. Gingival recession and loss of attachment expressed the highest values in males, geriatric age.

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## Author Contribution

Literature research was conducted by Dr. Saimir Heta. It was his insistent work that made it possible to reach the conclusions in this article.

## Conflicts of Interest

We declare that there is no conflict of interest between the authors and the material presented in this article.

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