Profile of Public Dentistry Contests in the Southeast Region of Brazil

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Abstract

Public contest is one of the best ways for health professionals to enter the Family Health Strategy (FHS) and other public health services. The objective of this study was to verify the profile of Dentistry public examinations in the southeast region, as well as to analyze the coherence between the proposal of FHS and the content on the professionals selection for this position. The examinations were retrieved by means of research of the sites: PCI Concursos and Folha Dirigida and sites of companies of greater representativeness in the competitive bidding in the states of the southeast region. From the entire southeastern region, 266 competitive examinations were obtained for the position of dental surgeon, from 2001 to 2017. For the data analysis, three categories were created: QG, for the questions that included the general questions present in the tests; QT, individual technical questions that balance the requirements related to specific knowledge; and QC, corresponding to the questions related to collective character. In all the tests analyzed, the specific knowledge (QC and QT) had a higher prevalence among the contents charged. Among the areas that involved the individual technical questions, the subjects of Surgery, Dentistry, Stomatometry and Pathology were the ones with the highest prevalence. Through the results, it can be seen that the public examinations for dental surgeons who want to work in the FHS in the states of the southeast region, most of them deal with knowledge of clinical dentistry specialties.

Keywords: Dentists. Health Personnel. Examination Question.

1 Introduction

Sistema Único de Saúde (SUS), created from the Federal Constitution of 1988 and established as a health policy in 1990 by Law No 8080/90, constitutes a milestone in the history of public health in Brazil. It is a health system based on the principles of universality, comprehensiveness and equality of access to services and health actions. Over the years some policies have been developed by the Ministry of Health (MS), among them the Family Health Program (FHP), as a way of ensuring the comprehensiveness of health assistance and guide the implementation of actions which respond to the population demands and needs, at various levels of the health care and complexity.1,2

PSF, instituted by MS and called today Family Health Strategy (FHS), contributed to the change in the health care model in Brazil. It was started in 1994, when MS announced the adoption of this program to deploy strategies that allow a better organization of health services offered to the population.3 Teamwork in the ESF is considered one of the pillars for change of the current hegemonic model in health, with constant and intense interaction among professionals from different areas and diversity of knowledge and skills so that the knowledge is added up and be performed in effective care for people for whom this team is responsible for.4

The surgeon dentist (CD) was inserted in this proposal only in the year 2000, with the creation of oral health teams (ESB) due to the need to expand the attention in oral health for the Brazilian population. Concomitant with the inclusion of oral health in the FHP there was the need for a reorganization of the odontological practice, allowing the CD to be subject of...
an improvement and professional qualification improvement, seeking to integrate a qualified team to develop programmatic actions included in this strategy.\(^7\)

With the insertion of ESB in the FHS, there was an increase in the prospects on the labor market for the CD, pointing out the public service as a promising choice. The notices of contests, which represent a form of selection of these professionals, shall require in their selection examinations contents that allow to align the professional profile of the demands of the health care system.\(^8\) Despite the selection through the contest being the most indicated, it needs to be improved to ensure the safety and seriousness of those carrying it out.\(^7\) Without the public contest there is no stability, hence the need for municipalities to adopt selection means that can ensure a more stable contract with clear and transparent rules for each member of the team.\(^8\)

In a national survey on the forms of hiring staff in the FHS, it has been proven that the hiring is conducted in large part by municipal governments, being the temporary contracts or the provision of services the main contract modalities established with the professionals.\(^9\) However, the temporary contract is one of the responsible for the high turnover of professionals in teams, which can compromise the work performed in FHS.\(^8\)

Understanding the FHS as a strategy for change of basic care brings the necessity of knowing the subjects involved in the social production process of health.\(^10\) This new model of health care requires trained professionals, endowed with a broad vision of health and capable of establishing relationships with the different areas of health seeking to propose new practices.\(^11\) The professional qualification within the public health system shows a characteristic of important professional profile and consistent with the work requirements with the FHS.\(^12\)

In this context, the content of the contests examinations is of extreme relevance to select the professional with knowledge and profile suitable to work in Family Health Teams. Given the above, this work has the objective to evaluate the profile of public contests examinations of dentistry in the Southeast region of Brazil, which presented the best average index of oral health in children under 12 years of age according to SB BRASIL (2010)\(^3\), seeking to relate the contents of the tests with the professional profile that must act in the FHS.

2 Material and Methods

This research consisted of an observational study, with a quantitative, analytical, documentary and retrospective approach. A search was performed for performed and finalized public contests examinations, out of all the cities of the Southeast region for the CD positions of PSF among the years 2001 and 2017. The examinations were obtained, catalogued and evaluated in Brazil, PCI Concursos and Folha Dirigida, found through the electronic portals www.pciconcursos.com.br/provas and www.folhadirigida.com.br, and also on the sites of the companies which presented greater representation in the contests bids in the states of the Southeast region. The organizing Boards of Espírito Santo were: NCE, Comaj, Consulplan, FEC, Funcab, Idecan, IBEG, Fatipa. The Boards that carried out the examinations in Rio de Janeiro were: NCE, FEC, FESP, Consulplan, Funcab, SDPM, Bio Rio, Ceperj, Proac, Fundação Dom Cintra, Fundação Benjamin Constante, Cepuerj, Conrio, MS Concursos, Rio Saúde, IBEG, IBAP, Fepese, Idecan, Integr Integri Brasil, FBC and Funrio. In the municipalities of São Paulo the organizing Boards were: Cetro, Fundação Carlos Chagas, Assessorarte, Vunesp, ESPP, MOURA MELO, Advise, Meritum, Ludus, Indec, Persona, Integr Integri Brasil, Seletrix, Cestari, Soler, CAIP, IBC, Conrio, EGP, AGIRH, Directa, Consesp, IBFC, OM, Makiyama, Jota, Mil Consultoria, Caipimes, SHDIAS, Oppus, FGV, FCC, Bio Rio and Instituto Excelencia. In the examinations of the state of Minas Gerais, the organizing boards were: Consulplan, Consult, TR, Reis e Reis, Fumarc, Fundep, Fluxo, Impellizzeri, MS Concursos, MGF, Unimontes, Idecan, PBH, FESP, Fundação Guimaaraes Rosa, Unilavras, Inaz, MB Gestao Publica, Framinas, Instituto Excelência, Objetiva, Ipefae and FAUF. The descriptors used were: dentist, dental surgeon and odontologist.

Public contest examinations, contest examinations which were applied and made available through the mentioned search means, in the cities of the Southeast region between the years 2001 and 2017 which were published online and with free access, being the examinations only intended for the CD positions in the PSF. A total of 314 examinations were found.

The exclusion criteria were identical examinations applied among the municipalities and available in incomplete form. After applying the criteria 48 examinations were excluded.

266 examinations were obtained, catalogued and evaluated by a single researcher, examined one by one and arranged in columns by the software Microsoft Excel\(^*\) (version 2010), ordering them by: city of application, year, contractor, total number of questions and composition of the examinations.

Three categories were created for data analysis: QG, general questions that included subjects of English, mathematics, logical reasoning, informatics and municipal legislation; QC, collective questions covering the area of public health, and related to SUS, Basic Care (AB) and all those that are useful for the collectivity; and QT, technical questions involving the need for a clinical diagnosis and involving the adoption of an intervention on the part of the CD. In the case of True and False questions, to mark the correct sequence right below, the statements covering the same subject were examined as single issue and that included various subjects were verified in isolation.

Within the group of QT followed subdivision in areas...
of dentistry, based on the Federal Council of Dentistry (CFO): Biosecurity, Surgery, Dentistry, Temporo-mandibular dysfunction (TMD), Endodontics, stomatology, pharmacology, Dental Materials, Geriatric Dentistry, Odontopediatrics, Orthodontics, Pathology, Periodontics, Dental Prosthesis and Radiology.

To analyze the data the software Microsoft Excel® 2010 was used and then charts and tables were drawn.

There was a need for submission to the committee of ethics, by the non-involvement of human beings and the material to be considered public domain. Even so, this study is in accordance with the laws that govern the good sense and ethics.

### Results and Discussion

The Southeast region is divided into four states: Espírito Santo, Rio de Janeiro, São Paulo and Minas Gerais. A total of 314 examinations were obtained and, after applying the exclusion criteria, 48 identical examinations were found in some municipalities of the state of Minas Gerais. The total amount of analyzed examinations was 266, being 22 public contests examinations in the state of Espírito Santo, 44 of Rio de Janeiro, 87 of the state of São Paulo and 113 cities of Minas Gerais. On same municipality may have been analyzed more than once by providing examinations in different years

![Flow diagram of analysis of examinations.](image)

**Figure 1** - Quantity of available examinations for the position of dental surgeon in the state of the South East Region - 2001 to 2017 (X-axis corresponds to the number of examinations found and Y-axis to the year of application).

The period from 2001 to 2004 had a reduced number of available examinations in comparison with the other years. In 2005 and 2006 only examinations from the states of São Paulo, Minas Gerais and Rio de Janeiro were obtained. In 2009, the number of examinations of Espírito Santos was balanced and there was an increase in the other states. Between 2010 and 2012, an increase was observed in the accessibility of examinations for some states. In 2016 all the states had an increase in access to the examinations with a decline in 2017 for all the states (Figure 1).
The analyzed examinations contained multiple choice questions, with alternatives from A-E or A-D. The total number of questions analyzed were 11,080, being 900 examinations of Espírito Santo, 2,015 of examinations of Rio de Janeiro, 3,815 of the municipalities of the state of São Paulo and 4,350 of Minas Gerais. Of the contents addressed, the questions of specific knowledge (QT and QC) were the most prevalent in all the analyzed examinations, followed by questions of Portuguese and QG, respectively. When examining only the questions of specific knowledge, all the examinations presented a higher number of QT in relation to QC (Figure 2).

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Within the group of specific questions, a total of 24 examinations, being 2 of Espírito Santo, 3 of Rio de Janeiro, 9 of São Paulo and 10 of Minas Gerais, exhibited only individual technical questions, without any collective approach.

Regarding the distribution of individual technical questions by area related to Dentistry, the 4 most required disciplines in the contents addressed in all examinations were Surgery, Dentistry, Stomatology and Pathology. In the examinations of Espírito Santo, São Paulo and Minas Gerais, Surgery was the subject that had higher prevalence of questions, and the subject of pathology was the most prevalent in the municipalities of Rio de Janeiro. Regarding the discipline of lesser prevalence, the Geriatric Dentistry excelled in all the analyzed examinations (Table 1).

| Table 1 - Total amount of questions of each specialty in the examinations of the Southeast region |
|---------------------------------|-----------------|-----------------|---------------|---------------|
| Specialty                      | Espírito Santo | São Paulo       | Rio de Janeiro | Minas Gerais  |
| Biosafety                      | 7              | 58              | 27            | 58            |
| Surgery                        | 49             | 326             | 125           | 201           |
| Dentistry                      | 40             | 162             | 72            | 170           |
| DTM                            | 8              | 7               | 8             | 10            |
| Endodontics                    | 27             | 159             | 78            | 128           |
| Stomatology                    | 34             | 269             | 94            | 193           |
| Pharmacology                   | 24             | 106             | 42            | 73            |
| Dental Materials               | 18             | 115             | 46            | 96            |
| Geriatric Dentistry            | 0              | 2               | 0             | 1             |
| Pediatric Dentistry            | 13             | 110             | 44            | 63            |
| Orthodontics                   | 16             | 14              | 17            | 26            |
| Pathology                      | 27             | 239             | 144           | 105           |
| Periodontics                   | 23             | 174             | 64            | 98            |
| Dental Prosthesis              | 9              | 50              | 46            | 51            |
| Radiology                      | 16             | 91              | 37            | 49            |
| Average number of questions    | 45             | 43.85           | 45.79         | 38.49         |

Source: Research Data.

The average total number of questions of the different examinations of the municipalities of Espírito Santo was 45, in Rio de Janeiro was 45.79, in the examinations of São Paulo was 43.85 and in the examinations of Minas Gerais was 38.49. The board with a larger number of applications in the examinations of Espírito Santo was Funcab, in the examinations of Rio de Janeiro and Minas Gerais was Consulplan and in the examinations of the municipalities of São Paulo was Vunesp.

Young et al., evaluating the Dentistry contests, verified that the Brazilian region with the greatest number of contents was the Southeast followed by the Northeast. Regarding the population social and oral health needs, Saliba observed that the North and Northeast regions have fewer favorable conditions in relation to social and oral health needs, contrary to the situation of the South, Southeast and Midwest regions. Such facts justify the need to characterize the instrument used to select the professionals who will work in primary care in the Southeast region, which has a large number of contests and better oral health conditions.

Lucena et al., evaluating the number of ESB in the FHS, verified that by June 2011 this number rose from 4,261 to 20,763, a growth of approximately 390%, being the largest growth registered in the Southeastern region (620%). Upon observing the average number of professionals working in the ESB in the period from 2009 to 2011, Palácio showed that there was a growth of 78.12% of this number. Through the present study, it is believed that this association between the increase in the number of UBS and growth of the demand for professionals to the ESB of FHS, generated an increase in the number of public contests available from 2009 in the municipalities of Rio de Janeiro, São Paulo and Minas Gerais.

Upon evaluating the ESB form of hiring for the FHP in the state of Minas Gerais, Lourenço et al. found that only...
12% enrolled in the program through contest. Such fact may explain the low availability of contests examinations in the period from 2001 to 2004 in the analyzed states. However, it is important to emphasize that the exact number of contests examinations held in the period of analysis of this study, may or may not have been considerably higher. The fact that the mentioned search methods do not make the examinations tests available, hinders the real knowledge of their exact number and content covered by them.

Of the 266 analyzed examinations in the present study, 24 did not exhibit collective requirements in the approached contents, even so, in the other examinations there was a higher prevalence of QC in relation to QG. Although most of the examinations contain a large number of QC, the findings of Albrecht and Krawulski 18 show that many professionals who enter into the public service do not have the knowledge about the importance of their performance in this sector. It is important to highlight that 24 examinations without collective questions found in this study, may mean that in 24 municipalities of the Southeastern region professionals may have been selected without the appropriate knowledge to work within the public health scope. This fact makes it even more relevant the need to assess the contents required in the examinations, so that the professional be contemplated with the best profile for the work in the FHS.

About the actions performed by the CDs of the ESB in the state of Minas Gerais, Lourenço et al. 17 reported that 92.4% of the participants reported performing prevention and health promotion. Miotto et al. 19, in their studies in the municipality of Marechal Floriano-ES, observed that the increased demand for dental service was for routine and prevention treatment (63.6%). Before these reports, it can be assumed that the good oral condition of the Southeastern region can be related with the increase of preventive dental procedures and actions for health promotion held in their states, which highlights the importance and necessity of preventive contents approach in the contests examinations.

Celeste et al. 20, in their studies on dental procedures performed in Brazilian public services, observed that the rates of tooth extractions, restores, collective  and preventive procedures together accounted for an average of 73.9% of the total number of procedures. Correa and Celeste 21, verifying the association between coverage of ESB in family health, and the increase in outpatient clinic production of Brazilian municipalities, showed that the tooth extraction rates were the ones that showed the largest percentage increase in the period (74.1%). According to the studies by Souza et al. 22 on the number of extractions in SUS, in Minas Gerais, in the period of 15 years were performed 220,832,377 primary care procedures and, of these, 19,066,434 were extractions of permanent teeth. Comparing these results with those of the current research, it is possible to say that the most dental procedures performed; Dentistry and Surgery, have their contents charged in public contests examinations for insertion of CD in the FHS.

In all the analyzed tests in this study, specific knowledge (QC and QT) had a higher prevalence among the charged contents. Different result was found in studies by Oliveira et al. 23 that, when assessing the profile of the public contests in the area of physical therapy, found that the basic knowledge questions (which included subjects of English, mathematics, informatics, news/general knowledge, SUS and other legislations) were more present in relation to the content on the specific knowledge of the physiotherapist.

Researching about the utilization of dental services by the elderly in AB and secondary in Florianópolis-SC, Raizt 24 observed that among the consultations, the elderly accounted for only 6.5% of the first Dental Programmatic Consultations and 1.4% of Emergency Care in AB. Simões and Carvalho 25, in their work on the reality of the oral health of the elderly in Southeastern Brazil, stated that with the increase of the elderly population, it is necessary to have a diverse and growing demand for attention and for dental treatment in these individuals. The absence and the reduced number of requirements in Geriatrics Dentistry in the examinations analyzed in this study point to the need for a better improvement in the preparation of the examinations regarding such content.

It is important to emphasize that these analyzes do not allow the evaluation of the quality of the public contests conducted in the Southeast region, but only the nature of the questions proposed in the tests applied. Thus, further studies are needed, to know the profile of these contests in other regions of Brazil, where the strategy is also included.

4 Conclusion
The public contests examinations for the dental professionals who want to join in the ESF in the southeastern region have contents that suit the work proposal recommended by MS.

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