

Profile of attendance in the Periodontics service of UFRJ Dental School

Cláudia Callegaro de Menezes*; Raphaele Emmanuelle Almeida Oliveira**; German Villoria***; Maria Cynésia Medeiros de Barros****

- * PhD Candidate, Graduate Program in Dentistry, Concentration area: Periodontics, Dental School, UFRJ.
- ** Bachelor of Dental Surgery, UFRJ.
- *** Bachelor of Dental Surgery, Department of Clinical Odontology, Periodontic area, Dental School, UFRJ.
- **** Associate Professor, Department of Clinical Odontology, Periodontic area, Dental School, UFRJ.

Received April 1, 2019. Approved October 24, 2019.

ABSTRACT

This study aimed to characterize the profile of dental attendance provided by the Periodontics II course offered by the Dental School of Odontology at the Federal University of Rio de Janeiro (FO/UFRJ). We collected ten years' worth of data on dental services (between 2007 and 2016). We analyzed the treatment protocol, the total number of procedures performed per semester and per undergraduate student, the number of periodontal examinations, prophylaxes, oral hygiene instructions, procedures, supragingival scaling procedures, subgingival scaling and root planing performed per semester. Information related to user profiles was collected from the patient's medical chart and included sociodemographic data, periodontal conditions diagnosis, and associated systemic conditions. In the period studied, 13,810 clinical procedures were performed at FO/UFRJ, with an average of 690.5 per semester. In a sample of 715 patients, the age ranged between 12 and 85 years old. The most predominant age range was between 45 and 64 years old, equivalent to 55.38% of the sample. In the sample, we diagnosed 14.55% of patients with gingivitis and 85.45% with periodontitis, of which 93.94% were chronic and 6.06% aggressive periodontitis. We identified systemic health conditions associated with periodontal diseases. The most relevant conditions informed by patients were arterial hypertension (25.87%); respiratory diseases, such as sinusitis and allergic rhinitis (13.29%); diabetes mellitus (10.35%), and tobacco use (7.70%). We characterized the functioning of the Periodontics II clinic of FO/UFRJ in detail, and our results will be used to improve the service provided for the population in Rio de Janeiro. The profile presented by service users pointed at the need for an interprofessional approach.

Descriptors: Health Services Administration. Periodontics. Dental education. Interprofessional Care.

1 INTRODUCTION

The evaluation of service quality is an integral part of the planning and strategy development. These two processes are capable of improving services and are also fundamental for their management. In this manner, research in this field should assist in identifying problems and organizing actions and services, evaluating the introduction of new professional routines, and measuring the impact of the actions implemented by the services¹⁻³.

The process of evaluating the quality of a health service involves both the individuals who utilize it and the ones who provide it. The user and the provider occupy different positions in the process; nevertheless, both contribute to the adequate functioning of the service^{4,5}. Therefore, it is critical to describe the services provided and to analyze conflicting perspectives to improve the services constantly. The relationship between resolution and human resources enables the assessment of the quality of care in oral health, which reorganizes health services.

Donabedian (1990)⁴ presented a fundamental concept for the understanding of quality in health and listed its seven essential attributes: efficacy, effectivity, efficiency, optimization, acceptability, legitimacy, and equity. These principles oriented the evaluation of health services. In this manner, not only the patients' perception is considered but also effectivity, efficiency, and optimization, which can widen the vision of the whole service.

The academic major in Dentistry of Federal University of Rio de Janeiro (UFRJ) is historical in the scenario of the Brazilian Dentistry, being over 134 years old. The course was created after the Decree 9,311 on October 25, 1884, as an annex to the Faculty of Medicine. The creation of the Dental School (FO) as an autonomous unity, with its headquarters in Praia Vermelha Campus, occurred on November 28, 1933,

in accordance with the Decree 23,512⁶. In 1973, what is known in Brazil as the "basic cycle" was transferred to University City of Ilha do Fundão, and its classes were taught at Health Sciences Center.

FO/UFRJ's mission is to promote the training of human resources in Dentistry by providing high-quality teaching and research and extension opportunities. These are, on their turn, grounded on consistent scientific value-oriented to promoting health, prevention, and treatment of oral diseases, including rehabilitation of oral and facial functions and aesthetics. The training provided by FO/UFRJ also respects ethics, moral, ethical differences, and religion, in conformity with the National Curricular Guideline of undergraduate courses in Dentistry⁷.

FO/UFRJ's periodontics service receives patients from any region of the Rio de Janeiro municipality. Nonetheless, for reasons of proximity, the majority of the population served come from Planning Area PA 3.1, where the course is located.

According to the Brazilian Institute of Geography and Statistics (IBGE), the number of inhabitants in this area was of 896,350 in 2012 – approximately 14% of the inhabitants of the Rio de Janeiro municipality.

The dentistry service in Periodontics specialty offers attendance to the community, including clinical and surgical procedures and the performance of complementary exams by images (conventional and digital radiography as well as tomography). The service involves diagnosing, developing individualized treatment plans to service users, and carrying out high and moderate-complexity treatments.

Attendance protocol used in Periodontics II Clinic aims at orienting attendance to users, standardizing procedures, facilitating the performance of diagnosis, and planning the correct treatment. This protocol comprises seven stages, from the first contact

with patients to discharge. The stages are (1) anamnesis, (2) periodontal clinical exam, (3) radiographic exams, (4) definition of periodontal diagnosis, (5) treatment plan, (6) re-evaluation, and (7) maintenance⁹⁻¹¹.

Besides clinical attendance, the course carries out extension activities with preventive actions and health promotion. These activities are part of the extension project called “Reorientation of professional training in Odontology – UFRJ – experiences in the Public National Service (SUS) with an emphasis on social determinants of health and risk factors to periodontal diseases.” The project exists since 2012 and has already had the participation of 423 students of Dentistry between the second semester of 2012 (2012.2) and the second semester of 2018 (2018.2). In six years, it has already produced 65 educational materials to improve service users’ knowledge about how to take better care of their oral hygiene and learn about the relationships between systemic conditions and oral health. Among them, there are folders and panels about healthy diet and care about hygiene for promoting oral health, instructions for oral care, tobacco use and periodontal disease, tobacco and its effects on oral health, human papillomavirus, dentin hypersensitivity, diabetes mellitus, and periodontal disease.

The aim of this study was to characterize the profile of the clinical periodontal service provided by the Periodontics II class of FO/UFRJ. To this, we collected and analyzed data on the attendances carried out in the period of ten years (from 2007 to 2016).

2 METHODOLOGY

This paper is a descriptive study in which data were collected from medical records. We analyzed attendance protocol, the total number of procedures performed per semester and per undergraduate student, the number of periodontal

examinations, prophylaxes, oral hygiene instructions, supragingival scaling procedures, subgingival scaling procedures, and root planing performed per semester.

The major in Dentistry of UFRJ is a full-time course with a current duration of four years. Attendance to the public is offered by Periodontics II class, which offers a workload of 60 hours per semester. Out of these, 15 hours are composed of theoretical content, and 45 hours consist of practical activities, which include clinical attendance in the institution and extension activities in external facilities known as Family Strategic Health unities in the Public National Service (SUS).

Information related to user profiles were collected from medical charts. The user profiles included sociodemographic data and the diagnosis of periodontal and systemic associated conditions. We used the American Academy of Periodontology Disease Classification to define periodontal diseases¹².

This study was approved by the Ethics in Research Commission (CEP) HUCFF/UFRJ under the number 2.342.454.

3 RESULTS

Between 2007 and 2016, we performed 13,810 clinical procedures in Periodontics service for Periodontics II class. We carry out, on average, 690.5 attendances per semester, ranging from 345 procedures in the first semester of 2017 to 1,306 in the second semester of 2011 (graph 1).

The sample of users’ demographic characteristics is presented in table 1. In a sample of 715 users, age ranged from 12 to 85 years. The most prevalent age range was between 45 and 64 years old, which was equivalent to 55.38% of the sample.

Characteristics of the periodontal service are

illustrated in table 2. Results regarding periodontal diagnosis based on the American Academy of Periodontology Disease Classification are depicted in table 3.

We identified systemic health conditions associated with periodontal diseases. The most

prevalent ones in this population are shown in table 4. The most relevant conditions informed by patients were arterial hypertension (25.87%); respiratory diseases, such as sinusitis and allergic rhinitis (13.29%); diabetes mellitus (10.35%), and tobacco use (7.70%).

Graph 1. Number of clinical procedures per semester

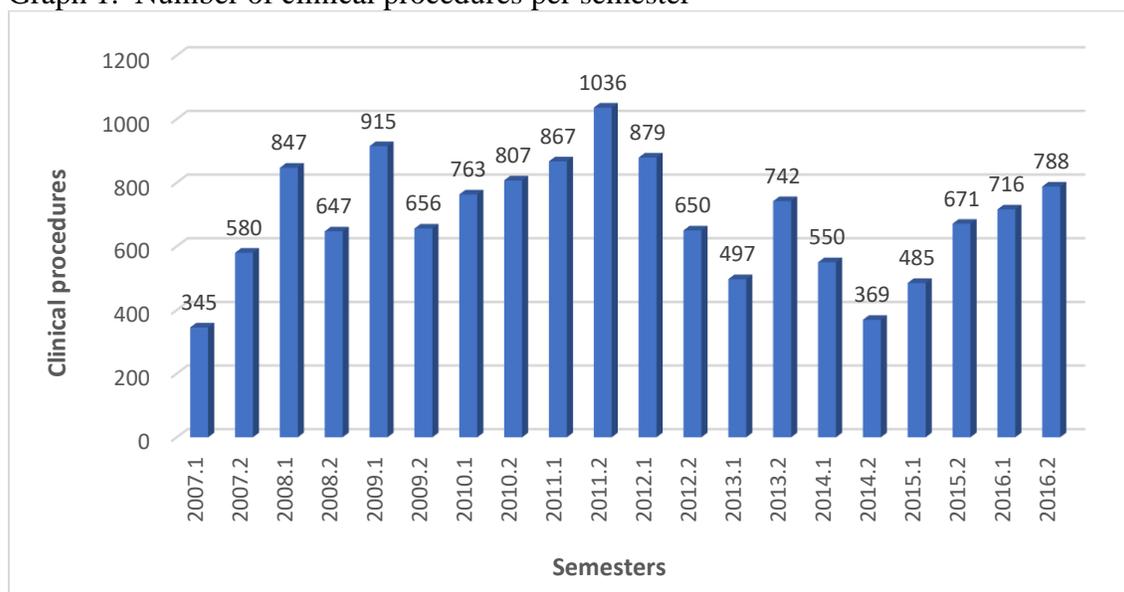


Table 1. Demographic characteristics of users

Demographic data	N	%
<i>Age range</i>		
12-14 years old	5	0.69
15-19 years old	9	1.26
20-34 years old	73	10.21
35-44 years old	145	20.78
45-64 years old	396	55.38
65-85 years old	87	12.17
<i>Gender</i>		
Female	445	62.24
Male	270	37.76

Table 2. Characteristics of the periodontal service

Variables (per semester)	Mean (SD)
Number of students	31.85 (\pm 7.19)
Number of clinical procedures performed	21.7 (\pm 2.61)
Number of periodontal clinical exams	75.1 (\pm 18.98)
Number of prophylaxes performed	313.1 (\pm 91.98)
Number of oral hygiene instructions	74.9 (\pm 18.86)
Number of supragingival scraping procedures	106.45 (\pm 29.73)
Number of subgingival scraping procedures	132.4 (\pm 47.85)

Table 3. Periodontal diagnosis of the periodontal sample of users by utilizing the American Academy of Periodontology Disease Classification (AAP, 1999)¹²

Periodontal diagnosis	n = 715	%
Gingivitis	104	14.55
Periodontitis	661	85.45
Chronic	574	93.94
Agressive	37	6.06

Table 4. Systemic conditions and smoking habits of users of Periodontics II clinic (2007-2016)

Systemic conditions and habits	N	%
Hypertension	185	25.87
Other cardiovascular diseases	58	8.11
Diabetes	74	10.35
Respiratory disease	95	13.29
Depression	22	3.08
Epilepsy	12	1.68
Hepatitis C	8	1.12
Cancer	19	2.66
HIV	3	0.42
Stress	7	0.98
Rheumatic Fever	10	1.39
Lupus	2	0.28
Glaucoma	8	1.12
Hipertireoidism	7	0.98
Hipotireoidism	18	2.52
Anemia	7	0.98
Rheumatism	11	1.54
Gastritis	5	0.70
Pemphigus	1	0.14
Hepatitis B	3	0.42
Osteoporosis	9	1.26
Psoriasis	3	0.42
Tobacco use	55	7.70

4 DISCUSSION

There is an increasing need to evaluate and monitor the results we found in regard to the organization and provision of services, including assessing the possible impact on the health and well-being of the populations. *“Individual actions should include every perspective on the health-disease process, that is, providing answers of promotion and protection to health, recovering actions and rehabilitation.”*¹³ These actions ought to be built with the participation of different subjects that work in the health field. Evaluations will only have legitimacy with the users’ comprehension and participation.

Building upon Merhy (1997, 2002)^{14,15} and Campos (2000, 2003)^{16,17}, we understand that health services should necessarily place the user at the center of the therapeutic process. In order to do so, the authors present some devices that together can strengthen the process of working on health – acceptance, bonding, autonomy, accountability, and resolution. These devices also contribute to the building of care, having integrality as a critical pillar. Even though this research did not focus on user perceptions, many of the elements presented aim at offering them proper understanding through educational actions to improve their general and oral health.

Health care must start at the first contact of dental surgeons – or Dentistry students in training – with patients, as part of the reception process. The environment must contain organization, hygiene, aesthetics, comfort, proper signaling, and information on oral health. Using a well-defined protocol based on scientific evidence brings the necessary organization to the service, in order to offer assistance to users^{10,11}. The service assessed in this study presents a well-defined attendance protocol, with sequential stages and based on

pertinent scientific discoveries^{9,18-21}.

Another relevant aspect, when it comes to the quality of health care and humanization in service, is hosting. Hosting is materialized by attitudes that are evidenced in daily intersubjective relationships established between service providers and users. Hosting translates into simple gestures, such as polite attendance, calling patients by their names, informing about conducts and procedures by using adequate language, listening, and appreciating the users’ narratives, ensuring their privacy, among other ethic and humanizing attitudes¹³. In the service we assessed, presenting the treatment protocol to the patients enables them to know each stage of care in Periodontics and follow their results.

We noticed that women search for dental services more often than men. This result is in keeping with previous research on the topic^{22,23}.

Oral health is socio-culturally built as a generic concept used to organize a group of specific knowledge, but it depends on other fields of knowledge. Therefore, oral health is a core subject in the dental surgeons’ training. However, it can only become effective when it encounters actions developed by different individuals, such as health professionals²⁴. These actions must have users as the center of care, under the influence of social determinants of the health-disease process²⁵. In the present study, most users present the most advanced forms of periodontal disease, and many exhibits associated systemic involvements. In this context, the course offers prevention activities and health promotion concerning the main risk factors associated with periodontal diseases.

In order to effectively change the way of providing care, treating, and accompanying the individuals’ health, it is necessary to change the way of teaching and learning as well. Therefore, in

the Periodontics II course of FO/UFRJ, the process of learning values aspects related to the causes of periodontal diseases and associated risk factors. For example, students learn to motivate patients to practice oral hygiene regularly by showing brushing techniques and proper use of dental floss/interdental brushes and by distributing educational folders about existing hygiene methods, adequate food intake, effects of tobacco use, and the influence of systemic diseases on oral health²¹.

There is evidence that supports a strong link between inflammation, atherosclerosis, and chronic kidney disease²⁶. Inflammatory biomarkers, such as C-reactive protein and interleukin-2, are found in high concentrations in chronic kidney disease. Diseases like diabetes mellitus and systemic arterial hypertension are commonly associated with chronic kidney disease²⁷. These same markers increase with the severity of the periodontal disease. Therefore, the preventive approach of the service's extension activities collaborates with the prevention of systemic diseases of high impact on the individuals' quality of life as well as on the relevance of periodontal treatment in reducing these biomarkers and improving different systemic conditions^{21,28}.

The identification of health problems presented by patients is also a significant factor. It enables interprofessional and interdisciplinary actions in the development and execution of the treatment plan, aiming at integral assistance to patients^{24,29}.

The users of the service we assessed presented a high percentage of associated systemic conditions, mainly high blood pressure, diabetes mellitus, and respiratory problems. The course's approach was turned to Medical Periodontics

aspects. A significant part of this content is addressed in theoretical classes and the extension project. It is fundamental to emphasize the development of an interprofessional approach so that the treatment plans are developed based on well-founded pieces of evidence and with the assistant physician's support.

In the last 30 years, interprofessional education has been embedded in health courses to change the culture of fragmented attendance to patients. Individuals' current needs point to integral treatment, searching for holistic vision, without duplication of treatment. Consequently, there should be a decrease in diagnostic errors, and overtreatment and costs are expected to diminish in both public and private sectors. In the health field, the articulation between different knowledge areas is crucial for an integrated health care.

A limitation of this study was not to determine clinical periodontal diagnosis effectively, since not all students classified periodontal diseases with their subclassifications of distribution (localized or generalized) and intensity (mild, moderate, and severe) correctly. Therefore, medical records only enabled us to classify gingivitis or periodontitis, which highlights the need to enhance the registration of diagnosis performed in this clinic.

Another critical topic was the absence of standardized data on tobacco use concerning the time of use and quantity of cigarettes smoked per day. This information will be included in the anamnesis chart to obtain a more detailed profile of tobacco users in the future.

5 CONCLUSIONS

We characterized the functioning of the Periodontics II clinic of FO/UFRJ in detail, and we used the results to improve service. The profile

presented by service users pointed at the need for an interprofessional approach.

RESUMO

Perfil dos atendimentos no serviço de Periodontia da Faculdade de Odontologia da UFRJ

O estudo teve como objetivo conhecer o perfil do serviço de atendimento prestado pela disciplina de Periodontia II da Faculdade de Odontologia da Universidade Federal do Rio de Janeiro, por meio de levantamento de dados dos atendimentos realizados em um período de 10 anos (2007 a 2016). Foram analisados o protocolo de atendimento, número total de procedimentos realizados por semestre e por estudante de graduação, número de exames periodontais, profilaxias, instruções de higiene oral, procedimentos de raspagem supragengivais, procedimentos de raspagem subgengival e alisamento radicular realizados por semestre. As informações relacionadas ao perfil dos usuários foram coletadas a partir do prontuário e incluíram dados sociodemográficos, diagnóstico das condições periodontais e condições sistêmicas associadas. No período estudado foram realizados 13.810 procedimentos clínicos, em média 690,5 por semestre. Em amostragem de 715 usuários a idade variou entre 12 e 85 anos, sendo a faixa etária predominante entre 45 e 64 anos, equivalente a 55,38% da amostra. Na amostra, 14,55% foram diagnosticados com gengivite e 85,45% com periodontite, sendo 93,94% dos casos periodontite crônica e 6,06% periodontite agressiva. Foram identificadas condições sistêmicas de saúde associadas aos quadros de doença periodontal. As condições mais relevantes informadas pelos pacientes foram hipertensão arterial (25,87%), doenças respiratórias como sinusite e rinite alérgica (13,29%), diabetes mellitus (10,35%) e tabagismo (7,70%). Foi possível conhecer em detalhes o funcionamento da clínica da disciplina de Periodontia II da FO/UFRJ e os resultados foram utilizados como base para melhorias no serviço. O perfil de saúde

apresentado pelos usuários do serviço apontou para a necessidade de abordagem interprofissional.

Descritores: Administração de Serviços de Saúde. Periodontia. Ensino Odontológico. Cuidados Interprofissionais.

REFERENCES

1. Lemieux-Charles L, McGuire WL. What do we know about health care team effectiveness? A review of the literature. *Med Care Res Rev.* 2006; 63:263-300.
2. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Política Nacional de Atenção Básica / Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. – Brasília: Ministério da Saúde, 2012.
3. Kusma SZ, Moysés ST, Moysés SJ. Promoção da Saúde: perspectivas avaliativas para a saúde bucal na atenção primária em saúde. *Cad Saúde Pública.* 2012; 28:s9-s19.
4. Donabedian A. The seven pillars of quality. *Arch. Pathol Lab Med* 1990; 114:1115-18.
5. Righi AW. Avaliação da qualidade em serviços públicos de saúde - o caso da Estratégia Saúde da Família. [dissertação]. Santa Maria: UFSM; 2009.
6. Arouca R. Breve histórico ilustrado da Faculdade de Odontologia da UFRJ. Rio de Janeiro: Editora Santos; 2009.
7. Conselho Nacional de Educação/ Câmara de Educação Superior (Brasil). Resolução nº 3 de 19 de fevereiro de 2002. Diretrizes Curriculares Nacionais do Curso de Graduação em Odontologia. *Diário Oficial da União, Brasília*, 4 de março de 2002. Seção 1, p. 10.
8. Secretaria Municipal de Saúde. Plano Municipal de Saúde do Rio de Janeiro 2014-2017.

9. Cugini MA, Haffajee AD, Smith C, Kent Jr RL, Socransky SS. The effect of scaling and root planing on the clinical and microbiological parameters of periodontal diseases: 12-month results. *J Clin Periodontol.* 2000; 27: 30-6.
10. Gomes-da-Silva D, Tosto MC, Evangelista MT, Silva JNO, Abreu T, Monteiro CLS, et al. Protocolo de atendimento da Clínica de Periodontia Unigranrio: pacientes com diabetes mellitus. *Rede de Cuidados em Saúde* 2017; 10:1-12.
11. Secretaria de Estado de Saúde – Subsecretaria de Atenção Integral à Saúde (Distrito Federal). Portaria nº342 de 28 de junho de 2017. Institui protocolo de atenção à saúde- Periodontia. *Diário Oficial do DF* 2017; 30 de jun.
12. Armitage GC. Development of a classification system for periodontal disease and conditions. *Ann Periodontol.* 1999; 4(1):1-6.
13. Brasil. Ministério da Saúde. Política Nacional de Humanização. Brasília, 2004.
14. Merhy EE. Em busca do tempo perdido: a micropolítica do trabalho vivo em saúde. In: Merhy EE, Onocko R. *Agir em saúde um desafio para o público.* São Paulo: HUCITEC, 1997. p. 71-112.
15. Merhy EE. *Saúde: a cartografia do trabalho vivo.* 3ª ed. São Paulo: Hucitec; 2002.
16. Campos GWS. *Um método para análise e cogestão de coletivos.* São Paulo: HUCITEC; 2000.
17. Campos GWS. *Saúde Paidéia.* São Paulo: HUCITEC; 2003.
18. Gaunt F, Devine M, Pennington M, Vernazza C, Gwynnett E, Steen N, Heasman P. The cost effectiveness of supportive periodontal care for patients with chronic periodontitis. *J Clin Periodontol.* 2008; 35: 67-82.
19. Tonetti MS, Eickholz P, Loos BG, Papapanou P. Principles in prevention of periodontal diseases—Consensus report of group 1 of the 11th European workshop on periodontology on effective prevention of periodontal and peri-implant diseases. *J Clin Periodontol.* 2015; 42 (16): S5-S11.
20. Pretzl B, El Sayed S, Weber D, Eickholz P, Bäumer A. Tooth loss in periodontally compromised patients: results 20 years after active periodontal therapy. *J Clin Periodontol.* 2018 45:1356-64.
21. Sabharwal A, Gomes-Filho IS, Stellrecht E, Scannapieco FA. Role of periodontal therapy in management of common complex systemic diseases and conditions: an update. *Periodontol* 2000. 2018;78(1):212-26.
22. Pinheiro RS, Viacava F, Travassos C, Brito AS. Gênero, morbidade, acesso e utilização de serviços de saúde no Brasil. *Ciêns Saúde Colet* 2002; 7(4):687-707.
23. Pandolfi M, Barcellos LAE, Miotto MHMB. Perfil dos usuários e motivo da procura pelos serviços odontológicos das unidades de saúde de Vitória – ES. *UFES Rev Odontol.* 2006; 8(2):37-44.
24. Reeves S, Xyrichis A, Zwarenstein M. Teamwork, collaboration, coordination, and networking: why we need to distinguish between different types of interprofessional practice. *J Interprof Care.* 2018; 32(1):1-3.
25. Vettore MV, Marques RADA, Peres MA. 2013. Desigualdades sociais e doença periodontal no estudo SB Brasil 2010: abordagem multinível. *Rev Saúde Públ* 2010; 47: 29-39.
26. Schiffrin EL, Lipman ML, Mann JFE. Chronic Kidney Disease: Effects on the

- cardiovascular system. Circulation. 2007;3:85-97.
27. Scannapieco FAE, Panesar M. Periodontitis and chronic kidney disease. J Periodontol. 2008; 79:1617-9.
28. Artese HPC, Sousa CO, Luiz RR, Sansone C, Torres MCMB. Effect of non-surgical periodontal treatment on chronic kidney disease patients. Braz Oral Res. 2010; 24(4):449-54.
29. Ponzer S, Hylén U, Kusoffsky A, Lauffs M, Lonka K, Mattiasson A-C, Nordström G. Interprofessional training in the context of clinical practice: goals and student's perception on clinical education wards. Med Educ. 2004; 38:727-36.

Correspondence to:

Cláudia Callegaro de Menezes
e-mail: cacamenezes@hotmail.com
325 Professor Rodolpho Paulo Rocco Street
Ilha do Fundão
21941-617 Rio de Janeiro/RJ Brazil