

Perception of Dentistry graduates in relation to professional training with emphasis on interprofessional education



<https://doi.org/10.56238/sevened2023.005-015>

Maria Cynésia Medeiros de Barros

Doctor. School of Dentistry, Department of Clinical Dentistry, Federal University of Rio de Janeiro.
LATTES: <http://lattes.cnpq.br/49075074803829>
ORCID 0000-0002-2284-3581

Cláudia Callegaro de Menezes

Doctor. School of Dentistry, Federal University of Rio de Janeiro.
LATTES: <http://lattes.cnpq.br/3108686288712709>
ORCID 0000-0002-2589-7366

Ana Luiza Barboza Vianna

Expert. School of Dentistry, Federal University of Rio de Janeiro.
LATTES: <http://lattes.cnpq.br/0171602335994985>
ORCID 0000-0002-6056-5105

Fernanda da Silva Prado

Master. School of Dentistry, Federal University of Rio de Janeiro.
LATTES: <http://lattes.cnpq.br/5054915652115186>
ORCID 0000-0002-6873-9253

ABSTRACT

The objective of this chapter was to reflect on training in Dentistry, including the perception of undergraduate graduates in Dentistry in Rio de Janeiro about the quality of professional training with emphasis on interprofessional education. We

present a study where an online questionnaire was applied to graduates of three Dentistry courses, two public institutions and one private, to students graduated between 2016.2 and 2019.1. The structured questionnaire used contained 41 questions to analyze the quality of the academic activities offered during the training of these professionals. The questions involved four dimensions: (1) profile of the graduate, (2) orientation of health care, (3) teaching-service integration, and (4) pedagogical approach. In this study, the answers to 9 questions from the four dimensions were presented. The results show that graduates of the Dentistry courses evaluated are satisfied with the quality of the professional training achieved through the academic activities offered by their courses. Especially those related to the formation of the professional profile and health promotion. However, the perception of the graduates indicates that multiprofessional/interprofessional experiences and living in the SUS still need to be improved, encouraging students to participate in internships and extension projects, thus training professionals capable of working in the SUS and in the existing social context.

Keywords: Dental Education, Curriculum Guidelines, Health Promotion, Interprofessional Education, Alumni Profile, Questionnaires.

1 INTRODUCTION

This chapter aims to reflect on training in Dentistry, including the perception of undergraduate graduates in Dentistry in Rio de Janeiro about the quality of professional training with emphasis on interprofessional education.

In this sense, the maintenance of the traditional model of higher education still highlights the need for changes in the training of professionals in this area (NORO, 2019), as well as in other areas of health, including postgraduate training. Even after the publication of the National Curriculum



Guidelines for undergraduate courses in Dentistry (CNE/CES Resolution No. 3 of June 21, 2021), there is a demand to adapt professional training in a more interprofessional perspective. This issue encompasses different points, among them the new demands of the labor market, training considering multidisciplinary patient care, and the performance of the Brazilian public health service (Unified Health System - SUS) to meet the demands of the population and provide comprehensive treatment to the community. For these changes to be possible, the articulation between education and health policies is essential (ARAÚJO, 2006).

The SUS was created in 1988 by the Brazilian Federal Constitution, which determines that it is the duty of the State to guarantee health to the entire Brazilian population (COBAITO & COBAITO, 2020). The Brazilian public health system has fundamental characteristics, which are: to enable activities related to health promotion, prevention and care that are carried out in an equal, universal and integral way for the population, ranging from primary care to highly complex procedures (INTERNATIONAL CONFERENCE ON HEALTH PROMOTION, 1986). The integration between the public service and professional education is essential, so that there is the training of professionals able to work in this context, following the Family Health strategy (BRASIL, 2021; ARAÚJO & ROCHA, 2007).

Professional training in Dentistry should develop a generalist, humanistic, autonomous, critical and reflective profile, capable of understanding social reality, being some of the main objectives of undergraduate courses in Dentistry according to the DCN (BRASIL, 2021).

Multi- and interprofessional work in integrated patient care is very important for the promotion and maintenance of health and for the treatment of diseases, especially in the case of chronic non-communicable diseases (SIDDIQI *et al*, 2022). Multiprofessionality refers to the joint action between professions, but without interaction between them, fragmenting health care, while interprofessionality refers to the union between two or more professions in order to seek solutions to a problem, interacting in decision-making and building knowledge between health areas (ALVARENGA *et al*, 2013). Interprofessional education in health education courses has evolved, not only because it is a basic guideline of the public system, but also because it provides more complete care, in addition to encouraging exchanges of opinions and knowledge, the exercise of transformative practices and permanent dialogue (BATISTA, 2012).

The National Curriculum Guidelines (DCN) for undergraduate courses in Dentistry (BRASIL, 2021) define the principles, foundations, conditions, and procedures for the training of dentists, for application in curricula at the national level, in the organization, development, and evaluation of pedagogical projects of undergraduate courses in Dentistry at Higher Education Institutions (HEIs). Seeking to comply with the requirements of the DCNs, the courses changed their pedagogical projects, as well as several public policies were implemented in the country in the 2000s, such as the National



Program for Professional Reorientation in Health (Pró-Saúde) and the Program for Education through Work for Health (PET-Saúde; PET Interprofessionality; PET-Management & Assistance). All aimed at encouraging health promotion activities, multiprofessional/interprofessional education, and the comprehensiveness of actions, with the objective of bringing professional training closer to the needs of care in the public health service within the scope of the SUS (BATISTA et al, 2015; FREIRE FILHO et al, 2017).

These public policies aimed to offer students opportunities for internships and extension programs, in line with the DCN, enabling a greater experience in public service scenarios, expanding their performance in the SUS.

Expanding the discussion on these aspects mentioned above, some studies were carried out seeking to verify the perception of undergraduate graduates in Dentistry in Rio de Janeiro about the quality of professional training with emphasis on interprofessional education and experiences in the Unified Health System (SUS) such as internships and extension projects offered by the respective courses. Some results will be discussed below.

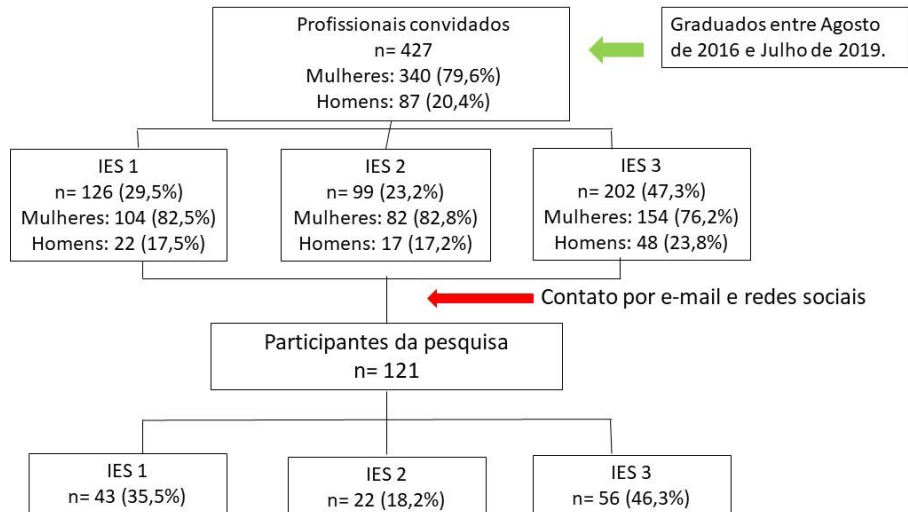
Menezes et al. (2022), in a survey with 121 graduates of three dentistry courses in Rio de Janeiro, two public and one private, (IES 1 - public; IES 2 - public); and IES 3-private), for students graduated between 2016.2 and 2019.1, an online questionnaire containing 41 questions was applied to analyze the quality of the academic activities offered during the training of these professionals, based on the study by Pessoa and Noro (2015). The questions involved four dimensions: profile of the graduate (generalist, humanist, autonomous, critical and reflective and capable of understanding social reality); orientation of health care (epidemiological focus, health promotion, diagnosis, dental treatment, oral health team and multi/interprofessional education); teaching-service integration (internship activities and experience in the SUS); and pedagogical approach (active methodologies, role of the teacher, practice scenarios, integrated curriculum, curricular flexibility and teaching-research-extension articulation). The following scale was used to guide the participants regarding the answer options: 1 - "none", 2-3 - "very little", 4-5 - "little", 6-7 - "moderate", 8-9 - "very good", 10 - "excellent".

Of a total of 427 graduates invited to participate in the research, 121 (28.34%) answered the questionnaire. Individually, HEI 1 had a response rate of 34.1%, HEI 2 of 22.2% and HEI 3 of 27.7%.

Figure 1 shows a flowchart with the number of invited graduates and effective participants in the research.



FIGURE 1: Flowchart with the number of invited graduates and effective participants of the research.



The results regarding the gender and year of graduation of the participants are presented in TABLE 1. The mean age of the participants was 26.94 (\pm 5.63) years. Two participants of HEI 3 did not answer adequately about the year of graduation and were excluded from the table.

TABLE 1: Relationship between graduation year and gender in each HEI.

Gender	Graduation year	IES 1 N= 43	IES 2 N= 22	IES 3 N= 54	Total N= 119
Female	2016	5 (11,6%)	0 (0%)	0 (0%)	5 (4,2%)
	2017	10 (23,3%)	5 (22,7%)	6 (11,1%)	21 (17,6%)
	2018	16 (37,2%)	9 (40,9%)	19 (35,2%)	44 (37%)
	2019	0 (0%)	2 (9,1%)	12 (22,2%)	14 (11,8%)
	All	31 (72,1%)	16 (72,7%)	37 (68,0%)	84 (70,6%)
Male	2016	2 (4,7%)	0 (0%)	0 (0%)	2 (1,7%)
	2017	4 (9,3%)	2 (9,1%)	6 (11,1%)	12 (10,1%)
	2018	5 (11,6%)	1 (4,6%)	7 (13%)	13 (10,9%)
	2019	0 (0%)	3 (13,6%)	4 (7,4%)	7 (5,9%)
	All	11 (25,6%)	6 (27,3%)	17 (31,5%)	34 (28,6%)
Other	2018	1 (2,3%)	0 (0%)	0 (0%)	1 (0,8%)

Regarding the labor market, of the 121 participants in the study, 24.8% (n=30) were not yet working, 5% (n=6) worked in a public dental service and 70.2% (n= 85) in a private dental service, with the majority (63.6%) as General Practitioners.

The data referring to the sub-dimensions evaluated to verify the perception of the graduates regarding the quality of the academic activities offered aimed at the formation of the graduate's profile (generalist, humanist, ability to understand the social reality), health promotion, multi and/or interprofessional experiences, internship activity, experience in the SUS and on the practice scenarios used, are shown in TABLE 1 and TABLE 2. There was a statistically significant difference between the HEIs in relation to some variables.



CHART 1: Questions related to the sub-dimensions addressed.

Questions related to the Alumni Profile dimension
Generalist: In the individual field, have you carried out activities of prevention, diagnosis, planning and dental treatment of the main dental problems?
Humanist: Did the course offer quality care with welcome and qualified listening?
Humanist: Did the course offer a broader view of the subject and his/her care needs?
Ability to understand the social reality: Do you identify the social context in which you develop your professional practice, respecting the characteristics of the population and looking for appropriate solutions to this reality?
Questions related to the dimension Orientation of health care
Health promotion: Did the course offer you the ability to understand the social determination of the health-disease process and to develop comprehensive strategies for the expansion of healthy choices based on the living conditions of individuals and the population?
Multiprofessional/Interprofessional Education: Did the course provide you with the development of activities to guide multiprofessional and interdisciplinary care with students, technicians or professionals from the same area (dental prosthesis technicians) and/or from other health areas (doctors, nursing technicians, community agents, etc.) providing for the comprehensiveness of health actions?
Questions related to the dimension of teaching-service integration
Internship activity: Were individual clinical activities and collective actions developed in spaces outside the scope of the Faculty, articulated with the SUS (linked to your Faculty of Dentistry)?
Experience in the SUS: During the course, did you carry out activities developed at all levels of care in the health system (low, medium and high complexity), understanding the flow of the network, the planning and evaluation of services and the professional competencies at each level, enabling the understanding of the breadth and complexity of the SUS?
Question regarding the Pedagogical Approach dimension
Learning scenarios: Was your learning based on multiple sources of knowledge such as libraries, virtual environments, the community, planning, management and surveillance agencies, schools, daycare centers, social spaces, and health units?

TABLE 2: Graduates' perception of the quality of the development of activities aimed at health promotion, multiprofessionality, internship activity and experience in the SUS.

	IES 1	IES 2	IES 3	Total	p-value*
	Mean(SD)	Mean(SD)	Mean (SD)	Mean(SD)	
Generalist	8.12 (±1.9)	7.1 (±2.6)	6.7 (±2.7)	8.34 (±1.6)	0,199
Humanist (welcoming and qualified listening)	6,49 (±2,4) ^a	6.2 (±2.6)	6,6 (±2,5) ^a	7.6 (±2.0)	0,000
Humanist (enlarged view of the subject)	6,8 (±2,5) ^a	6.4 (±2.5)	6,6 (±2,5) ^a	7.7 (±2.0)	0,007
Ability to understand social reality	8.9 (±1.1)	7.0 (±2.6)	6.9 (±2.5)	8.7 (±1.2)	0,036
Health Promotion	6,8 (±2,5) ^a	8.1 (±1.7)	8,5 (±1,3) ^a	7.8 (±2.0)	0,002
Multi-professionality	4,7 (±2,8) ^a	6.2 (±2.6)	7,2 (±2,0) ^a	6.1 (±2.7)	0,000
Outreach Activities	5,9 (±2,5) ^a	7.2 (±2.4)	7,2 (±2,8) ^a	6.7 (±2.7)	0,010
Experience in the SUS	5,7 (±2,7) ^a	5,7 (±2,8) ^b	7,3 (±2,5) ^{ab}	6.4 (±2.7)	0,004
Practice Scenarios	6,9 (±2,5) ^a	6.14 (±2.6)	6,8 (±2,7) ^a	7.7 (±2.1)	0,004

Note: * Scale used: 1 - "none", 2-3 - "very little", 4-5 - "little", 6-7 - "moderate", 8-9 - "very good", 10 - "excellent"

*Kruskal-Wallis

Mann-Whitney with Bonferroni correction

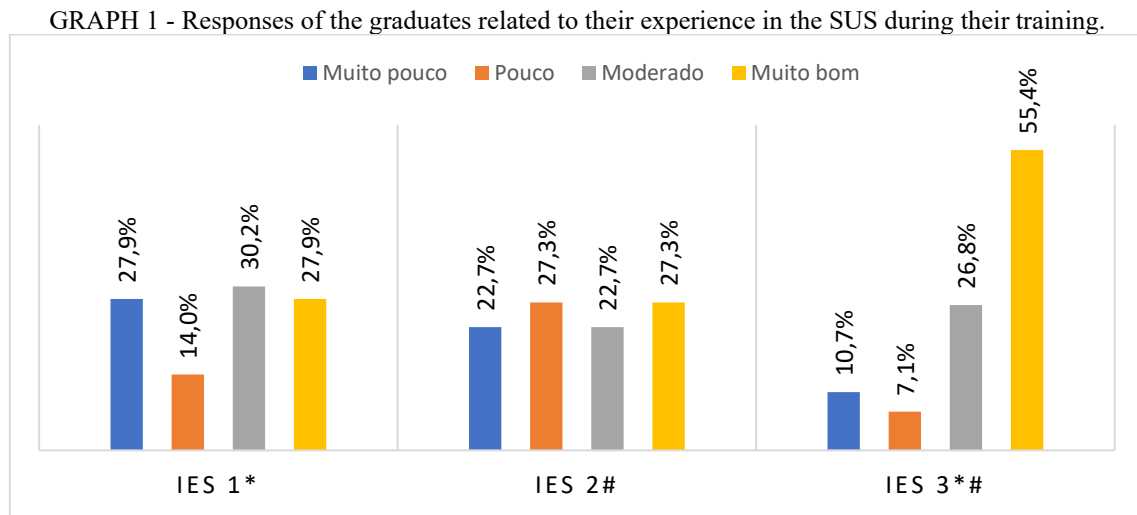
^a Comparison between IES 1 and 3. P-value≤0.05

^b Comparison between IES 2 and 3. P-value≤0.05

The graduates considered as very good the quality of the activities to form the profile of the generalist, humanist graduate and the ability to understand the social reality, health promotion activities and the practice scenarios used. They considered the quality of multi/interprofessional education and extension activities to be moderate. Regarding the experience in the SUS, the answers varied greatly



among the graduates of each HEI, as observed in GRAPH 1. When comparing the institutions, a statistically significant difference was observed between HEIs 1 and 3 in the sub-dimensions humanist – welcoming and qualified listening ($p \leq 0.001$), humanist – expanded view of the subject ($p \leq 0.003$), health promotion ($p \leq 0.001$), multi/interprofessional education ($p \leq 0.001$), extension activities ($p \leq 0.001$), experiences in the SUS ($p \leq 0.003$) and practice scenarios ($p \leq 0.001$). Between HEIs 2 and 3, there was a statistically significant difference in the variable experience in the SUS ($p \leq 0.001$).



Teste Kruskal-Wallis e Mann-Whitney *# $p < 0,01$

In this study, the perception of graduates of the evaluated courses showed that, in relation to the formation of the profile of the generalist graduate, there was similarity between the answers, and the activities for this training were considered very good. On the other hand, the humanistic and ethical aspect, attentive to the dignity of the human person and to individual and collective needs, promoting integral health and transforming reality for the benefit of society, showed a significant difference between the HEIs. HEI 1 showed that the graduates perceived the reception and qualified listening as little to moderate, differing significantly from HEI 3. Humanization is a fundamental aspect of health care to be carried out through empathy, communication skills, and perception of signals, verbal or not, skills to be developed by health professionals in training (BARELLI *et al*, 2021). Regarding the expanded view of care, there was also a significant difference between HEI 1 and HEI 3, demonstrating that there is a need to approach the patient in a broader and more comprehensive way (BRASIL, 2021).

TABLE 3 shows the number of graduates who worked in public health service settings during the course, in relation to the number of graduates per HEI. The percentage value refers to the number of graduates in relation to the total number of HEIs. Several graduates reported having worked in more than one scenario. There is a greater participation of the egressed in basic health units such as family clinics, followed by emergency care and in hospitals, and social spaces such as schools, daycare centers, community associations, among others. In the other option, the graduates reported having



worked at the Galeão Air Force Hospital (HFAG) and the Rondon Project, a social action project of the Brazilian federal government.

TABLE 3: Number of graduates who worked in SUS settings during the undergraduate course in relation to the total number of individuals from each HEI.

Scenarios	IES 1 (n:43)	IES 2 (n:22)	IES 3 (n: 56)	Total (n: 121)
1	31 (72,1%)	21 (95,5%)	39 (69,6%)	91 (75,2%)
2	8 (18,6%)	8 (36,4%)	13 (23,2%)	29 (24%)
3	7 (16,3%)	1 (4,5%)	3 (5,4%)	11 (9,1%)
4	10 (23,3%)	3 (13,6%)	39 (69,6%)	52 (43%)
5	0 (0%)	0 (0%)	2 (3,6%)	2 (1,7%)
6	28 (65,1%)	11 (50%)	12 (21,4%)	51 (42,1%)
7	2 (4,7%)	0 (0%)	2 (3,6%)	4 (3,3%)
8	3 (7%)	0 (0%)	0 (0%)	3 (2,5%)

Legend of the scenarios used by the graduates: 1: Basic Health Unit/Family Clinic; 2: Dental Specialty Center/Outpatient Clinics; 3: Itinerant dental offices; 4: Emergency Care Unit/ Hospitals; 5: Health surveillance agencies; 6: Social spaces; 7: Others; 8: Did not participate

Another important result in relation to the profile of the graduates in this study was the very good perception of the graduates about the ability to understand the social reality, identifying the social context in which they develop their professional practice, respecting the characteristics of the population and seeking appropriate solutions to this reality. The experience in the SUS is essential for these future professionals to know the reality of the community. And currently, in the current curricula, this experience is primarily provided through supervised internships or extension activities. It should be noted that, recently, the new DCN already make the inclusion of Dentistry students in the SUS mandatory, and that Supervised Internships must correspond to 20% of the total hours of the course (BRASIL, 2021).

It was also observed that from the first periods, the students had the opportunity to work in the SUS network, but there was a greater insertion between the fifth and eighth periods (Table 4).

TABLE 4: Period of insertion of graduates in practice scenarios linked to the Public Health Service (SUS).

Period of insertion in the SUS	IES 1 (N=43)	IES 2 (N=22)	IES 3 (N=56)	Total (N=121)
First period	23 (53,5%)	2 (9,1%)	6 (10,7%)	31 (25,6%)
Second Period	8 (18,6%)	4 (18,2%)	9 (16,1%)	21 (17,4%)
Third Period	5 (11,6%)	4 (18,2%)	12 (21,4%)	21 (17,4%)
Fourth period	10 (23,3%)	3 (13,6%)	20 (35,7%)	33 (27,3%)
Fifth period	19 (44,2%)	2 (9,1%)	24 (42,9%)	45 (37,2%)
Sixth period	6 (14%)	5 (22,7%)	35 (62,5%)	46 (38%)
Seventh Period	14 (32,6%)	3 (13,6%)	35 (62,5%)	52 (43%)
Eighth Period	15 (34,8%)	15 (68,2%)	25 (44,6%)	55 (45,5%)
Ninth period	3 (7%)	0 (0%)	6 (10,7%)	9 (7,4%)
Tenth period	2 (4,7%)	1 (4,5%)	5 (8,9%)	8 (6,6%)

Only 2.5% (3) of the graduates, all from HEI 1, reported experience in PET-Saúde activities.

For the research participants, in relation to the dimension Orientation of health care, the respective courses offered the ability to understand the social determination of the health-disease



process and the development of comprehensive strategies for the expansion of healthy choices based on the living conditions of individuals and the population. Fadel and Baldani (2013) observed that 94.5% of the students interviewed in their study consider themselves able to develop health prevention, promotion, protection and rehabilitation actions. On the other hand, Badan *et al*, 2010 observed that 100% of the graduates remembered what was taught during the undergraduate course on health promotion, but only 68.7% reported putting such teachings into practice. Often, only vertical transmission may occur, with the teacher passing on the teachings, without a practice that contextualizes the subject and connects the student with the content¹⁵. Therefore, the student experience in the SUS is important for this contextualization and understanding of the service (BULGARELLI *et al*, 2014).

There is a large amount of evidence evaluating the effectiveness and cost-effectiveness of the use of health promotion in relation to chronic diseases, particularly non-communicable diseases and their risk factors (JACKSON *et al*, 2006). This shows how important it is to address these diseases in conjunction with health promotion strategies through work teams (SIDDIQI *et al*, 2022), where future professionals can be inserted and trained to work in this context.

Also considering the dimension Orientation of health care, the results showed that the perception of the participants of HEI 1 was worse with regard to the fact that the course provided the development of activities to guide multiprofessional and interdisciplinary care with students, technicians or professionals from the same area (dental prosthesis technicians) and/or from other areas of health (physicians, nursing technicians, community agents, etc.), showing the need for changes in this issue, providing for the comprehensiveness of health actions. There was a statistically significant difference between HEIs 1 and 3. In the study by Fadel and Baldani (2013), 56% of the students felt able to work in multidisciplinary teams, and only 4.4% reported not feeling able to establish a professional support network. Interprofessional education is usually addressed in undergraduate courses in Dentistry in elective courses, or even as a topic within some mandatory course. The experience of working in a multidisciplinary team should not be isolated during the undergraduate course, but throughout the Dentistry student's education, ensuring interaction with students and professionals from other areas of health, developing an interprofessional collaborative practice (TOMPSEN *et al*, 2018).

The concepts of multiprofessionality and interprofessionality are not yet well used in higher education institutions, and there is confusion in their application. Although there are public policies aimed at the development of interprofessional activities and practices, Dentistry is still lagging behind in this regard. However, all three HEIs pointed out the need to offer more interprofessional education activities in their pedagogical projects.



In Brazil, the Program of Education through Work for Health (PET-Saúde) is a National Policy for Permanent Education in Health, which aims to reinforce the commitment of the Brazilian State to the public health system, ensuring the principles of integrality, universality and equity, aimed at the promotion, protection and recovery of health. The PET-Health/Interprofessionality seeks to implement Interprofessional Education as a way to strengthen the care of the population in an integrative and universal way, aiming to train health professionals capable of working in multidisciplinary teams, identifying the needs experienced in the health service, and carrying out proposals for continuous intervention (ALMEIDA *et al*, 2019).

Interprofessional education has been more widely addressed in the current DCN (BRASIL, 2021). However, the participants in this study graduated before the publication of these studies, which may partly explain the low quality of the offer of activities related to interprofessionality. The expectation is that future professionals, trained under curricula adapted to this new resolution, will have better training in this aspect.

IPE initiatives have shown benefits for the community and satisfaction for students for the experience, in addition to positive results in the training of health professionals (TOMPSEN *et al*, 2018). In general, collaborative practice initiatives among undergraduate students are individual efforts of professors or teams, offering elective courses, extension programs, or extramural activities, such as PET-Interprofessional Health. Institutions need to train their future professionals to work as a team, understanding the social determinants and the reality of the population served (SILVEIRA & GARCIA, 2015).

The curricular structure presented by undergraduate courses in Dentistry in Brazil, despite the DCN of 2002 and 2021, is still an obstacle to the implementation of IPE, due to its segmentation and uniprofessional format (TOMPSEN *et al*, 2018). Currently, IPE is experienced in undergraduate courses in Dentistry on a mandatory basis in supervised internships, which make up 20% of the total workload of Dentistry courses (BRASIL, 2021).

The demand for professional training with an emphasis on interprofessional education is already a reality, including being part of guides/documents used in the public health network (OLIVEIRA *et al*, 2022).

In relation to the dimension of teaching-service integration (internship and experience in the SUS), responding to the performance of activities developed at all levels of care of the health system (low, medium and high complexity), understanding the flow of the network, the planning and evaluation of services and the professional competencies at each level, enabling the understanding of the breadth and complexity of the SUS, the results were quite variable (GRAPH 1). It was observed that, in the educational institutions evaluated, the graduates worked more in basic health units (75.2%), emergency rooms and hospitals (43%), and social spaces (42.1%). In a study carried out by the



Ministries of Education and Health (BRASIL, 2006) to evaluate the adherence of health courses to the DCN, it was observed that the institutions with less adherence to the guidelines presented incipient teaching-service integration, unlike those that adhered to it, where diversification of the scenarios of practice and insertion of students in the SUS was observed. Fadel and Baldani (2013) observed that 50% of the students interviewed considered it important to carry out internships in public family health units. Silveira and Garcia (2015) observed that students recognized the importance and valued extramural experiences, especially in the SUS. However, according to Werneck *et al* (2010), supervised internships in schools, daycare centers, nursing homes, hospitals, collective health internships or rural internships, although they may be very valid, do not allow the achievement of the objectives of the DCN when carried out in a punctual manner, isolated in the curriculum and of short duration, because they do not establish a social commitment.

The diversification of learning scenarios and environments focuses on the practice and early insertion of students in the current public health system, at the beginning of their training (JACKSON *et al*, 2006). In this study, it was observed that there was an opportunity for the graduates to be included in scenarios from the first periods, but that the highest prevalence of activities was between the fifth and eighth periods of the course, probably because it is when the students work in the clinic and begin to have the ability to care for patients. This insertion in the SUS needs to be understood as essential in the formulation and implementation of pedagogical projects for professional training and not a mere field of internship or practical learning. This articulation is explicit in the objectives of the DCN (BRASIL, 2002). The active interaction of the student with the population and with the professionals must occur from real problems, assuming increasing responsibilities. Therefore, it is also questionable whether these insertions are carried out only at the end of the course, when the student's entire education has prepared him for a performance directed to specialized and technical care, without involvement with the demands of the public service (FINKLER *et al*, 2013).

A transformation in the market, bringing dental professionals to the public service, seems to be a consequence of public oral health policies such as the expansion of Dentistry in the Family Health Program (2000), with the implementation of oral health teams, approval of the DCN for Dentistry Courses (2002) and the Smiling Brazil Program (2004), in addition to Pró-saúde and PET-saúde. These policies promoted changes in the care model and in the training of the workforce, aiming at their insertion in the health system in force in the country (BRASIL, 2000, 2004). However, in our results, it was observed that the majority of graduates work in clinics or private offices, which is in agreement with the literature that shows that private practice predominates in the profession, corroborated by studies that found a predominance of 61% of DCs in private practices compared to 20% in the public service (NUNES *et al*, 2010). It should be noted that there is substantial variability in the labor market



influenced by several factors, including the number of professionals in the market loco regional and the availability of vacancies within the public service in that geographical area.

Another point that draws attention in the results of the present study is the large number of graduates who are not working in the field of Dentistry (24.8%). This may be related to the high number of dentists in the Brazilian labor market, with about 338,970 professionals according to the Federal Council of Dentistry (CFO), and to the working conditions and salaries offered by private clinics. According to San Martin *et al* (208), the rate of one dentist per 1,500 inhabitants would be sufficient to meet the demand of the local population, but in Brazil, the rate is 735 inhabitants/dentist. This fact is also a reflection of the excessive number of undergraduate courses in Dentistry in Brazil (MAIA & DAL POZ, 2020; MORITA *et al*, 2021).

The largest number of graduates who received the *link* to the questionnaire were female and graduated in 2018, as well as those who answered it, as shown in Table 1. This demonstrates that the sample collected is similar in terms of gender distribution and year of graduation in relation to the population invited to participate in the study. The results regarding gender corroborate studies since 1980, which point to an increase in the number of women in the profession (SILVA *et al*, 2012), as well as the proportion of women dentists in Brazil, which is around 60% (CFO). The mean age of the graduates studied was 26.94 (\pm 5.63) years, which is consistent with the expected time of completion of the course and beginning of the professional career.

The response rate was much lower than expected. Only 28.3% of the graduates contacted answered the questionnaire, however this seems to be a common finding. In their systematic review, Cho *et al* (2013) noted that the response rate for online questionnaires is around 38%. Several reasons can contribute to this result: typo of the e-mail address, outdated e-mail, retention of the message in the spam folder, impersonality, lack of ability of some respondents, low frequency of access to e-mail, eventual difficulty in accessing the internet, among others (VIEIRA *et al*, 2010).

The results presented in this chapter involved 9 questions from the four dimensions. According to the research participants, the quality and supply of activities related to the formation of the generalist, humanist profile and the ability to understand the social reality was very good, as well as the health promotion activities and the use of practice scenarios. On the other hand, activities related to multiprofessional/interprofessional education and living in the Unified Health System (SUS) were considered moderate.

The results show that graduates of the Dentistry courses evaluated are satisfied with the quality of the professional training achieved through the academic activities offered by their courses. Especially those related to the formation of the professional profile and health promotion. However, the perception of the graduates indicates that multiprofessional/interprofessional experiences and living in the SUS still need to be improved, encouraging students to participate in internships and



extension projects, thus training professionals capable of working in the SUS and in the existing social context.

Thus, based on the perception of the graduates, this work provided an analysis of the weaknesses and potentialities of professional training in Dentistry, thus seeking to contribute to the improvement of activities aimed at training based on the DCN of undergraduate courses in Dentistry.

2 CONCLUSION

Through this chapter, we were able to start a reflection on training in Dentistry, including the perception of graduates of undergraduate courses in Dentistry in Rio de Janeiro regarding the quality of professional training with emphasis on interprofessional education. Among the few studies developed on the subject, the majority of undergraduate graduates in Dentistry are satisfied with the quality of the professional training achieved through the academic activities offered by their respective courses. Especially those related to the formation of the professional profile and health promotion. However, the perception of the graduates indicates that multiprofessional/interprofessional experiences and experience in the Unified Health System (SUS) still need to be improved, encouraging students to participate in internships and extension projects, thus seeking the training of professionals qualified to work in the public health service, and in the existing social context.



REFERENCES

- ALMEIDA, R.G.S.; TESTON, E.F.; MEDEIROS, A.A. A interface entre o PET-Saúde/ Interprofissionalidade e a Política Nacional de Educação Permanente em Saúde. *Saúde Debate*, v. 43(Especial 1), p. 97-105, 2019. doi: 10.1590/0103-11042019S108.
- ALVARENGA, J.P.O.; MEIRA, A.B.; FONTES, W.D.; XAVIER, M.M.F.B.; TRAJANO, F.M.P.; CHAVES NETO, G.; da SILVA, F.W.B.; de ALMEIDA, F.V.H. Multiprofissionalidade e interdisciplinaridade na formação em saúde: vivências de graduandos no estágio regional interprofissional. *Rev. Enferm. UFPE On-line*, v. 7, n. 10, p. 5944-51, 2013. doi: 10.5205/reuol.4377-36619-1-ED.0710201315
- ARAÚJO, M.E. Palavras e silêncios na educação superior em Odontologia. *Ciência e Saúde Coletiva*, V. 11, n. 1, p. 179-82, 2006. doi: 10.1590/S1413-81232006000100026.
- ARAÚJO, M. B. DE S.; ROCHA, P. DE M. Trabalho em equipe: um desafio para a consolidação da estratégia de saúde da família. *Ciência & Saúde Coletiva*, v. 12, n. 2, p. 455–464, mar. 2007. Doi. 10.1590/S1413-81232007000200022.
- BADAN, D.E.C.; MARCELO, V.C.; ROCHA, D.G. Perceptions and use of collective health by surgeon dentists' egress from Federal University of Goiás. *Ciência & Saúde Coletiva*, v. 15, n. 1, p. 1811-8, 2010. doi: 10.1590/S1413-81232010000700093.
- BARELLI, C.; GRAEFF, D.B.; DAL MAGRO, M.L. Empatia: calçando o sapato dos outros. *In: Gonçalves CBC & Barelli C (org). Histórico e resultados das políticas. Passo Fundo: Editora EDIUPF, 2021.*
- BATISTA, N.A. Interprofessional education in health: concepts and practices. *Caderno FNEPAS*, v. 2, p. 25-28, 2012.
- BATISTA, S.H.S.S.; JANSEN, B.; ASSIS, E.Q.; SENNA, M.I.B.; CURY, G.C. Formação em Saúde: reflexões a partir dos Programas Pró-Saúde e PET-Saúde. *Interface (Botucatu)*, v. 19, supl 1, p. 743-752, 2015. doi: 10.1590/1807-57622014.0996.
- BRASIL. Portaria nº1444, de 28 de dezembro de 2000. Dispõe do incentivo financeiro para reorganização da atenção à saúde bucal por meio do Programa Saúde da Família. *Diário Oficial da União, Brasília, DF, 29 dez. de 2000, p.85. 20.*
- BRASIL. Resolução CNE/CES nº 3 de 19 de fevereiro de 2002. Institui Diretrizes Curriculares Nacionais do Curso de Graduação em Odontologia e dá outras providências. Brasília, 2002. Disponível em: http://portal.mec.gov.br/index.php?option=com_docman&view=download&alias=192671-rces003-02&category_slug=junho-2021-pdf&Itemid=30192
- BRASIL. Manual do Brasil Sorridente. Brasília: Ministério da Saúde; 2004. Disponível em: [http://portal.saude.gov.br/portal/saude/area.cfm?id_area= 406.](http://portal.saude.gov.br/portal/saude/area.cfm?id_area= 406)
- BRASIL. Ministério da Saúde, Ministério da Educação. A aderência dos cursos de graduação em Enfermagem, Medicina e Odontologia às Diretrizes Curriculares Nacionais. Secretaria de Gestão do Trabalho e da Educação na Saúde. Departamento de Gestão da Educação na Saúde. Instituto Nacional de Estudos e Pesquisa; 2006.
- BRASIL. Resolução CNE/CES nº 3 de 21 de junho de 2021. Institui Diretrizes Curriculares Nacionais do Curso de Graduação em Odontologia e dá outras providências. Brasília, 2021. Disponível em:



[http://portal.mec.gov.br/docman/junho-2021-pdf/191741-rces003-21/file#:~:text=RESOLU%C3%87%C3%83O%20N%C2%BA%203%2C%20DE%2021%20DE%20JUNHO%20DE%202021%20\(*\),Odontologia%20e%20d%C3%A1%20outras%20provid%C3%A2ncias.](http://portal.mec.gov.br/docman/junho-2021-pdf/191741-rces003-21/file#:~:text=RESOLU%C3%87%C3%83O%20N%C2%BA%203%2C%20DE%2021%20DE%20JUNHO%20DE%202021%20(*),Odontologia%20e%20d%C3%A1%20outras%20provid%C3%A2ncias.)

BULGARELLI, A.F.; SOUZA, K.R.; BAUMGARTEN, A.; SOUZA, J.M.; ROSING, C.K.; TOASSI, R.F.C. Formação em saúde com vivência no Sistema Único de Saúde (SUS): percepções de estudantes do curso de Odontologia da Universidade Federal do Rio Grande do Sul (UFRGS), Brasil. *Interface - Comunicação, Saúde, Educação* [on-line], v. 18, n. 49, p. 351-62, 2014. doi: 10.1590/1807-57622013.0583.

CFO – Conselho Federal de Odontologia. Brasil. Disponível em: <http://website.cfo.org.br/>.

CHO, Y.I.; JOHNSON, T.P.; VANGEEST, J.B. Enhancing surveys of health care professionals: a meta-analysis of techniques to improve response. *Evaluation & the Health Professions*, v. 36, n. 3, p. 382-407, 2013. Doi. 10.1177/0163278713496425

COBAITO, F.C. & COBAITO, V.Q. SUS - Sistema Único de Saúde: a gênese, contemporaneidade, e os desafios do amanhã. *Perspectiva: Ciência e Saúde*, v. 5, n. 2, p. 16-35, 2020. doi: 10.18616/inova.v12i1.6026.

FADEL, C.B. & BALDANI, M.H. Perceptions of Dentistry course graduates about the National Curriculum Guidelines. *Trab. Educ. Saúde*, v. 11, n. 2, p. 339-54, 2013. doi: 10.1590/S1981-77462013000200005.

FINKLER, M.; CAETANO, J.C.; RAMOS, F.R.S. Integração " ensino-serviço" no processo de mudança na formação profissional em Odontologia. *Interface (Botucatu)*, v. 15, p. 1053-70, 2011. doi: 10.1590/S1414-32832011005000023.

FREIRE FILHO, J.R.; COSTA, M.V.; FORSTER, A.C.; REEVES, S. New national curricula guidelines that support the use of interprofessional education in the Brazilian context: An analysis of key documents. *J Interprofessional Care*, v. 31, n. 6, p. 754-60, 2017. doi: 10.1080/13561820.2017.1346592.

INTERNATIONAL CONFERENCE ON HEALTH PROMOTION, 1, The Ottawa Charter for Health Promotion, 1986 Ottawa. [acessado em 1 jun 2020]. Disponível em: <https://www.who.int/healthpromotion/conferences/previous/ottawa/en/>.

JACKSON, S.F.; PERKINS, F.; KHANDOR, E.; CORDWELL, L.; HAMANN, S.; BUASAI, S. Integrated health promotion strategies: a contribution to tackling current and future health challenges. *Health promot. Internation*, v. 21, n. S1, p. 75-83, 2006. doi: 10.1093/heaprom/dal054.

MAIA, L.S. & DAL POZ, M.R. Characteristics and trends in the expansion of private dental schools in Brazil. *Int dent. J*, v. 70, n. 6, p. 435-43, 2020. doi: 10.1111/idj.12589.

MENEZES, C. C., VIANNA, A. L. B., LUIZ, R.R., ANNA THEREZA THOMÉ LEÃO, A. T. T., BARROS, M. C. M.. Percepção dos egressos de odontologia em relação à formação profissional com ênfase na educação interprofissional. *Revista Científica do Conselho Regional de Odontologia-RJ (Rio de Janeiro Dental Journal)* (ISSN: 1518-5249) v.7, n.3, p 67-77, September - December, 2022. DOI: <https://doi.org/10.29327/244963.7.3-8>



MORITA, M.C.; URIARTE NETO, M.; FONTANELLA, V.R.C.; HADDAD, A.E. The unplanned and unequal expansion of Dentistry courses in Brazil from 1856 to 2020. *Braz. oral. Res.*, v. 35, 2021. <https://doi.org/10.1590/1807-3107bor-2021.vol35.0009>

NORO, L. Como estruturar um currículo integrado num curso de Odontologia? *Revista Ciência Plural*, v. 5, n. 1, p. 1-17, 2019. doi: 10.21680/2446-7286.2019v5n1ID17942.

NUNES, M.F.; SILVA, E.T.; SANTOS, L.B.; QUEIROZ, M.G.; LELES, C.R. Profiling alumni of a Brazilian public dental school. *Hum Resour Health*, v. 8, n. 20, p. 1-9, 2010. doi: 10.1186/1478-4491-8-20.

OLIVEIRA, A.E.F.; SILVA, D.G.; HADDAD, A.E. (org). *Doenças crônicas não transmissíveis: fatores de risco e rede de atenção à saúde bucal [recurso eletrônico]* São Luís, Editora EDUFMA, 2022. Disponível em <http://www.edufma.ufma.br/index.pht/loja/> Acesso em 22 fev 2023.

PESSOA, T.R.R.F.; NORO, L.R.A. Caminhos para a avaliação da formação em Odontologia: construção de modelo lógico e validação de critérios. *Ciência & Saúde Coletiva*, v. 20, n. 7, p. 2277-90, 2015. doi: 10.1590/1413-81232015207.13182014.

SAN MARTIN, A.S.; CHISINI, L.A.; MARTELLI, S.; SARTORI, L.R.M.; RAMOS, E.C.; DEMARCO, F.F. Distribuição dos cursos de odontologia e de cirurgões-dentistas no brasil: uma visão do mercado de trabalho. *Rev. ABENO*, v. 18, n. 1, p. 63-73, 2018. doi: 10.30979/rev.abeno.v18i1.399.

SIDDIQI, A.; ZAFAR, S.; SHARMA, A.; QUARANTA, A. Diabetes mellitus and periodontal disease: The call for interprofessional education and interprofessional collaborative care - A systematic review of the literature. *J Interprof Care*, v. 36, n. 1, p. 93-101, 2022. doi: 10.1080/13561820.2020.1825354.

SILVA, M.A.M.; AMARAL, J.H.L.; SENNA, M.I.B.; FERREIRA, E.F. O Pró-Saúde e o incentivo à inclusão de espaços diferenciados de aprendizagem nos cursos de odontologia no Brasil. *Interface (Botucatu)*, v.16, n. 42, p. 707-17, 2012. doi: 10.1590/S1414-32832012000300010.

SILVEIRA, J.L.G.C. & GARCIA, V.L. Curricular change within dentistry: meanings according to the subjects of the learning. *Interface (Botucatu)*, v. 19, n. 52, p. 145-58, 2015. doi: 10.1590/1807-57622014.0530.

TOMPSEN, N.N.; MEIRELES, E.; PEDUZZI, M.; TOASSI, R.F.C. Educação interprofissional na graduação em Odontologia: experiências curriculares e disponibilidade de estudantes. *Rev Odontol UNESP*, v. 47, n. 5, p. 309-20, 2018. doi: 10.1590/1807-2577.08518.

VIEIRA, H.C., CASTRO, A.E. & SCHUCH JR, V.F. (2010). O uso de questionários via e-mail em pesquisas acadêmicas sob a ótica dos Respondentes. *In: 8º SEMEAD Seminários Em Administração*.

WERNECK, M.A.F.; SENNA, M.I.B.; DRUMOND, M.M.; LUCAS, S.D. Nem tudo é estágio: contribuições para o debate. *Ciência e Saúde Coletiva*, v. 15, n. 1, p. 221-31, 2010. doi: 10.1590/S1413-81232010000100027.