

Overview of geriatric dentistry education in public universities in Brazil**Panorama do ensino de odontogeriatria nas universidades públicas brasileiras****Panorama de la enseñanza de odontogeriatria en las universidades públicas brasileiras****Received: 04/05/2016****Approved: 11/08/2016****Published: 01/09/2016****María del Rosario Ruiz Núñez¹****Heloisa Godói²****Ana Lúcia Schaeffer Ferreira de Mello³**

This study aims at presenting an overview of geriatric dentistry teaching in Brazilian public dentistry undergraduate courses. The availability of this subject and its characteristics were analyzed with the use of descriptive statistics, through searching in official websites, as well as their features. The study has found that less than half of the investigated courses offer geriatric dentistry as a subject, and that they emphasize theoretical basic contents than the actual practice of oral health care with the elderly. The official websites of most universities had the information needed; however, the main characteristics of the courses were not present in all of them. It is important to qualify the subject in the courses where it is available, taking into account both methodology and content, in order for soon-to-be dental surgeons to be apt to care for the oral health of these group of people.

Descriptors: Elderly; Dental Education; Aging; Education.

Este estudo tem como objetivo apresentar o panorama do ensino de Odontogeriatria nos cursos de graduação em Odontologia das universidades públicas no Brasil. Analisou-se, por meio de estatística descritiva, a oferta desta disciplina, mediante pesquisa nos sítios eletrônicos das universidades públicas brasileiras, bem como suas características. O estudo constatou que menos da metade dos cursos investigados oferecem a disciplina de Odontogeriatria e, quando o fazem, enfatizam o ensino teórico com conteúdos básicos ao cuidado da saúde bucal de pessoas idosas. As informações estavam disponíveis nos sítios eletrônicos de grande parte das universidades, porém nem todas as características principais foram apresentadas. É relevante qualificar a oferta desta disciplina em termos metodológicos e de conteúdo, para que futuros cirurgiões-dentistas estejam aptos a cuidar da saúde bucal deste grupo populacional.

Descritores: Idoso; Educação em Odontologia; Envelhecimento; Ensino.

Este estudio tuvo como objetivo presentar el panorama de la enseñanza de Odontogeriatria en las facultades de Odontología de universidades públicas en el Brasil. Se Analizó, por medio de estadística descriptiva, la oferta de este curso, mediante los sitios electrónicos de las universidades públicas brasileiras. Se encontró que menos de la mitad de las facultades investigadas ofrecen el curso de Odontogeriatria y, cuando lo hacen, enfatizan la enseñanza teórica con contenidos básicos sobre el cuidado de la salud bucal de personas ancianas. Las informaciones estaban disponibles en los sitios electrónicos de gran parte de las universidades, sin embargo no todas las características principales fueron presentadas. Es relevante la oferta de este curso, metodológicamente y de contenido, para que futuros cirujanos-dentistas estén aptos para cuidar de la salud bucal de este grupo poblacional.

Descriptor: Anciano; Educación en Odontología; Envejecimiento; Enseñanza.

¹Dental Surgeon. Specialist in Oral Rehabilitation. Master in Dentistry in Collective Health at the Federal University of Santa Catarina - UFSC - Brazil. Member of the Research Group Policies, Actions and Services in Oral Health, and of the Observatory Research Group for Managing Oral Health Care. charoruizn@gmail.com

²Dental Surgeon, Specialist in Family Health. Master in Dentistry in Collective Health. Doctor in Dentistry in Collective Health at the UFSC. heloisagodoi@gmail.com

³Dental Surgeon. Master in Dentistry. Doctor in Dentistry in Collective Health. Doctor in Nursing. PhD in Nursing in Administration and Managing of Health Care in Nursing and Health. Assistant Professor in the UFSC. ana.mello@ufsc.br

INTRODUCTION

The proportional increase in the number of elderly individuals in the population has caused the number more chronic and degenerative health problems¹ to be hire. These problems require adequate responses, and health services need to be prepared to deal with these new socio-sanitary demands²⁻⁴.

Humans physiological aging process, gradual and predictable, can be seen as an important health care issue, thanks to the functional changes, both connected and not to the incidence of sistemic^{4,5} and oral⁶ diseases. These changes, when brought together with socio-economic and psychosocial aspects, make it so that the populational group comprised by the elders is more vulnerable. It becomes, thus, a huge challenge to governments and social organizations, including academic education^{5,7,8}. Thus, the current epidemiological profile of the Brazilian population demands the health professionals to learn new care practices, aimed at the elder population^{3,7,9}.

When it comes to dentistry, the emphasis to that type of care is called Geriatric Dentistry, or Gerodontics. This type of health care has the elderly as its target, and studies the phenomena which arise from aging, as well as the promotion of health, diagnosis, prevention and treatment of oral diseases and of the stomatognathic system of the elderly^{10,11}. Some studies¹²⁻¹⁵ recover the historical process through which geriatric and gerodontics contents are inserted in college and university dentistry courses around the world. Generally, Latin-American countries have less studies concerning the teaching of gerodontics than European and North-American universities¹⁶. However, even the studies conducted in countries such as German, Switzerland and Austria show that the contents regarding elderly health are offered as part of the subject "Dental Prosthesis", and the courses lack a specific subject whose contents regard geriatry in the curriculum of university dentistry undergraduate courses^{17,18}. In Brazil, there are reports as early

as 1996 about the first dentistry school to have in its curriculum a subject targeted only at the oral health of the elderly. That happened in the State University of Maringá, and the subject was called "Stomatogeriatrics"¹³.

Some literature defends that the education of professionals who already act as dentist-surgeons, and the education of undergraduate students in dentistry should include the care for the oral health of the elders^{11,19}. Dentistry professionals must be able to properly approach the oral health of the elder population¹⁹. Thus, the inclusion of contents regarding Geriatrics and Gerontology in the curriculum of undergraduate students has become essential for the training of contemporary dental surgeons¹⁸.

However, geriatric dentistry or gerodontics continues to be neglected in the curricula as a specific discipline, and its content is sprayed along other areas of knowledge. Emphasis to the subjects regarding the health of elders is still very small, when compared to the emphasis directed to content regarding children and adolescents¹⁵. Another factor that can explain the current state of affairs is the situation of Brazilian public policies. For a long time, policies regarding oral health had their focus on children in school age, and other age groups have been excluded from the public attention^{15,20}. Thus, a defense of the inclusion of that subject in the university undergraduate courses prevents the content regarding the elder or the aging process from being diluted in other subjects or taught in a partial way, as it also leads the student to a closer relationship with the elder²¹.

There is a lack of national studies which aim at identifying the situation of the teaching of geriatrics and gerontology in the undergraduate education in dentistry. From the few studies published in the national literature, it can be noted that there are few Brazilian universities which offer gerodontics as a subject in their curriculum¹⁹.

Thus, this study aims at presenting an overview of the teaching of gerodontics in undergraduate courses in Brazilian public

universities, through a survey about the number of undergraduate courses in public institutions in the country which offer that subject in their curricula.

METHOD

This is an exploratory, transversal, descriptive, and quantitative study.

The universe of the study comprised all dentistry courses operating in the public universities in Brazil that had geriatric dentistry or a related discipline in their curricula.

In order to select a sample, all universities which had an undergraduate course in dentistry were selected. That includes only universities whose name was present in the open-access website held by the Ministry of Education. According to the data collected, between January and April, 2015, there were 57 dentistry undergraduate courses in public universities in Brazil.

For an institution to be selected and inserted in the sample of this research, the following criteria were taken into account: the dentistry course needed to be recognized by the Ministry of Education; it had to be active, with at least one class already graduated; it should have the subject "Gerodontology" (or one with a similar name); and it should provide all the information about the studied variables on the *web*. Courses whose information in the website was incomplete or outdated were excluded.

After sample selection, the study tried to characterize the following variables: the period through which the subject "Gerodontology" was offered to undergraduate students; whether it was a mandatory or optional subject; if it was theoretical, practical, or theoretical and practical; and the description of the subject, including taught contents.

The data were organized in spreadsheets in the software Microsoft Excel® and analyzed according to descriptive statistic.

The distribution and frequency of them were taken into account.

RESULTS

According to the Ministry of Education, in 2015 the number of undergraduate courses in dentistry which were fully operational, offered by public Brazilian universities, adds up to a total of 57 courses, in 47 public institutions, since some of the universities have more than one dentistry course, whether because it is offered in different locations or periods (day/night).

Among the 57 courses analyzed, 45 (79.9%) provide information regarding the subjects studied in the course in a website. Regarding these 45 courses, 21 (46.7%) offer the subject gerodontology, or an equivalent form, in their curricula (Table 1).

Regarding the availability of the subject of gerodontology in the 21 courses evaluated, 11 (52.4%) offer it as a mandatory subject, and 10 (47.6%) institutions offer it as an optional subject (Table 1). Regarding the nature of the subject, 6 (28.57%) only offer the subject in a theoretical manner; the same number of courses offer it in a theoretical-practical manner. In 9 (42.86%) of the courses, that information was not specified. When it comes to the period in which the subject is available, most institutions (90.5%) offer it between the sixth and the tenth semesters.

Regarding the teaching plan and the description of the Gerodontology (or similar) subject, 10 (47.6%) of the dentistry courses make its content available on their website, and only 8 (38.1%) present the teaching plan on the *web*.

When analyzing the 8 available teaching plans, the most commonly discussed themes were: "Populational aging" (described in 5 different teaching plans); "Oral health condition of the elderly" (theme discussed in 7 teaching plans); and "General aspects of the health of the elderly" (theme studied in 8 of the teaching plans).

Table 1. Gerodontics subjects offered in undergraduate courses by Public Brazilian Universities according to the criteria of this study. Brazil, 2015.

Feature	N	%
Character of the discipline		
Mandatory	11	52.4
Optional	10	47.6
Nature of the discipline		
Theoretical	6	28.6
Theoretical and practical	6	28.6
Does not specify	9	42.8
Period of availability		
Between the 1st and the 5th semester	2	9.5
Between the 6th and the 10th semester	19	90.5
Subject description provided online		
Yes	10	47.6
No	11	52.4
Teaching plan provided		
Yes	8	30.1
No	13	61.9

DISCUSSION

The increase in the elderly population, older than 60 years of age, is a current reality both in developed and in developing countries^{7,11,14,16-18,22,23}. In Brazil, according to the National Household Survey by Sample (PNAD, in the Brazilian acronym), conducted in 2013, the elders added up to a total of 25.4 million people, corresponding to 13.1% of the total number of Brazilian people in the same year²⁴.

The increase in the elderly population in the country is connected to the improvement of quality of life and health which have been happening in recent decades. With the increase in life expectancy, it is important for different areas of health studies to dedicate themselves more to understanding the aging processes, aiming at promoting health and preventing diseases in this age group²⁵. Thus, it is important to adopt strategies and measures which take into account the needs of elderly people, and can promote health and well-being in senility²⁶, including the training of health professionals, who should be well prepared to take care of an increasingly old population¹⁸.

In Brazil, as in other South-American countries, geriatric dentistry is a relatively new subject in undergraduate dentistry courses. In the United States of America, this subject goes back to the 1970s, when there was a growth in the interest for teaching programs aimed at the health of the elderly. In 1985, 100% of the dentistry schools already had geriatric dentistry as a subject, although the contents it studied varied considerably^{12,27}.

In Canada, a study conducted by Ethinger²² shows that, from 1967 on, the Council on Public Health, part of the Canadian Dentistry Association, identified limits when it came to the oral health care of the elderly. Then, the teaching of elderly dental health care started, though in a symbolic way, as part of other subjects. It is also stated that, considering the changes that occurred in the teaching of dentistry since the last released publication on the profile on the teaching of gerodontics, until the year 2010 most Canadian dentistry curricula already present geriatric dentistry courses, with, however, no proven scientific evidences.

In the universities of Chile, between 2000 and 2013, 7 universities offered the Geriatric Dentistry subject formally, that is, in a mandatory fashion, from the 19 undergraduate dentistry courses analyzed in this article. That corresponds to 37% of the courses evaluated. However, the undergraduate courses that still did not make the subject available, would start offering it in a near future, aiming at answering to the current demographic demands¹⁶.

On the other hand, undergraduate dentistry courses in India, country with the highest number of dentistry courses (291 in 2010), the Geriatric Dentistry subject is not usually present in the current curricula²³. The insertion of subjects aiming at the oral health care of the elderly in the dentistry courses of that country, together with the actions of health professionals from different specialties, should be seen as something necessary to the graduation of a dental surgeon, given the high number of elderly people who need these services nowadays²³.

Iran faces a similar situation; there, undergraduate dentistry courses offer 6 years of study with subjects that involve basic sciences, pre-clinics and clinics, but that do not include gerodontology among the subjects of their curricula, being that this specific subject is only available as a post-graduation course²⁸.

In this study, 57 dentistry courses were identified in Brazilian public universities, according to the free-access website from the Ministry of Education. Among these courses, only 78.9% (45) made information about their curricula available in an institutional website. From these, less than half the courses, 46.7% (21) offered the subject gerodontology. So, the frailty in the teaching of gerodontology can also be verified in the Brazilian universities, considering the evident demographic changes which the entire world now traverses. These changes generate a higher number of elders, who present a relevant demand for health care, including dental care^{7,18,23,29}.

According to the national guidelines for the curricula of undergraduate dentistry courses, the graduation of the dental surgeon

must be in accordance to the current health system of the country, and the professionals it prepares should be capable of caring completely for the health every individual, independently of which part in their life cycles they are in. The yet-to-be dental surgeons should be capable of understanding the social, cultural and economic realities of his social environment, and their actions should be guided at changing the current reality to the benefit of the entire society. They should also be capable of critical thinking, so they can analyze the current problems which afflict the population, and help finding solutions for these problems³⁰.

Therefore, the actions of Brazilian dental surgeons must be a reflection of their knowledge of the reality lived by the population, which means, at this point, acquiring a greater knowledge about elders and the aging process³¹. The health professional, working together with the Brazilian public health system, needs to be capable of dealing daily with the elderly, which makes it possible for them to get to know better the health care needs of the people in this age group, and, armed with that knowledge, act in a more humane and thoughtful way³².

The findings of this study are similar to those found in another research¹³, which questioned the teaching of gerodontology in the state of Bahia, and have found that the implementation of such subject is still in its initial stages. The authors demonstrate the need of transmission of the knowledge regarding this field in a segregated form to subjects such as dental prosthesis, and emphasize the adaptation of the structure of curricula, aiming at preparing, in a more evident way, the future dentistry professionals to be able to answer to the demands of the elderly population.

Regarding the nature of the gerodontology subject, this study found the same number of theoretical and theoretical-practical subjects (28.57%). Among the theoretical-practical subjects, 5 are mandatory and spend an

average of 30.4 hours studying theory, and 63.6% hours performing practical activities. The minimum hour load is 30 hours, and the maximum, 60 hours, while the practical activities took from 60 to 120 hours. However, if we consider the 21 courses which already present the geriatric dentistry subject, these values are shown to be very small, and to express the frailty of the subject in a national level. In order for the undergraduate dentistry students to be more capable, some changes in the curricula of the courses needs to be made. For example, a greater value should be placed on practical activities¹⁸. The aim would be to offer to the students not merely a contact with the theoretical content, but that they could practice it, and thus, be better prepared along they graduate, being able to critically solve a broad range of different problems. The merely didactic teaching of geriatric dentistry, not involving clinical experiences, would be insufficient²².

Dentistry students should develop abilities, capabilities and actions that teach a better way to deal with the elderly. According to the European Gerodontology Academy, beyond the main particular competences to the teaching of dentistry, the gerodontology subject is interdisciplinary and complementary when compared with other subjects. Therefore, the teaching should be prepared to emphasize the interdisciplinary care and to make available to the students the possibility to learn from other specialists involved in the care of the elderly, in a practical fashion¹⁸.

The interprofessional teaching in health care makes it possible for the undergraduate student to develop and understand team work as a way to find and make possible to achieve the best ways of dealing with the patient. This experience, during their formative years, allows for the students to acquire abilities and competences to answer to the needs of the population with team work, and allows for them to recognize both the limits of individual action and to explore the actions of the different professions involved in the patient health care³³.

Similarly, the insertion of pre-clinical and clinical training activities in different places, such as hospitals, geriatric units, directly in the communities or through *on site* care (in houses, long permanence institutions, or hospitals), help the student to learn better, and make them more apt to plan the care for older people, whether they are functionally dependent or not, as well as provide them with the skill they need to better assist those people, which would not be available to them without this previous experience¹⁸.

The actions of dental surgeons in settings other than the dental office is not a demand exclusive to gerodontology, since human beings in general demand multidisciplinary care, thanks to their complexity. Health care itself, as it aims to understand the individual in all its complexity and physical, social and psychic integrity, demands for a form of acting which is integrated among health care professionals. The presence of dental surgeons in teams with different specialties becomes increasingly common and can lead to the graduation of professionals committed to the reality of health and with its social changes³⁴. The training of future dentists with elderly patients in hospital environments, as well as in intensive care units, currently becoming a reality³⁴.

In this study, as the topics covered by the courses were researched, it was found that only 38.1% of the courses of dentistry analyzed offered their lesson plans via web, and as they were analyzed, it was found that the contents of geriatric dentistry they featured were had as their most frequent topics those considered basic to oral health care for the elderly: population aging, general aspects of oral health of the elderly and oral health conditions of the elderly. The increase in the elderly population, the graduation of the student has to be complete in different ways; the student must actively participate in the teaching and learning process³⁵. It is therefore important that the curricula are flexible and adjusted to reality.

It is important to note that the dentistry courses in public universities whose information could not be identified in the web are not necessarily courses where those contents are not studied in other subjects, nor does it mean that such courses do not consider this theme to be important in the studies of the future professionals. This is a limitation of this study.

Regarding the period in which the course is conducted, 90.5% of surveyed institutions offer the discipline of geriatric dentistry between the sixth and tenth semesters. There is accordance with dentistry courses which offer the gerodontology discipline in the last semesters, since the students are more confident then, since they already have more experience in clinical practice, as well as in the care for elderly patients¹³.

The findings of this study corroborate international evidences¹⁸, according to which the subject gerodontology should be offered in the undergraduate courses, which would indicate the need for a profound change in the current curricula. The basis for the curriculum of the subject geriatric dentistry is the understanding of oral, medical, psychological, physical and mental characteristics of elderly patients, and it should be based on patient-centered care, with an interdisciplinary approach. The eminently theoretical aspects should necessarily be complemented with practical experiences in different situations and settings¹⁸.

As observed in other studies^{11,13,14,25 - 18,23,16,28,29}, the growing elderly population lacks qualified professionals to tend to them, and the acquisition of the knowledge necessary to do that during the undergraduate courses in dentistry becomes opportune, as it allows for the appropriate training of dental surgeons, in order for them to be able to take care of this population.

CONCLUSION

The study found that less than half of the investigated courses offer the geriatric dentistry subject or any equivalent and, when

they do, they emphasize theoretical content, including basic content regarding the oral health care of elderly people. The information was available in the websites of most universities, but not all of the main characteristics were present.

It is necessary to increase the quality of the subject, where it is offered, both regarding methodology and content, so that dental surgeons yet-to-be graduated are still capable of taking care of the oral health of the elderly, being that the demand for that service is increasing. Thus, the inclusion of the subject geriatric dentistry in the curriculum of the courses can be a chance for better training in the field.

The article aimed at discussing the scenario of Brazilian public university dentistry courses, and it brings contributions both to the academia and to the public services aimed at this population, being its main objective the improvement of the oral health care of the elderly.

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CONTRIBUTIONS

The authors are equally responsible for the conception of this study and the writing of the manuscript. **María del Rosario Ruiz Núñez** was responsible for data collection, analysis, data interpretation and for the writing of the article, as well as for a critical review for the approval of the final version of the article. **Heloísa Godói** took part in the analysis, the writing, the discussion and the critical review of the article. **Ana Lúcia Schaeffer Ferreira de Mello** oriented the study and took part in the writing and in the critical review of the article.

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