



FROM GERIATRICS AND GERONTOLOGY TO GERIATRIC DENTISTRY

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Abstract: At this moment, geriatric dentistry represents a very well-defined discipline, which deals with the dental treatments in the elderly patients, more precisely the patients over 60 years old. Unfortunately, in Romania, geriatric dentistry is currently very superficially treated, this being rather an optional study discipline in the curricula of Dental Medicine Faculties. Therefore, in this material we have tried to explain through solid arguments the importance of geriatric dentistry in the basic training of dentists, dental and dental prophylaxis nurses, as well as dental technicians.

INTRODUCTION

Geriatrics and gerontology are those medical specialties whose main objectives are medical assistance in acute, chronic, preventive, recovery and terminal care of elderly patients, as well as the study of the aging process from a somatic, mentally, functionally and socially point of view at the individual level, as well as the issues related to this process at the society level.(1)

Starting from this simple definition provided by Wikipedia, the encyclopedia that provides the fastest online definitions on Google search engines, we actually reach what interests us in this material, namely geriatric dentistry. By geriatric dentistry we understand that discipline "which combines multidisciplinary knowledge, regarding the physiological and pathological changes of the general state of the elderly patient, with the local state of the dento-maxillary system". As priority objectives of the dental treatment in the elderly patient, it should not be insisted on only the oral rehabilitation of the elderly (it must also take into account the difficulties faced by this category of patients, difficulties specific to the age after 60 years such as: problems of mobility, problems of understanding, problems of communication etc.), but also on the implementation of some re-education mechanisms on the oral and dental health for this category of patients.(2) Thus, rehabilitation is usually understood as the treatment that would aim the reintegration of the biologically recovered patient, and through re-education, in fact, it aims to acquire functional and psychomotor possibilities, which give the patient autonomy.(2)

In 1963, an important symposium organized by the World Health Organization (WHO) on the topic of Protection of the elderly and the prophylaxis of the elderly was held in the city of Kiev (at that time an integral part of the U.R.S.S., currently the capital of the Republic of Ukraine).(2) On this occasion, a common language was established, regarding the aging process, strictly on chronological criteria (language

enriched and finalized in the Geriatrics Congress held in 1988 in Bucharest):(2-4)

1. Medium transition period: 45-60 years;
2. Elderly period: 60-75 years;
3. Old age: over 75 years;
4. Longevous: over 90 years.

From the dental point of view, Bertram and Banguena (2), proposed 3 subcategories, independent of chronological age, as follows:

1. Presenility: which begins with the loss of the first permanent tooth;
2. Middle stage of senility: when there still are several pairs of antagonistic teeth, with which the chewing process can be performed;
3. Advanced senility: characterized by the loss of all permanent teeth.

Thus, geriatric dentistry in Romania is not a stand-alone specialty to be studied and learned in the postgraduate programs by dentists, but also no compulsory discipline included in the curricula of all the Faculties of Dental Medicine in Romania (there are only a few dental medicine higher education units in Romania, which have this compulsory study discipline introduced in the university curricula), but rather it is an optional study discipline, but which, most students are particularly interested in hearing it and going through it. In fact, against to what is being discussed, geriatric dentistry can be a safe but not substantial source of income for a dentist willing to perform specialized treatments for this category of elderly patients (over 60 years), according to the classifications mentioned above.(5-16)

AIM

Starting from the details mentioned in the beginning of this material, we can say that the purpose of this article is the need to introduce geriatric dentistry as a compulsory discipline in all the programmes of dental higher education units in

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Romania: dental medicine, dental technology, dental assistance and dental prophylaxis.

MATERIALS AND METHODS

It is known that, the aging process differs quite substantially from one individual to another, in this sense noting rhythm differences from organ to organ.(1,2) In this context, physiological aging defines a normal, slow, but continuous, asynchronous aging that allows the individual to reach an advanced age. This physiological aging is in fact the object of study of gerontology as a branch of the medical sciences, from which the geriatric dentistry also emerges.(2)

In this context, we will try to make a simple differentiation of the two patients' categories, on which we stopped in the study dedicated to geriatric dentistry:

- the seniors, in fact the elderly patients in power, with a normal behaviour, who can move and who can endure and undergo a classic specialized dental treatment;
- elderly patients, who cannot move from various reasons (immobility due to various general conditions), needing effective home care, including oral and dental care.

When we talk about home dental care, we actually talk about a remarkable effort that the dental team [dentist, dental nurse, dental prophylaxis assistant (and/or dental hygienist although, in Romania, this job has not yet been included in the job nomenclature) and not least the dental technician] is doing it in treating these elderly patients, but with great health problems. Thus, we can say at this point, that geriatric dentistry can be divided into 2 distinct branches, namely:

- a branch that includes dental treatment, which is addressed to seniors;
- a branch that includes the oral and dental treatments performed by the dental team (dentist, dental nurse, dental prophylaxis assistant, dental hygienist and dental technician) at the home of elderly people unable to move to dentistry offices, for a specialized treatment. In fact, we will deal with this branch of geriatric dentistry in this material.

Thus, unmovable elderly patients, with serious health problems and who require dental care and/or specialized dental treatments at home, may face a lot of problems of the oral cavity, of which we mention:(2-14)

- teeth with periodontal disease, with multiple complicated caries, with apical processes and/or other processes of an infectious nature, various benign or malignant tumour processes etc., aspects that require the mandatory dental and surgical approach. These things require the patient to be transported to a specialized service of oral and maxillofacial surgery that provides emergency or classic hospitalization services, but also an optimal specialized treatment, quality imaging examinations, according to the general patient's condition;
- total and/or subtotal edentulous patients (maxillary, mandibular, or both), who are unable to perform the masticatory process, which leads very quickly to serious digestive disorders (gastritis, duodenal ulcer, gastroesophageal reflux disease etc.). For these patients, the dental team (dentist, dental nurse, dental technician) can perform at their home total and/or partial acrylic dentures, in a sequence of sessions, according to the technological flow of these prosthetic restoration;
- the presence of excess dental microbial plaque that was not removed at all by the self-cleaning processes, as well as the accumulation of microbial plaque on the surface of the prosthesis, can have a serious impact on the general health of the patients. However, these problems can be resolved at home by the dentist and/or the dental prophylaxis assistant or

dental hygienist;

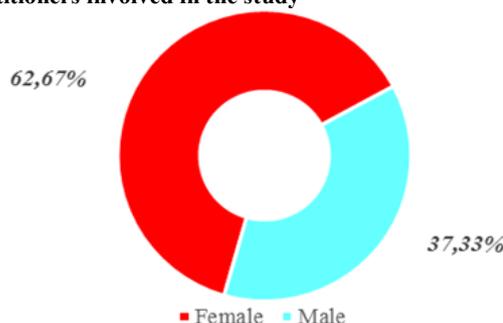
- acute dental pain, which can occur in this category of patients. This type of pain is very difficult to treat at home;
- patients with dementia represent perhaps the largest proportion of those who require dental treatment at home. In the case of these patients, we discuss preventive treatments at home by the dental care team, rather than provisional prosthetic treatments.

Unfortunately, in Romania, these problems of oral and dental health care of unmovable patients, with a strong aggravation of the general state due to some serious diseases, some even incurable, that appeared on this background of aging of individuals, is not perceived very favourably by the dental care teams, because:

- the dental work performed at home is very difficult, time and resources consuming, is poorly paid, is not supported in any form from the health insurance budget, as in other countries;
- ensuring any dental manoeuvre at home, can only comply in a very small proportion with the classic rules of hygiene, asepsis and antiseptics in the dental offices, according to the existing legislation in Romania at this moment;
- any dental treatment performed at the patient's home cannot be properly performed, unless the specialized team also has high-performance mobile equipment and the corresponding materials.

Thus, we formed a questionnaire with 6 points, which we applied to a number of 75 dental practitioners, who work in several cities in Romania: Bucharest, Brasov, Pitesti, Galați, Ploiești, Constanța, Tulcea, Alexandria, Suceava, Craiova, Turnu-Măgurele, Turmu-Severin etc. All the subjects work in private dental offices and they are between 35 and 68 years of age, being distributed as follows: 47 were females (62.66%) and 28 were males (37.33%) (figure no. 1).

Figure no. 1. The gender distribution of the dental practitioners involved in the study



Next, we will present the questionnaire applied to the 75 subjects:

1. Geriatric dentistry is a segment of the medical sciences that deals with? a. Dental treatment, which is addressed only to the seniors; b. Includes only the oral and dental treatments performed by the dental team (dentist, dental nurse, dental prophylaxis assistant, dental hygienist and dental technician) at the home of elderly people, unable to move to the dental offices, for a specialized treatment; c. Treatment of patients over 60 years old.

2. Do you consider in unmovable elderly patients, with serious health problems and who require dental care and/or specialized dental treatments at home, that surgical interventions, usually dental extractions, can be performed: a. Only at home; b. In the dental offices where you work; c. Only in oral and maxillofacial surgery services that provide emergency or classic hospitalization services, but also an optimal specialized treatment, in accordance with the general medical condition of the patient; d. It will be decided, depending on the surgical intervention difficulty degree.

3. In total and / or subtotal (maxillary, mandibular, or both) edentulous elderly patients, unmovable, with serious health problems, who are unable to perform the masticatory process, prosthetic rehabilitation by total or partial acrylic dentures may be?
a. Performed strictly at home by a medical team, with appropriate portable equipment, tools and materials; **b.** Impossible to perform at home, but only in the dental office where the medical team carries out its activity, the family being forced to make additional efforts for the patient's transport to this location; **c.** Only under hospitalization.

4. In the same category of unmovable elderly patients, the excessive presence of dental microbial plaque, which was not removed at all as a result of the self-cleaning processes can cause serious health problems in time. Removal of the microbial dental plaque for this category of patients can be performed by the medical team, as follows: **a.** Strictly at home; **b.** Only in the dental office where the medical team performs its activity, the family being forced to support the transport of the patient to this location; **c.** Only under hospitalization.

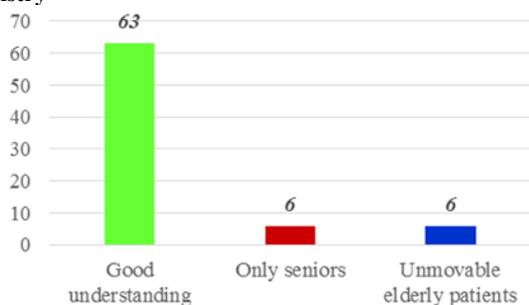
5. In the case of unmovable elderly patients, with serious health problems and who present with acute dental pain, the specialized treatment is recommended to be made by the dental medical team: **a.** At home; **b.** In the dental office where the medical team operates; **c.** Depends on the situation.

6. Do you consider that geriatric dentistry should be included as a compulsory discipline in the curricula of the dental medicine undergraduate programmes in Romania (dental medicine, dental medicine assistance, dental prophylaxis assistance, dental technology)? **a.** Yes; **b.** No; **c.** It depends on the option of each Faculty of Dental Medicine.

RESULTS AND DISCUSSIONS

The evaluation of the knowledge related to geriatric dentistry showed that most of the subjects (63 representing 84%) understand this notion correctly and only a small number of 6 subjects (representing 8%) consider that it is addressed only to the seniors and 6 other subjects that are addressed to the unmovable elderly patients (figure no. 2).

Figure no. 2. Understanding the concept of geriatric dentistry



Regarding the surgical interventions performed for unmovable elderly patients 46 of the respondents (representing 61.33%) answered correctly, these interventions should be performed in specialized services, while 29 of the respondents (representing 38.67%) offered a more courageous answer considering that each case must be evaluated depending on the difficulty degree of the intervention (figure no. 3).

The attitude of the doctors included in the study towards the prosthetic rehabilitation by complete or partial dentures of the unmovable elderly patients is highly appreciated.

Thus the majority of the respondents (61 representing 81.33%) considered that it can be performed at the patient's home with the appropriate equipment and instruments, while only 14 respondents (representing 18.67%) considered it impossible to

perform at the patient's home (figure no. 4).

Figure no. 3. Attitude towards surgical interventions

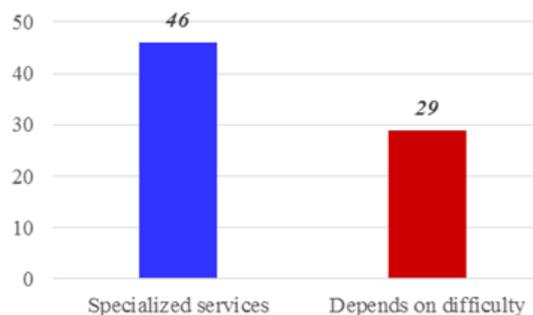
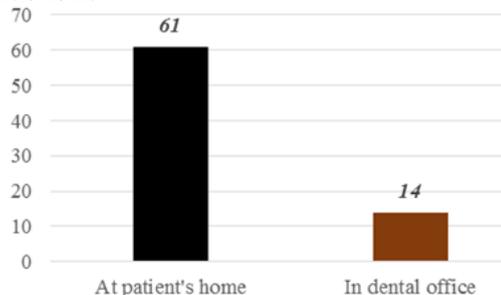


Figure no. 4. Performing prosthetic treatments at the patient's home



Removal of the microbial dental plaque in unmovable elderly patients, all the specialists included in the study have answered correctly, namely that it can be done strictly at home.

For acute dental pain in the case of unmovable elderly patients 36 respondents (representing 48%) recommend that the specialized treatment should be performed in the dental office, while the remaining 39 respondents (representing 52%) considered that each situation must be analyzed individually to determine the best treatment option (figure no. 5).

Figure no. 5. Treatment of acute dental pain

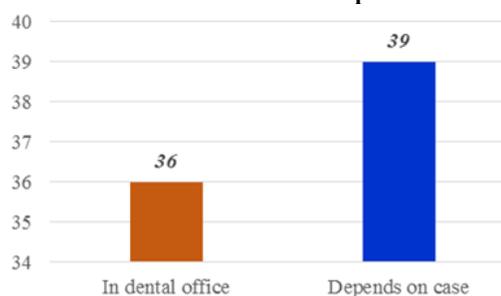
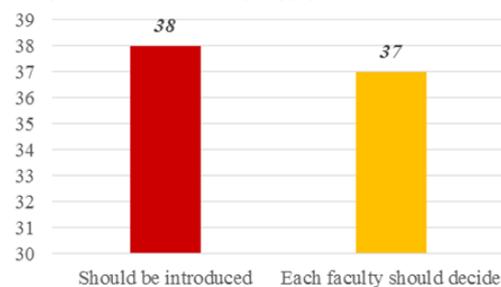


Figure no. 6. Introduction of geriatric dentistry in the curricula of dental medicine schools



The last question in the study regarding the introduction of geriatric dentistry in the curricula of the dental

medicine schools in Romania 38 subjects (representing 50.67%) replied that it should be introduced in the study programme while 37 subjects (representing 49.33%) considered that this is the option of each faculty (figure no. 6).

CONCLUSIONS

In the specialized literature, we find numerous information that, geriatric dentistry is a branch of dental medicine, which includes only the oral and dental treatments performed by the dental team (dentist, dental nurse, dental prophylaxis assistant, dental hygienist and dental technician) at home of elderly people who are unable to move to the dental offices, for a specialized treatment. But, from our point of view, geriatric dentistry is a branch of dental medicine that deals with the oral and dental treatment of patients over 60 years of age, and also includes the specialized treatments performed by the dental medical team at the home of elderly people, unable to move to dental medicine offices, for appropriate treatments.

For unmovable elderly patients, with serious health problems and who require home dental treatments, surgical interventions, usually dental extractions, as far as we are concerned, we recommend that they be performed mainly only in oral and maxillofacial surgery services that provide emergency or classic hospitalization services, but also an optimal specialized treatment, in accordance with the general condition of the respective patient.

Also for unmovable elderly patients, with serious health problems, but with total and / or subtotal (maxillary, mandibular, or both) edentations, who are unable to perform the masticatory process, we recommend that the prosthetic rehabilitation through total or partial acrylic dentures be carried out, if the conditions allow (dental team presents a suitable portable equipment, tools and materials, to allow the accomplishment of these things), only at the patients' home.

The presence of dental microbial plaque in unmovable elderly patients with serious health problems is a certainty. This irritating factor, but also the source of infection for the organism, for this category of patients, would be ideal to be removed by the dental care team, strictly at the patients' home. Dental maneuvers like hand scaling, can be easily performed by the medical team not only in the dental office, but also at the home of patients with special problems, of course respecting the hygienic conditions as much as possible, asepsis and antisepsis imposed by an elementary common sense.

For the unmovable elderly patients, with serious health problems, the treatment of acute dental pain is almost impossible to perform at patient's home.

The need for geriatric dentistry to be introduced as a compulsory discipline in the curricula of all dental medicine undergraduate programs in Romania (dental medicine, dental medicine assistance, dental prophylaxis assistance, dental technology).

Requirement of extensive studies of geriatric dentistry for all categories of active dental personnel: dentists, dental nurses, dental prophylaxis assistants, dental hygienists, dental technicians) regardless of the specialized courses taken (undergraduate programs, high school programmes, all in dental medicine field).

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In this article, all the authors have equal contribution with the first author.

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