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Aging and Dental Health (Middle Age Versus Geriatric Age)

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Abstract

Background: Aging as a physiological process has attracted the attention of many authors in publication of data about physiological and pathological changes that occur in organism. This study aims to express the latest data in literature about dental changes that occur as a result of aging, at component structures of oral cavity, associated with results in numbers of dental changes, comparing middle age and geriatric age. The study presents data recorded from the patients included in this study, about dental status and about systemic condition and systemic pathologies that patients suffer from. Data were recorded at different times, including a total of 93 patients. After clinical examination, endodontically treated teeth were initially recorded. The data about prosthetic treatment were recorded, divided into categories of partial or total prosthetic treatment. The systemic diseases from which patients suffer were recorded. ***Results:*** 78% of patients have natural teeth in oral cavity. The range of 16-25 teeth in oral cavity, i.e. 50-78% of mouth filled with natural teeth, includes 22% of patients: 5% of pre-geriatric age and 17% of geriatric age. Edentulism is present in status at level of 22%, while the lack of endo treatment is 39% even in clinical cases where deep caries was present in oral cavity. The presence in 78% of clinical cases with natural teeth is associated with 61% of these same cases of endodontic treatment. Fixed prosthesis is presented in 84% of clinical cases included in the study, while removable prosthesis, regardless of whether it is total or partial, is presented in 61% of clinical cases of the study. ***Conclusions:*** The comparison of middle age and geriatric age about collected dental data leads to results that clearly speak about the tendency for prosthetic replacements with both fixed prosthesis and removable prosthesis, placing emphasis the role of dental status at the whole organism. The significant increase in percentage of endodontically treated teeth is another value that speaks of the population's awareness of dental care. The presence of natural teeth, expressed in numbers and percentages, is a value that reflects data on dental care over the years.

Keywords: oral health, pre-geriatric, geriatric, endodontic treatment, prosthetic, sistemic pathology, oral pathology

1. Background

Every pathology has its starting point and then its progression. There is a fundamental difference when it is compared the moment of onset of pathology at a young age and the moment of onset of pathology at a geriatric age. Health and oral status in an adult with the onset of pathology, it is thought that this pathology will have a long-time span depending on the individual's age, where systemic diseases will be added to the picture of the general health status, which may overlap with the passage of time. In the case of the geriatric age, the

progression of the disease is conditioned by the presence of existing diseases, which can increase or slow down the disease, but the clinical duration is more reduced than in the age of adult patients. (Heta Saimir, Tarja Merilda, Kapaj Sonila, Kapaj Eduard, Milo Ermelinda & Robo Ilma, 2019; Lin, Z., Yang, R., Li, K. & et al., 2020; Lee SB, Oh JH, Park JH, Choi SP & Wee JH., 2018; Ilma Robo, Saimir Heta, Fjona Hamzai & Vera Ostreni, 2019; U.S. Interim projections by age, race, sex, and Hispanic origin, 2004)

Both the number and the ratio of individuals aged 65 years or older are increasing, although the ratios vary in different countries and different parts of the world. The number of elderly has more than tripled since 1950, from 130 million to 419 million in 2000, with the elderly increasing by 4 to 7% in numbers over this period. In USA, according to a reference data, for those over the age of 65, this figure goes to about 13% of the population. Based on USA Census Bureau (2004), it has undergone a 20% increase in a 25-year period. (US Census Bureau, 2004) Again, these data show that for this percentage of the population, part of adults able to work must provide financial support for the elderly, even in geriatric service jobs such as health care nurses, social service workers, social food workers. (Lin, Z., Yang, R., Li, K. & et al., 2020; Ilma Robo, Saimir Heta, Fjona Hamzai & Vera Ostreni, 2019; The older population in the United States, 2002; Race, Hispanic origin, and sex, 2002; Neumann-Podczaska A, Al-Saad SR, Karbowski LM, Chojnicki M, Tobis S & Wieczorowska-Tobis K., 2020; https://www.nidcr.nih.gov/research/data-statistics/tooth-loss/seniors)

Thus, a large number of able-bodied adults are involved in care and financial support of geriatric age. Data from the world, again with reference (http://www.census.gov/ipc/www/usinterimproj/natprojtab02a.pdf.; The older population in the United States, 2002): more than 18% of Italians are 65 years old or older, while in Spain, Sweden, Belgium, Greece and Japan these figures are somewhat more reduced. Europe has the highest % of geriatric age, remaining the region with the highest percentage of the geriatric population, so much so that it has been mentioned as the oldest region for decades. Drastic measures in fertility in Asia, Latin America and East/North Africa, combined with increased life expectancy, will provide such proportions that the geriatric age in these regions will triple by 2050. (Lin, Z., Yang, R., Li, K. & et al., 2020; Fatimah Maria Tadjoedin, A.H., 2017; Brian A. Burt, 1994; Andrew Tawse-Smith, 2007; Forman DE, Berman AD, McCabe CH, Baim DS & Wei JY., 1992; Rodrigo López, Patricio C Smith, Gerd Göstemeyer & Falk Schwendicke, 2017; U.S. Interim projections by age, race, sex, and Hispanic origin, 2004; http://www.census.gov/ipc/www/usinterimproj/natprojtab02a.pdf.; The older population in the United States, 2002)

We live in the time of the SARS CoV-19 pandemic and there are still no definitive demographic data about the human damage of this disease, compared to the geriatric age. The data is not static, but always in constant evolution, until the end of the pandemic. But, again from the literature we can say that the clinical appearance of this infection has found itself in the geriatric age that suffers from accompanying systemic diseases. A wide variety of symptoms may be observed including respiratory, gastrointestinal, cardiovascular and neurological. Abnormalities in inflammation accompanied by laboratory tests indicate the involvement of several organs. Renal, hepatic, cardiac complications are more common in patients who have already passed the infection. However, the figures on human damages in the geriatric age, mainly, and in the pre-geriatric age, are better known. (Rodrigo López, Patricio C Smith, Gerd Göstemeyer & Falk Schwendicke, 2017; Nivetha N Gavriilidou, 2019; Saimir Heta, Ilma Robo, Eduart Kapaj, Sonila Robo & Nevila Alliu, 2020; Heta S, Xhaferri S, Kapaj S, Kapaj E, Robo I & Mavriqi L., 2019; Wanda C.Gonsalves, Stevens WriGhtson & KentuckyrobertG. Henry, 2008; Grossi S. G., Zambon J. J., Ho A. W., Koch G., Dunford R. G., Machtei E. E., Norderyd O. M. & Genco R. J., 1994; Baldev R. Bhussry, Ph.D. & Walter C. Hess, Ph.D., 1963; Michael G.Newman, DDS, Henry H.Takey, DDS, Ms.Fermin A.Carranza & Dr.Odont, 2004; Race, Hispanic origin, and sex, 2002; http://www.ishp.gov.al/wp-content/uploads/2015/4;
https://top-channel.tv/video/140-mije-persona-me-probleme-ne-zemer/;
revistapsikologji.com/artan-goda-insuficenca-kardiake-moshat-me-te-rrezikuara/;
https://dimensionsofdentalhygiene.com/wp-content/uploads/2019/07/AC-featured-450x300.jpg.;
https://cdeworld.com/media/11690)

The purpose of the study includes expressing in numbers and comparing the level of oral status of middle-aged and geriatric patients. The oral status is presented with dental works and treatments in the oral cavity, accompanied by the presence or absence of systemic diseases that the patients have.

2. Methods

The total number of patients of 93 individuals included in this study was registered based on the stages of work-protocol; this for reasons of further data processing.

Each patient included in the study is well-informed, and then verbal consent was obtained in full consensus to become part of the study, and to proceed with the established protocol. The patients were informed about the inclusion in the study and the goals of this study. It is understood that full consent was obtained for the collection

of data and the possibility of their processing under conditions of anonymity.

Stages of the work protocol:

• Demographic data of the patients were recorded,

• A clinical examination of teeth found in oral cavity was performed, where endodontically treated teeth were initially recorded,

• A periodontal diagnosis was established, dividing the patients into patients suffering from gingivitis or periodontitis (the criteria for this determination),

• Data on prosthetic treatment were recorded, divided into categories of partial or total prosthetic treatment,

• Systemic diseases from which the patients suffer were registered,

• The number of remaining natural teeth in oral cavity was recorded,

• Oral pathologies in gingiva or mucosa were recorded and photographed.

The conversation with patients made it possible to obtain a complete anamnesis regarding the systemic diseases they suffer from. Patients were categorized on basis of established diagnosis, on basis of oral lesions recorded in oral cavity, the positioning and type of lesions and on basis of reaction at the beginning of gingival healing process. The examination included both tooth-bearing structures, as well as visual and palpation assessment of oral mucosa.

All included patients were informed about the protocol and the duration of the procedure, about the examination and photography in case of evidence of gingival lesions in oral cavity. This protocol was also clarified with patients and was carried out only for the effect of the study, the patient's anonymity would be preserved, and in case of indication, he would be referred for further examinations.

3. Results

After collecting the data in the basic excel table, they were processed with the aim of displaying the results of the study according to the tables below.

Table 1.

Patients	Pre-geriatric age	%	Geriatric age	%	Total	%
Female	21	23%	23	25%	44	47%
Male	15	17%	34	37%	49	53%
Total	36	39%	57	61%	93	100%

The table presents the numerical value and percentage distribution according to the demographic data of the patients included in the study.

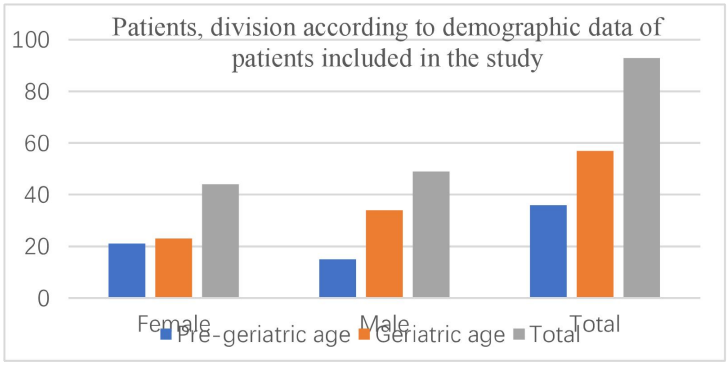

Figure 1.

The graph shows the numerical value and percentage of the demographic data of the patients included in the study, the data of table 1.

Table 2.

Patients	Natural teeth			Total - %	Endodontic treatment			Total - %
	1-15	16-25	26-32		1-4	5-10	11-16	
Pre-geriatric age	18	5	3	26 – 28%	14	7	2	23 – 25%
Geriatric age	28	15	4	47 – 50%	19	12	3	34 – 37%
Total	46	20	7	73 - 78%	33	19	5	57
	50%	22%	8%		35%	20%	5%	61%

The table shows in numerical value and percentage the division of patients depending on the number of natural teeth and endodontically treated teeth - pre-geriatric age and geriatric age.

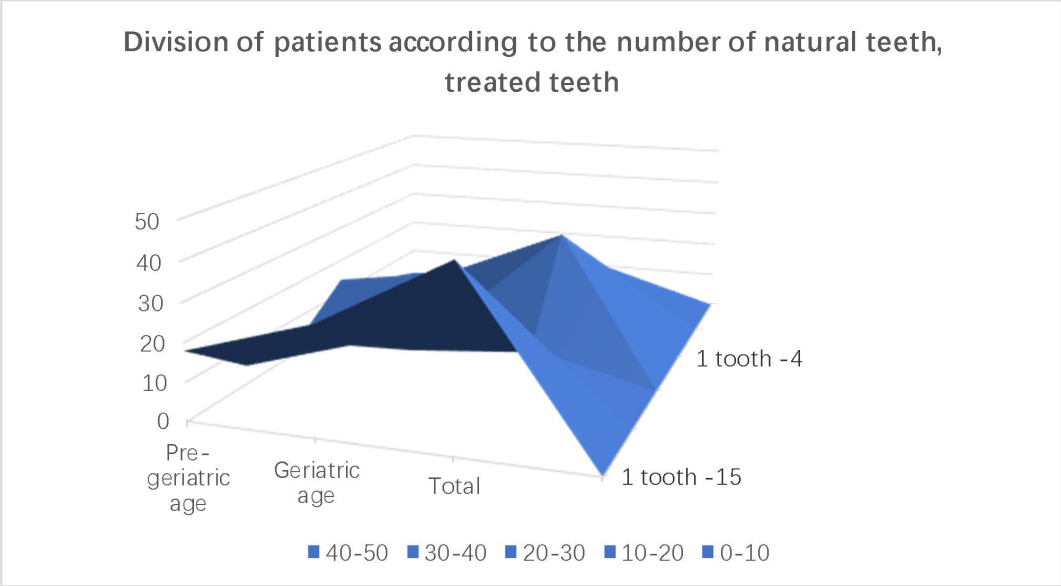

Figure 2.

The graph shows in numerical value and percentage the division of patients depending on the number of natural teeth and endodontically treated teeth—pre-geriatric age and geriatric age.

Table 3.

Patients	Natural teeth			%	Endodontic treatment			%
	0	1-	Total		0	1-	Total	
Pre-geriatric age	8	28	36	39%	12	23	35	38%
Geriatric age	12	45	57	61%	24	34	58	62%
Total	20	73	93	100%	36	57	93	100%
	22%	78%			39%	61%		

The table shows in numerical value and in percentage the division of patients depending on the number of natural teeth and endodontically treated teeth—pre-geriatric age and geriatric age, of the fact if there is or not, no longer with specific division.

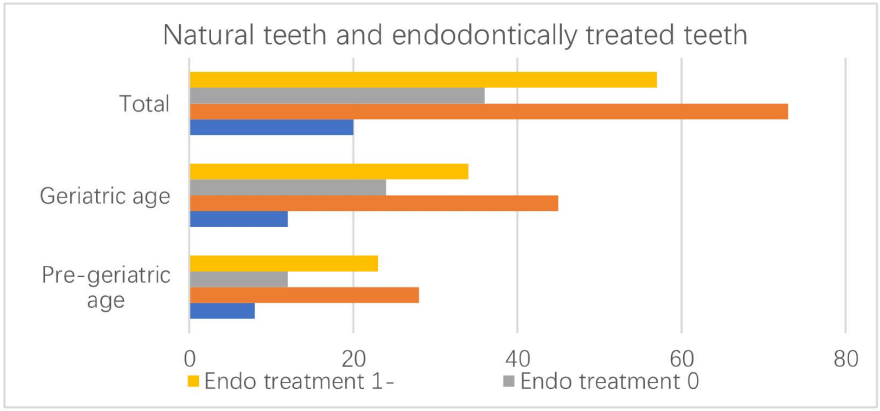

Figure 3.

In this graph, the division of patients according to the number of natural teeth and endodontically treated teeth—pre-geriatric age and geriatric age, of the fact whether there is or not, no longer with specific division, is presented in numerical value and in percentage.

Table 4.

Patients	Fix prosthetic			%	Removable prosthetic			%
	0	1-	Total		0	1-	Total	
Pre-geriatric age	9	27	36	39%	29	7	36	38%
Geriatric age	29	28	57	61%	45	12	57	62%
Total	38	55	93	100%	74	19	93	100%
		59%				20%		

The table shows in numerical value and in percentage the division of patients depending on the number of teeth with fixed prosthesis and with removable prosthesis—pre-geriatric age and geriatric age, whether there is or not, no longer with a specific division.

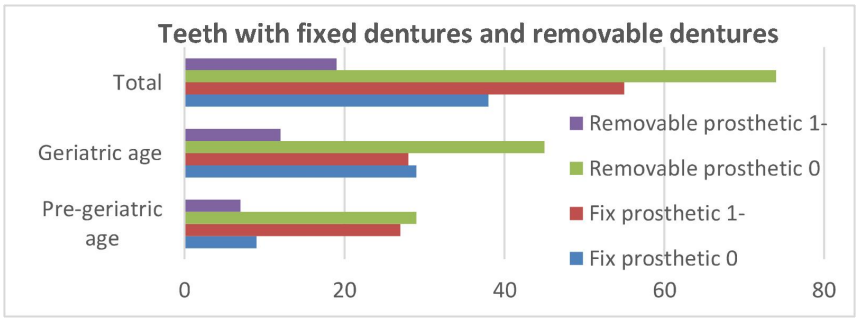

Figure 4.

In this graph, the division of patients depending on the number of teeth with fixed dentures and with removable

dentures—pre-geriatric age and geriatric age, about the fact whether there is or not, no longer with a specific division, is presented in numerical value and in percentage.

Table 5.

Patients	Fix prosthetic			%	Removable prosthetic			%
	1-5	6-12	13-32		p-Maxilla	p-Mandibula	Total	
Pre-geriatric age	8	16	3	27 29%	-	1	6	7 8%
Geriatric age	15	10	3	28 30%	2	3	7	12 13%
Total %	23 25%	26 28%	6 6%	55 59%	2 2%	4 4%	13 14%	19 20%

The table shows in numerical value and percentage the division of patients depending on the number of teeth with fixed or removable prosthesis—pre-geriatric age and geriatric age.

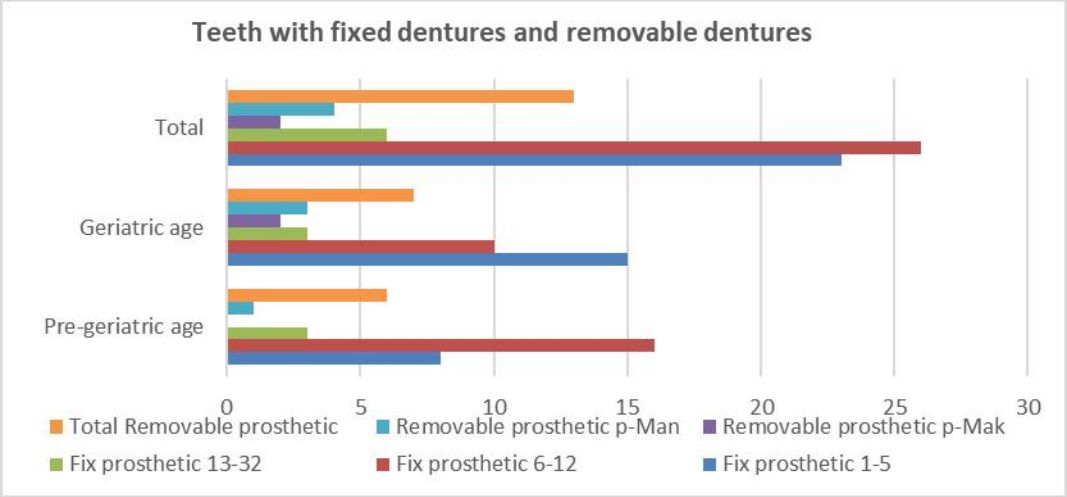

Figure 5.

In this graph, the division of patients depending on the number of teeth with fixed or removable dentures—pre-geriatric age and geriatric age is presented in numerical value and in percentage.

Table 6.

Patients	Sistemic pathology			Total - %	Oral pathology			Total - %
	0	1-	Total		0	1-	Totali	
Pre-geriatric age	6	30	36	39%	20	16	36	39%
Geriatric age	4	53	57	61%	40	17	57	61%
Total	10	8 - 89%	93	100%	60	33 - 35%	93	100%

The table shows in numerical value and in percentage the division of patients depending on the number of patients with systemic pathology and oral pathology—pre-geriatric age and geriatric age, whether there is or not, no longer with a specific division.

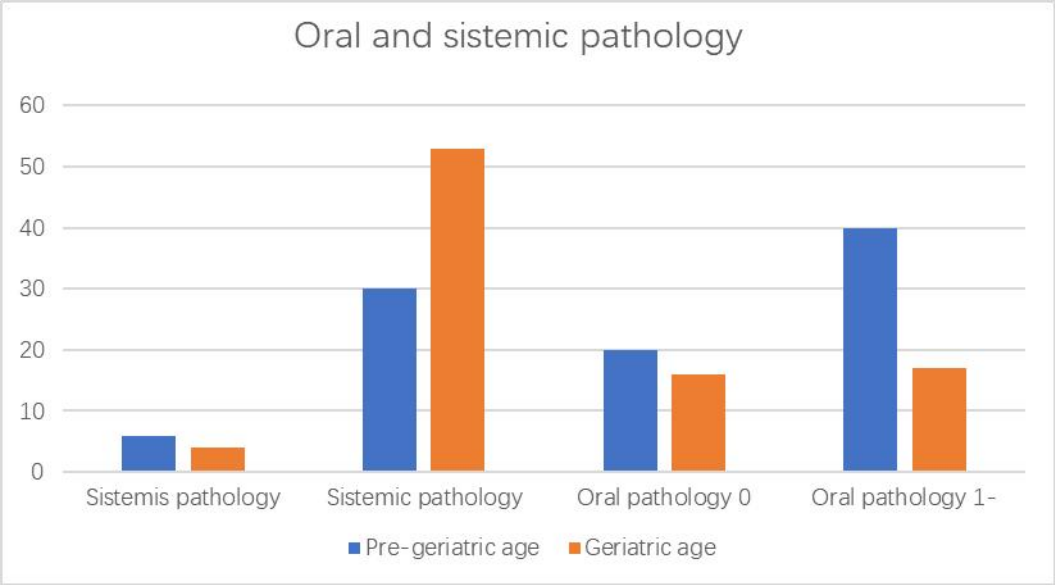

Figure 6.

In this graph, the division of patients is presented in numerical value and in percentage depending on the number of patients with systemic pathology and oral pathology—pre-geriatric age and geriatric age, whether there is or not, no longer with a specific division.

Table 7.

Patients	Cardiac patients		Diabetic patients		Arthritis		Others
	Pre-geriatric	Geriatric	Pre-geriatric	Geriatric	Pre-geriatric	Geriatric	
Female	7	10	10	15	0	8	13
Male	5	13	8	12	6	3	26
Total	12	23	18	27	6	11	39
Total for desease	35 – 38%		45 – 48%		17 – 18%		39 – 42%

The table shows in numerical value the division of patients depending on the number of patients with systemic pathology and specifically according to the pathology they suffer from.

Table 8.

Patients	Cardiac-diabetic patients		%
	Pre geriatric age	Geriatric age	
Female	4	6	10-11%
Male	5	8	13-14%
Total	9	14	23-25%

The table shows in numerical value the division of patients depending on the number of patients with systemic pathology according to the combination of cardiac and diabetic patients at the same time.

Table 9.

Patients	Nephropathy-diabetic patients		%
	Pre-geriatric age	Geriatric age	
Female	3	5	19%
Male	5	8	11%
Total	8-9%	13-14%	30%

The table shows in numerical value the division of patients depending on the number of patients with systemic pathology according to the combination of nephropathy and diabetic patients at the same time.

Figures 7-12 present the clinical cases included in the study, presented according to patient specifications and classifications of the above results.

Figure 7.

The figures show cases of patients with a high number of natural teeth in the oral cavity. The two upper cases are male patients, respectively, geriatric and pre-geriatric age, and the figure below is a female patient of geriatric age.

Figure 8.

This figure presents a female patient of geriatric age, with total edentulism, signs of erythematous candidiasis and tissue mass in the area of the maxillary incisors—the first patient, and angular cheilitis—the second patient.

Figure 9.

Partial edentulism is shown in this figure with two clinical cases presented with a partial prosthesis in the maxilla.

Figure 10.

The photos above show carious lesions present in the patient's cavity, but untreated, accompanied by the presence of bacterial plaque.

Figure 11.

The photos above show the linear erythema of marginal gingivitis in a female patient, accompanied by significant amounts of bacterial plaque.

Figure 12.

At the photos above, clinical cases of fixed prosthesis are presented, divided according to the bands of the number of teeth treated with fixed prosthesis.

As results expressed in figures, it can be said that, documented by our study, they are as follows:

- The age of the study sample of patients, taken for data evaluation on the comparison of geriatric and pre-geriatric or middle age changes, depending on the division by gender, resulted in 47% women and 53% men. This division, for a random ad hoc selection, is in the ratio 1:1. Whereas, in terms of the age of the study sample, it is divided into 39% pre-geriatric age and 61% geriatric age.
- According to the assessment of the sample of patients for the number of natural teeth in the oral cavity, 78% of patients have natural teeth in the oral cavity, 22% are edentulous. Of the 78% of patients with natural teeth, 61% are patients undergoing endodontic treatment. Divided according to the groups of the number of teeth found in the mouth: 1-15 teeth are 50% of patients, where 19% are patients of pre-geriatric age and 31% patients of geriatric age. The range of 16-25 teeth in the oral cavity, i.e. 50-78% of the mouth filled with natural teeth, includes 22% of patients: 5% of pre-geriatric age and 17% of geriatric age. Band 26-32 teeth in the oral cavity that belongs to 80%-100% of the mouth filled with teeth, 8% of which are 3% pre-geriatric age and 4% geriatric age.
- If these data are analyzed in relation to endodontic treatment, it can be seen that 50% of patients who had 1-15 teeth in the oral cavity have approximately 60% of their teeth treated endodontically. Divided according to the limits of endodontically treated teeth, it can be seen that: 1-4 treated teeth are 35% of patients, divided into 15% of pre-geriatric age and 20% of geriatric age. 5-10 teeth: 20% of patients, where 8% are of pre-geriatric age and 12% of geriatric age. 11-16 treated teeth are 12% of pre-geriatric age and 3% of geriatric age, in total 5%.
- Edentulism is present in status at the level of 22%, while the lack of endo treatment is 39% even in clinical cases where deep caries was present in the oral cavity.
- The presence in 78% of clinical cases with natural teeth is associated with 61% of these same cases of endodontic treatment.
- Fixed prosthesis is presented in 84% of the clinical cases included in the study, while removable prosthesis, regardless of whether it is total or partial, is presented in 61% of the clinical cases of the study.
- Divided fixed prosthesis depending on the bandages of the replaced teeth is performed as follows: 1-5 teeth 25% of which 9% pre-geriatric age, 21% geriatric age; 6-12 teeth 28% of which 17% pre-geriatric age and 11% geriatric age. 13-32 teeth 6% in total: 3% pre-geriatric age and 3% geriatric age.
- Removable prosthesis in total 20%, where 2% for partial maxillary, 4% partial mandibular and 13% total maxillary and mandibular.
- According to the age distribution, 12% are in the geriatric age and 8% are in the pre-geriatric age. 6% total in pre-geriatric age and 7% total in geriatric age. 3% partial mandibular in geriatric age and 1% partial mandibular in pre-geriatric age. 2% maxillary partials of geriatric age 0% maxillary partials in pre-geriatric age.
- According to systemic diseases, the results are: 89% of the population suffers from systemic diseases, for which 32% are pre-geriatric age and 57% are geriatric age. 6% of the population in healthy status belongs to the pre-geriatric age and 4% of the systemic health belongs to the geriatric age.
- Oral pathologies are present in 35% of patients presented, of which 17% pre-geriatric age and 18% geriatric age. 22% of oral health belongs to pre-geriatric age, 43% of oral health belongs to geriatric age.
- Systemic diseases from which they suffer: 38% are cardiac diseases in 13% of pre-geriatric age and 23% of geriatric age, diabetes occurs in 48% of cases of which 19% of pre-geriatric age and 29% of geriatric age. While in the pre-geriatric age, diabetes dominates mainly in women in 10% of clinical cases.
- Arthritis appears in 18% of cases, where 6% pre-geriatric age and 11% geriatric age. Men are affected in 13% of cases.
- If analyzed in the framework of the combination of systemic cardiac diseases-diabetes, it is reached in 25% of cases, where 14% are male and 11% female, of which 9% are of pre-geriatric age (4% female and 5% men) and 14% of geriatric age (6% women and 8% men).
- 9% of patients of pre-geriatric age suffer from the nephropathy-diabetes combination, where 3% are women and 6% are men of pre-geriatric age, while for geriatric age 14% find this combination with 5% women and 9 % men.

4. Discussion

Middle age is the precursor to geriatric age and the changes that occur at this age affect the substrate where the

effects will be expressed, the continuation of the physiological process of aging. The age of 45-60 years is the age interval of 15 years that is included in the middle age, then accompanied by the geriatric age, which as an initial limit has the value of 65 years and continuity relative to the person. (Lin, Z., Yang, R., Li, K. & et al., 2020) The geriatric age also has the sub-divisions of others, such as early geriatric age, 65 to 74 years, middle geriatric age 75 to 84 years, and late geriatric age 85 years and older. (Lee SB, Oh JH, Park JH, Choi SP & Wee JH., 2018)

Taking the pre-geriatric age interval as a basis for what will happen later in the geriatric age, we think that it is precisely this interval that expresses the characteristics of what is expected to come. So, the oral status of the pre-geriatric age is where the effects of the aging process will worsen and further aggravate oral health. It is known that aging as a procedure has its physiological course with a visible expression of the reduction in the amount of saliva produced, which mainly affects the appearance of dryness on the surfaces of the mucosa and on the surfaces of the teeth. Candidiasis and the appearance of carious processes are the two interprocesses that begin at this age to have the obvious expression of clinical signs. It should not be forgotten that both age ranges selected in this study can also be “prey” of systemic intake of medications for the treatment of systemic pathologies in the body. (Ilma Robo, Saimir Heta, Fjona Hamzai & Vera Ostreni, 2019; Fatimah Maria Tadjoedin, A.H., 2017; Grossi S. G., Zambon J. J., Ho A. W., Koch G., Dunford R. G., Machtei E. E., Norderyd O. M. & Genco R. J., 1994; Michael G.Newman, DDS, Henry H.Takey, DDS, Ms.Fermin A.Carranza & Dr.Odont, 2004; The older population in the United States, 2002) Changes in the oral status are also aggravated under the systemic effect of medications taken by patients for systemic pathology. The next logical flow should be considered that systemic pathologies can be the cause of the appearance of oral pathologies.

So, the picture of oral health status both in the pre-geriatric age and in the geriatric age is the combination of all the elements mentioned above. It is these elements that either hinder the active expression or increase the active expression of their oral effects in the oral cavity. (Heta Saimir, Tarja Merilda, Kapaj Sonila, Kapaj Eduard, Milo Ermelinda & Robo Ilma, 2019; Lee SB, Oh JH, Park JH, Choi SP & Wee JH., 2018; ael G.Newman, DDS, Henry H.Takey, DDS, Ms.Fermin A.Carranza & Dr.Odont, 2004; The older population in the United States, 2002) The oral cavity of the pre-geriatric age, and therefore also of the geriatric age, is the result of oral care over the years, carried out by the individual, in the age periods before reaching the pre-geriatric age. So, the oral status where the picture of pre-geriatric and geriatric elements operates is that situation where systemic or local pathologies or diseases have been acting for years in the oral cavity, which are very individual, expressing the interaction of the host immune level, or the possibility or individual exposure against external stimuli specific to an organism. (Wanda C.Gonsalves, Stevens WriGhtson & KentuckyrobertG. Henry, 2008; Race, Hispanic origin, and sex, 2002)

The presentation of this situation, in this study, is carried out in the nature of the comparison of the relevant numerical results of the pre-geriatric age, against the numerical results of the geriatric age. Oral diseases, as the most important factor that determines the outcome of dental treatments, have the maintenance and control of the bacterial plaque. It is the bacterial plaque that causes periodontal problems as well as problems of caries origin. This mainly differs from the content of the oral flora, the cause of dental diseases. But the problem starts with the care of the bacterial spot. Difficulties can be physical (due to compromised physical movements), various medications, vision difficulties, mental dementia, arthritis. (Ilma Robo, Saimir Heta, Fjona Hamzai & Vera Ostreni, 2019)

Oral hygiene is limited to the primary element, the use of a brush and no longer to the use of interdental floss or mouth rinses. So, dental care is severely limited. Although there are ways to adapt individual hygiene, sometimes the patient’s systemic condition is combined with dementia or physical difficulties in performing oral hygiene. (Neumann-Podczaska A, Al-Saad SR, Karbowski LM, Chojnicki M, Tobis S & Wieczorowska-Tobis K., 2020; Brian A. Burt, 1994; Michael G.Newman, DDS, Henry H.Takey, DDS, Ms.Fermin A.Carranza &Dr.Odont, 2004; U.S. Interim projections by age, race, sex, and Hispanic origin, 2004)

In these conditions, the various medications taken for the treatment of systemic diseases, diabetes, hypertension, which, even with the high percentage of their occurrence in the geriatric age, have a significant effect, express the effect of systemic pathology in general, or of medications with which the pathology is treated. Not only that, but systemic diseases in the geriatric age also appear in their combinations, for example, diabetes-hypertension, where the effect of the above elements is combined even more. The geriatric age control visit to the dentist is another indicator which is reported with different figures in the literature. It should be considered that the pre-geriatric age is more prone to control at the dentist, compared to the geriatric age, but considering that the fixed prosthetics placed in the pre-geriatric age requires a kind of dental care for oral hygiene, as in the pre-geriatric age—geriatric, even more so in the geriatric age where it falls to be a prosthetic replacement with 7-10 years of clinical life in the patient’s oral cavity. (Andrew Tawse-Smith, 2007; Michael G.Newman, DDS, Henry H.Takey, DDS, Ms.Fermin A.Carranza & Dr.Odont, 2004;

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The effects of aging, such as candidiasis and xerostomia, are sensitive in the oral cavity. The combination of both pathologies is inevitable, since the lack of saliva logically promotes the appearance of candidiasis, which finds suitable conditions to express the typical clinical signs of the pathology. (Ilma Robo, Saimir Heta, Fjona Hamzai & Vera Ostreni, 2019) The geriatric age is interesting for the evolution of oral pathologies.

5. Conclusions

The care and approach to endodontic treatment is shown with higher values for the geriatric age than for the pre-geriatric age.

The demand for fixed prosthesis is higher than for removable prosthesis, regardless of geriatric or pre-geriatric age.

The tendency for total prosthesis is higher in the geriatric age than in the pre-geriatric age.

Vulnerability to oral pathologies is the same for both geriatric and pre-geriatric age.

There are significant differences in susceptibility to systemic diseases depending on gender.

The presence of natural teeth in the oral cavity has increased the interest in their endodontic treatment. This is a relatively good indicator against the approach of patients to tooth extraction as the simplest way of dental treatment.

Economic conditions are probably reflected in the reduced percentage of the number of natural teeth in the pre-geriatric age.

A small percentage of patients have almost all teeth in the oral cavity in the same proportions, both for the geriatric age and for the pre-geriatric age.

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Declarations

Ethics Approval and Consent to Participate

As the authors of the article, we state that there is no violation of the code of ethics during the realization of this article.

Consent for Publication

Accepted.

Availability of Data and Materials

The datasets analyzed during the current study are available from the corresponding author.

Competing Interests

The authors declare that they have no competing interests.

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Authors' Contributions

IR and JR collected the scientific data and wrote the manuscript. SH and SK revised and edited the manuscript. Literature research was conducted by EH and BR. SH and VO collected the scientific data. All authors read and approved the final manuscript.

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