

Indicators of outpatient production of Dentistry Courses in Brazil

Paula Mayumi Siqueira*; Josely Emiko Umeda**; Fabiana Scarparo Naufel***; Cinthia Pereira Machado Tabchoury****; Mitsue Fujimaki**

* Master in Integrated Dentistry, Universidade Estadual de Maringá

** Dentistry Department, Universidade Estadual de Maringá

*** School of Dentistry, Biological and Health Science Department, Universidade Estadual do Oeste do Paraná

**** Department of Biosciences, Piracicaba Dental School, Universidade Estadual de Campinas

Received: 05/19/2021. Approved: 03/30/2022.

ABSTRACT

The training of the general dentist, who is capable of working in different practice scenarios and performing activities in the health promotion area, depends on a Political Pedagogical Project (PPP) aligned with the National Curriculum Guidelines for Dentistry Courses (DCNO in Portuguese). The objective of this study was to evaluate by indicators in the clinical production of undergraduate students in the Dentistry course of the Brazilian public Higher Education Institutions (HEIs) from 2014 to 2019. Eight HEIs from the 5 Brazilian regions were selected for convenience and the dental procedures of the SIA-SUS of 5 categories were analyzed: G1 (promotion and prevention actions), G2 (procedures for diagnostic purposes), G3: (clinical procedures), G4 (surgical procedures) and G5 (orthotics and prosthetic). The indicators were organized considering the annual production and the number of vacancies offered by the HEIs. A great variation was observed in the average values of the procedure indicators among the evaluated HEIs. HEI B presented the highest values for G1 (1,511.4) and G3 (892.2), while HEI E, non-existent values for G1 and G5. Although there is a workload in the PPP of all HEIs for the groups of procedures studied, some did not show recorded production values in G1 and G5. It was concluded that there was high variability in the clinical production of undergraduate dentistry students integrated to Unified Health System (SUS in Portuguese), in individual and collective dentistry procedures, pointing to the need for improvements in the records and monitoring of these indicators for better training of future professionals and qualification of the services provided.

Descriptors: Information Systems. Education, Higher. Dentistry. Unified Health System

1 INTRODUCTION

The need for professional training focused on service in the public sector is essential to the quality of the service offered to the population^{1,2}. Therefore, changes have been observed in Dentistry Higher Education, promoting reflections about the university role in the

professional training^{3,4}. The National Curriculum Guidelines for Dentistry Courses (DCNO in Portuguese) of 2002^{5,6}, revised by the Brazilian Association of Dental Education (ABENO in Portuguese)⁷, and recently approved by the National Board of Education⁸, has contributed to the future dentistry professionals with skills to

work in different practice scenarios with emphasis on health promotion, disease prevention, health recovery and rehabilitation, aligned with public policies and practices integrated into the Unified Health System (SUS in Portuguese). In 2014, the Health and Education Ministry, through the ministerial Ordinance 1.646/2014-GM⁹, launched the GraduaCEO Component – Smiling Brazil, within the scope of the National Oral Health Policy, to compose the Health Care Network. This initiative aimed to improve the education and service quality to the population. Although this inducing policy has not been implemented, most likely due to changes in federal management in 2019, this proposal could represent a promising initiative to improve the integration of dental clinics from Higher Education Institutions (HEIs) to SUS, and attend the DCNO for the Dentistry Course.

Considering that the financial transfer by the Health Ministry to SUS accredited universities varies according to the services provided, it is important to analyze and monitor the clinical production through the SUS Outpatient Information System (SIA-SUS in Portuguese). This system serves as a basis for planning and data analysis, representing an important tool to be used in Dentistry by professors and managers, since it contributes to the educational and administrative process¹⁰.

Thus, the present study aims to evaluate the clinical production of undergraduate students of the Dentistry course of Brazilian Higher Education Institutions (HEIs), from 2014 to 2019, through the construction of indicators of individual and collective clinical dental procedures.

2 METHODS

This is an exploratory study, based on document analysis and freely available

information. HEIs were initially selected by convenience, contemplating at least 1 HEI that represented each region of the country, being 33 Dentistry higher education institutions in Brazil on the website of the Federal Council of Dentistry. The inclusion criteria were: A) State or federal HEI; B) HEI linked to SUS; C) preferably participant of GraduaCEO, since it was an important inducing policy, which was not implemented.

The exclusion criteria were: A) HEIs that do not have a National Registry of Health Establishments (CNES in Portuguese); B) HEIs that do not have a specific number of CNES for the undergraduate clinic; C) HEIs with CNES of itinerant clinic or mobile unit or polyclinic; D) HEIs that did not present clinical production in the studied period; E) IES that the TabWin program did not execute the files.

The selected HEIs were identified with the letters of the Roman alphabet from A to H, as a manner of safeguarding their identifications. Among the selected HEIs, 3 are on federal and 5 on state levels. The search for institutions and number of vacancies in each institution was carried out using data from the website of Institutions and the Federal Council of Dentistry (CFO in Portuguese)¹².

Data regarding the procedures performed in each HEI in the period between January 2014 and December 2019 were obtained from the Health Ministry website (DataSUS in Portuguese)¹¹, through SIA-SUS and tabulated by the TabWin program. The filters used in TabWin were: a) Line: Procedure; b) Column: Year of processing; c) Increment: Frequency; d) Available selections: CNES; e) Suppress zeroed lines; f) Suppress zeroed columns.

According to the GraduaCEO Ordinance 1.646/2014-GM⁹, each HEI should attend the production level compatible with its installed capacity, ranging from Standard I to IV. In this

study, the Standard I was used, which had a minimum monthly production of 900 clinical procedures, 250 in primary care, 550 in specialized care and 100 in prosthetic rehabilitation, with a monthly cost of R\$ 25,200.00/month.

The procedures carried out by HEIs and GraduaCEO⁹ were grouped according to the SUS code, following the classification of SIGTAP (SIGTAP)¹³, with 5 groups being created: G1: Actions to promote health and disease prevention; G2: Procedures for diagnostic purposes; G3: Clinical procedures; G4: Surgical procedures; G5: Orthotics, prosthetic and special materials.

For each HEI, an annual indicator was constructed, considering the number of students who entered each HEI annually, according to the calculation below:

$$\text{Annual Indicator} = \frac{\text{Production in each procedure group per year}}{\text{Vacancies number offered by HEIs}}$$

As a parameter for the procedure numbers, it was used the data from GraduaCEO modality 1, in which the percentage of procedures belonging to each group of the present study was calculated.

In addition, an analysis of the Pedagogical Political Projects (PPP) and curriculum matrices of the HEIs was carried out, in order to identify the following information about the workload (CH): A) total CH of the course; B) CH practice - discipline of collective health - G1; C) practical CH - radiology and stomatology disciplines - G2; D) CH practice - disciplines of dentistry, endodontics, periodontics and pediatric dentistry - G3; E) CH practice - surgery discipline - G4; F) CH practice - the discipline of prosthetic dentistry - G5; G) CH - supervised internship; H) CH - integrated clinics. The percentage of the workload was calculated for each studied group, supervised internship and integrated clinic, in

relation to the total workload of the course.

The data obtained from the clinical production of the HEIs were subjected to descriptive analysis, observing the indicators and percentages of each group of procedures. As this is a study with secondary data in the public domain, there was no need for an evaluation by the Ethics Committee.

3 RESULTS

The selection of HEIs in Brazil for the present study started with 33 HEIs; 7 HEIs did not have CNES registered in DATASUS, 10 were registered as itinerant clinics or polyclinics and 5 were unable to run the Tabwin program. In addition, 2 HEIs did not have data recorded in the years of the present study and 1 had no registered data for the year 2016, resulting in 8 HEIs included in this study, which covered the regions: South (A, B, C and D), Southeast (E), Midwest (F), Northeast (G), North (H).

The annual indicators of outpatient production by HEI procedure groups are shown in table 1. It was possible to observe the variations in the percentage of the HEI's clinical production in the procedure groups. In HEIs A, D, E, F and G, the procedures of Group 2 were emphasized (Procedures with diagnostic purpose), with 75.6%, 44.9%, 71.8%, 44.1% and 44.0 %, respectively. In addition, G2 was the most homogeneous group, with an average of 193.2 procedures, considering that the lowest value was found in HEI A (111.0) and the highest by HEI F (322.4). Unlike G2, G1 (Health promotion and prevention actions) showed the greatest variation (0 and 1511.4) in the indicator values. The HEI B had the highest production recorded in the G1 of 55.3%, while HEI E did not present data recorded in the system.

Indicators of outpatient production of Dentistry Courses in Brazil

Table 1. The annual indicators of outpatient production by HEI procedure groups

IES (n°. of vacancy)	YEAR	GROUPS OF PROCEDURES				
		G1	G2	G3	G4	G5
A (40)	2014	-	143.9	26	0.8	5.3
	2015	1,3	100.4	16.1	3.8	3.8
	2016	-	187.2	32.1	0.1	7.0
	2017	-	180.1	30.2	0.4	7.0
	2018	-	28.6	39.1	0.8	8.9
	2019	1,8	31.2	25.9	0.7	6.3
	Mean (%)		0.5 (0.3)	111.0 (75.6)	28.2 (19.1)	1.1 (0.7)
B (60)	2014	1468.8	254.2	927.5	78.3	4.6
	2015	1318.1	212.4	900.9	69.3	2.8
	2016	1495.5	266.8	916.0	87.8	5.1
	2017	1423.8	224.5	865.6	83.2	3.9
	2018	1501.1	246.3	925.5	91.4	5.3
	2019	1860.9	255.4	817.5	76.4	3.9
	Mean (%)		1511.4 (55.3)	243.3 (8.9)	892.2 (32.6)	81.1 (3.0)
C (40)	2014	69.9	145.0	391.9	69.9	44.3
	2015	70.8	165.3	386.2	53.5	38.8
	2016	70.1	152.6	391.4	57.3	44.4
	2017	79.4	156.9	441.4	55.9	48.3
	2018	58.6	169.4	448.8	64.4	47.6
	2019	54.7	163.2	418.6	47.7	50.5
	Mean (%)		67.2 (9.1)	158.7 (21.4)	413.0 (55.6)	58.1 (7.8)
D (92)	2014	37.4	159.3	155.5	35.1	-
	2015	42.3	227.0	145.4	28.0	-
	2016	33.4	183.9	147.2	33.0	-
	2017	31.9	141.4	101.3	25.3	-
	2018	22.3	158.4	176.3	29.7	-
	2019	20.5	83.1	83.6	23.1	-
	Mean (%)		31.3 (8.8)	158.8 (44.9)	134.9 (38.1)	29.0 (8.2)
E (50)	2014	-	181.2	23.9	10.5	-
	2015	-	191.6	28.1	12.3	-
	2016	-	215.5	33.1	15.6	-
	2017	-	198.0	71.8	16.1	-
	2018	-	196.7	93.1	11.6	-
	2019	-	226.4	136.4	23.2	-
	Mean (%)		-	201.6 (71.8)	64.4 (22.9)	14.9 (5.3)
F (60)	2014	58.2	247.3	278.9	33.6	4.4
	2015	30.1	360.4	179.8	31.1	16.8
	2016	48.7	431.3	345.0	77.5	21.7
	2017	60.2	379.4	332.0	68.4	16.6
	2018	90.0	276.9	325.9	56.4	14.5
	2019	54.2	239.0	253.6	43.7	8.4
	Mean (%)		56.9 (7.8)	322.4 (44.1)	285.9 (39.1)	51.8 (7.1)

(continue)

(continuation)

G (120)	2014	82.5	356.0	208.8	208.8	-
	2015	8.5	223.4	122.6	266.4	-
	2016	0.5	88.3	42.6	10.1	-
	2017	7.1	122.1	52.6	26.3	0.7
	2018	16.7	110.8	87.6	29.1	2.3
	2019	11.4	114.7	73.0	34.0	2.0
	Mean (%)	21.1 (5.5)	169.2 (44.0)	97.9 (25.4)	95.8 (24.9)	0.8 (0.2)
H (100)	2014	-	224.7	507.1	170.7	-
	2015	-	234.6	513.7	175.9	-
	2016	-	210.1	448.1	192.6	-
	2017	-	206.7	402.9	154.0	-
	2018	-	159.3	205.4	24.3	-
	2019	5.1	42.1	196.6	12.1	5.7
	Mean (%)	0,9 (0,1)	179,6 (26,3)	379,0 (55,7)	121,6	1,0 (0,1)
Total mean of HEI (%)		211.2 (27.9)	193.2 (25.5)	286.9 (37.9)	56.7 (7.5)	9.0 (1.2)
Total SD of HEI		501.0	83.1	275.5	60.1	14.9

Groups G2, G3 and G4 were registered in all HEIs, while G1 was not registered in HEI E and group G5 in HEI D and E. In the distribution of the indicators average from the 8 HEI (Table 1), G3 was the most accomplished (37.9%), representing the clinical procedures. G2 was the second most accomplished (25.5%), while the

group of least accomplished procedures was G5, with an average of 1.2%.

Regarding the distribution of procedures agreed in GraduaCEO for Modality 1, it was possible to observe that G4 had a higher percentage of procedures with 38%, followed by G3 with 31% (figure 1).

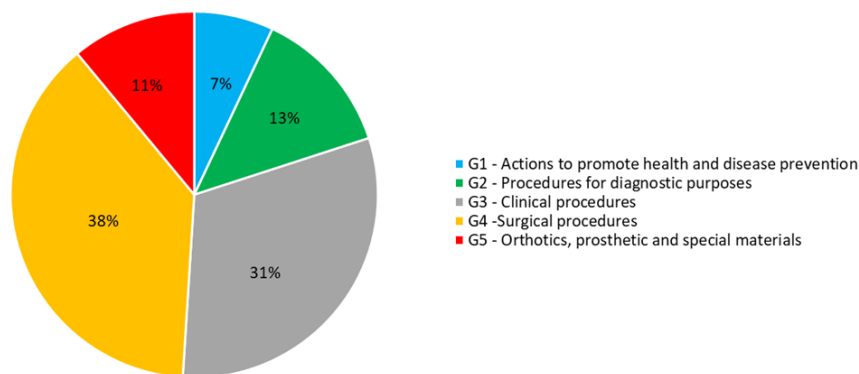


Figure 1. Distribution of groups of procedures according to the GraduaCEO agreement for modality 1

Considering the PPPs and the curricular matrices of the evaluated HEIs, it was observed that all institutions followed the guidelines of DCN, presenting clinics for preventive,

diagnostic, clinical, surgical and prosthetic procedures. However, each HEI has its own distribution and organization of disciplines, as well as a workload for each specialty, internship

and integrated clinics (table 2).

In addition, it was possible to verify the distribution variability of the subjects'

percentages in each HEI. The highest workload was found in the Supervised Internship, with 19%, followed by G3, with 13%.

Table 2. Distribution of workloads, in percentage, of the disciplines belonging to the groups of procedures G1, G2, G3, G4 and G5, of the curricular internship and the integrated clinic, based on the total workload of the course

HEI	G1	G2	G3	G4	G5	INTERNSHIP	INTEGRATED CLINIC
A	18	3	16	0	3	19	13
B	8	6	11	5	6	8	13
C	7	4	18	5	6	16	12
D	3	3	10	3	5	17	17
E	3	5	22	8	10	23	3
F	10	4	9	3	4	28	12
G	6	8	13	3	8	20	0
H	2	2	10	5	5	20	4
MEAN	7	4	13	4	6	19	9

4 DISCUSSION

The quantitative and qualitative assessment of clinical activities is an important step in the process of planning and qualifying the teaching and assistance provided to the population¹⁴. On one hand, there is the need for evaluation to provide opportunities for the students' integral learning in all clinical disciplines, on the other hand, there is the duty to provide a service to SUS users with quality and resolution.

In Brazil, primary care outpatient production has been registered in the SIA-SUS. With the implementation of the Family Health Strategy teams, the SIAB was created, currently represented by the e-SUS¹⁵. Moreover, there was the integration of the SIA-SUS and the SIAB, which made it possible to monitor indicators of outpatient production¹⁶ in primary care.

Regarding HEIs, these have not yet been included in the e-SUS.

In 2014, the Ministry of Health⁹ proposed an incentive for Brazilian HEIs through the creation of the GraduaCEO, which, although not implemented, was used as a parameter for analyzing the results in the present study. According to the Term of Commitment for adhering GraduaCEO⁹, considering the sum of the procedures related to G1, of the 900 procedures/month agreed for Standard I, 60 should be for promotion and prevention. The present study evaluated 8 HEIs in Brazil regarding the performance of outpatient procedures, which were divided into five groups (G1, G2, G3, G4 and G5). G1 showed greater variation in the values of outpatient production indicators, ranging from 0 (IES E) to 1511.4 (IES B). When considering the value for the annual

production of this group, there would be a need to carry out at least 720 procedures for the HEIs to receive the GraduaCEO incentive. Therefore, HEIs B, C, D and F would meet this target in all years of the study, while HEI G would not have reached the target in 2016. In 2019, HEIs A, E and H did not meet the necessary objectives in any of the years evaluated.

In HEIs A, D, E, F and G, the procedures of G2 stood out, being the most homogeneous, due to an average indicator of outpatient production of 193.2, considering the lowest value in HEI A (111.0) and the highest in HEI F (322.4). It is worth mentioning that periapical and interproximal radiographs are necessary for the diagnosis of various oral (or dento-gingival) diseases, being performed in other clinics during the undergraduate course, which may be related to the high production and registration in this group. In addition, according to the SIGTAP¹³ table, these procedures have a financial aid per performed procedure, which is a positive way to assist in the financial management of the clinic, since many primary care procedures do not have such aid.

When observing the procedures that correspond to G3, HEI B was the one that presented the highest outpatient production indicator of 892.2. The production of the HEIs for this G3 group was 37.9%, in accordance with the Commitment of Agreement for Adhesion to GraduaCEO⁹, in which the production in this group corresponds to 31% of the total procedures for Standard I. Spontaneous demand represents a form of access to dental services in HEIs. Another way is to integrate the clinic into the SUS service network, through formal referral among municipal, regional or state care points and the HEIs, including the secondary care that happens to CEOs¹⁷.

Regarding G4, the HEI that presented the highest average indicator for this group was HEI

H (121.6). On the other hand, the same Institution presented a low value in the G1 group (0.9), showing that preventive activities are not emphasized or recorded in this Institution. In G5, HEI C was the one with the highest production in the period included in this study, with an average indicator of 45.6. When observing that the research was carried out in different regions of the country, one can see the differences in the number of procedures performed in these groups. As well as for G4, G5 can be influenced by social, economic and cultural factors in each region. Chaise (2001)¹⁸ found that 66% of the patients who attended the triage sector needed prosthetic treatment, which is in agreement with the data found in the present study. In another study in which 88 medical records were evaluated, 37% had already the need for tooth extraction as their main complaint¹⁹.

In this way, HEIs have been guided to develop changes in the training process of professionals and in the organization of health work, strengthening the link between schools and the SUS service network^{8,20}. The DCN indicates a need for adjustments in the PPP, which is a work proposal with the involvement of teachers, students and managers to improve the quality of student training²¹. Considering the PPPs, it was possible to observe that the institutions have practical disciplines in the different areas of dentistry, which would not justify the lack of production record of HEIs A, D, E, G and H for some groups of procedures in the evaluated period, as shown in Table 1. However, it is possible that despite the data not being found in the SIA/SUS, the clinical procedures were performed with some failure during the registration. Another factor to consider is that academics, during the extramural internships in the health services in SUS, also perform activities that are not registered in the CNES of the IES clinic.

G2 is included in the curriculum matrix of courses with a workload between 2% and 8% for the disciplines of radiology and stomatology. According to research carried out by Nakamura et al. (2010)²², 22.4% of the procedures performed at the dental clinic of Faculdade São Lucas were diagnosis, which was consistent with what was found in this study, when it was observed that the average of the HEIs was 25.5%. The G4 and G5 have specific workloads between 0 and 10%. The low workload would justify the low production in G4, which corresponds to surgical procedures, which, despite being the group with the greatest variety of procedures¹³, these are not routine procedures and require longer execution, being more difficult to be performed during the graduation. However, the fact that the G5 did not present production in 4 of the 8 HEIs in some years cannot be justified by the low workload or the lack of demand, taking into account the information from SB Brasil 2010²³, which showed that more than 70% of the educated population, aged between 65 and 74 years, need some type of prosthesis.

It is important to emphasize that the integrated clinic in dentistry is a device for the development of comprehensive healthcare for the training of general practitioners²⁴. Therefore, many HEIs have a specific workload for the integrated clinic, where academics carry out the diagnosis, planning, prognosis and execution of treatment plans until their conclusion, providing the student with the concept of integrality of the profession²⁵. This justifies the presence of the integrated clinic in the PPPs of 7 out of the 8 studied HEIs. HEI G, which does not have a workload for the integrated clinic, seems to have a curriculum that is still fragmented, with specific clinics for each discipline, which explains the high workload in the studied groups.

Regarding supervised internships, article 7 of the DCNs⁵ determines that this activity is

essential for dental training, and must have a minimum workload of 20% of the total workload of the course. In this case, only HEIs E, F, G and H would be in compliance with the DCN with 23%, 28%, 20% and 20%, respectively. ABENO⁷ recommends as ideal that the supervised internship be 100% carried out in different spaces within the SUS, however, as a way of making its implementation more flexible, it brings an alternative to the supervised internship, which can be developed 50% within the IES (Guideline 8). Not all PPPs describe the places where the internship takes place, which may suggest that some HEIs are performing it 100% extramurally, so they are not able to reach the minimum workload of 20%. The data found in the present study are in agreement with what was found by Moimaz et al.²⁶, in which the authors evaluated 158 PPPs from Brazilian HEIs and observed that only 38% of them were in accordance with the DCN. Scavuzzi et al. (2015)⁷ state that the supervised curricular internship is a mandatory curricular component for undergraduate courses in Dentistry, and it must be detailed in the PPP.

In studies carried out in the Northeast and Midwest, it was found that the goals proposed by GraduaCEO were identified as difficult to be achieved and fulfilled within educational institutions^{27,28}. Although this policy has not been implemented, it is possible that the discussions and planning carried out contributed to an initial assessment of the potential for clinical production and, at the same time, generated expectations regarding funding and improvements in the offer and expansion of access to health services in Dentistry, since the services provided by HEIs help solving the population's demands¹⁷.

The present study had as limitations the fact that it was carried out with secondary data, with the possibility of these being

underestimated or not registered in the SIA-SUS. Adequate filling of data in SIA-SUS is necessary for financial aid to service providers²⁹, which favors the management of public funds and generates benefits for society. Although the SIA-SUS allows the analysis of outpatient services in a given location³⁰, it also has limitations³¹ that may be related to the lack of training of professionals for the proper filling³². However, this research presents an important monitoring tool for HEIs, which can help identify the need for changes in PPPs, and curriculum matrices, in the distribution of workload to different areas and specialties, as well as in the process of evaluating and monitoring indicators of clinical production.

5 CONCLUSION

There was a high variability in the clinical production of undergraduate dentistry students linked to SUS in individual and collective dental procedures, pointing to the need for improvements in the records and monitoring of these indicators for better training of future professionals and qualification of provided services.

ACKNOWLEDGMENTS

The present work was carried out with the support of the Coordination for the Improvement of Higher Education Personnel Brazil (CAPES) - Financing Code 001 and PROCAD/2013 (Proc. no. 88881.156477/2017).

RESUMO

Indicadores de produção ambulatorial de Cursos de Odontologia do Brasil

A formação do cirurgião-dentista generalista capaz de atuar em diferentes cenários de prática e exercer atividades na área de promoção a saúde, depende de um Projeto Político Pedagógico (PPP) alinhado às Diretrizes Curriculares Nacionais para cursos de Odontologia (DCNO). O objetivo deste estudo foi avaliar a produção clínica de alunos da graduação

de cursos de Odontologia de Instituições de Ensino Superior (IES) públicas brasileiras, no período de 2014 a 2019, por meio da construção de indicadores de procedimentos odontológicos individuais e coletivos. Foram selecionadas por conveniência 8 IES das 5 regiões do Brasil e analisados os procedimentos odontológicos do SIA-SUS de 5 categorias: G1 (Ações de promoção e prevenção), G2 (Procedimentos com finalidade diagnóstica), G3: (Procedimentos clínicos), G4 (Procedimentos cirúrgicos) e G5 (Órteses e próteses). Os indicadores foram construídos considerando a produção anual e o número de vagas ofertadas pela IES. Observou-se grande variação nos valores médios dos indicadores de procedimentos entre as IES avaliadas. A IES B apresentou os maiores valores para G1 (1.511,4) e G3 (892,2), enquanto a IES E, valores inexistentes para G1 e G5. Embora houvesse carga horária no PPP de todas as IES para os grupos de procedimentos estudados, algumas não apresentaram valores registrados de produção nos G1 e G5. Conclui-se que houve uma alta variabilidade na produção clínica de alunos da graduação de curso de Odontologia vinculados ao SUS em procedimentos odontológicos individuais e coletivos, apontando para a necessidade de melhorias nos registros e no monitoramento desses indicadores para melhor formação dos futuros profissionais e qualificação dos serviços prestados.

Descritores: Sistemas de Informação. Educação Superior. Odontologia. Sistema Único de Saúde.

REFERÊNCIAS

1. Soares EF, Reis SCGB, Freire MCM. Características ideais do cirurgião-dentista na estratégia saúde da família. *Trab Educ Saúde*. 2014; 12(2): 327-41.
2. Batista KBC, Gonçalves OSJ. Formação dos profissionais de saúde para o SUS: significado e cuidado. *Saúde Soc*. 2011;20(4):884-49.
3. Garbin CAS, Saliba NA, Moimaz SAS, Santos KT. O papel das universidades na formação de profissionais na área da saúde. *Rev ABENO*. 2006; 6(1):6-10.

4. Feuerwerker LCM. Educação dos profissionais de saúde hoje - problemas, desafios, perspectivas e as propostas do Ministério da Saúde. Rev ABENO. 2003; 3(1):24-27.
5. Brasil. Conselho Nacional de Educação. Resolução CNE/CES 3, de 19 de fevereiro de 2002. Institui Diretrizes Curriculares Nacionais do Curso de Graduação em Odontologia. [internet]. [Cited April 20, 2017]. Available from: <http://portal.mec.gov.br/cne/arquivos/pdf/CES032002.pdf>.
6. Morita MC, Kriger L, Carvalho ACP, Haddad AE. Implantação das Diretrizes Curriculares Nacionais em Odontologia. 2a ed. Maringá: Dental Press, Abeno, OPAS, MS; 2013.
7. Scavuzzi AIF, Gouveia CVD, Carcereri DL, Veeck EB, Ranali L, Costa LJ, et al. Revisão das Diretrizes da ABENO para a definição do Estágio Supervisionado Curricular nos cursos de Odontologia. Rev ABENO. 2015; 15(3):109-13.
8. Resolução CNE/CES 3/2021. Diretrizes Curriculares Nacionais do curso de graduação em Odontologia. Conselho Nacional de Educação/Câmara de Educação Superior. Diário Oficial da União, Brasília, 22 de junho de 2021, Seção 1, pp. 76 a 78
9. Brasil. Ministério da Saúde. Portaria interministerial nº 1.646, de 5 de agosto de 2014. Institui o componente GraduaCEO - Brasil Sorridente, no âmbito da Política Nacional de Saúde Bucal, que irá compor a Rede de Atenção à Saúde (RAS), e dá outras providências [internet]. [Cited April 21, 2017]. Available from: http://bvsmms.saude.gov.br/bvs/saudelegis/gm/2014/pri1646_05_08_2014.html.
10. Barros SG, Chaves SCL. A utilização do Sistema de Informações Ambulatoriais (SIA-SUS) como instrumento para caracterização das ações de saúde bucal. 2003; Epidemiol Serv Saúde. 2003; 12(1): 41-51.
11. DATASUS - Departamento de Informática do SUS [internet]. Transferência/ Download de arquivos [Cited May 10, 2017]. Available from: <http://www2.datasus.gov.br/DATASUS/index.php?area=0901&item=1&acao=22&pad=31655>
12. Conselho Federal de Odontologia [internet]. Faculdades de Odontologia por Estado [Cited June 20, 2017]. Available from: <http://cfo.org.br/servicos-e-consultas/faculdades/>.
13. SIGTAP - Sistema de Gerenciamento da tabela de procedimentos, medicamentos e OPM do SUS [internet]. Consulta de procedimentos. [Cited May 15, 2017]. Available from: <http://sigtap.datasus.gov.br/tabela-unificada/app/sec/tabelas-operacionais.jsp>.
14. Reis SCGB. Perfil, produtividade e eficiência em clínica integrada de ensino odontológico. [Tese de Doutorado]. Goiás. Universidade Federal de Goiás, 2011.
15. Thum MA, Baldisserotto J, Celeste RK. Utilização do e-SUS AB e fatores associados ao registro de procedimentos e consultas da atenção básica nos municípios brasileiros. Cad Saúde Pública. 2019; 35(2):e00029418.
16. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. e-SUS Atenção Básica: Manual do Sistema com Coleta de Dados Simplificada: CDS - Versão 3.0 [internet]. Ministério da Saúde, Secretaria de Atenção à Saúde, Secretaria-Executiva. – Brasília: Ministério da Saúde, 2018. [Cited Oct 6, 2021]. Available from: http://189.28.128.100/dab/docs/portaldab/documentos/esus/Manual_CDS_3_0.pdf.
17. Guimarães FAF, Mello ALSF. Prestação de serviços odontológicos em Instituições

- Federais Públicas de Ensino Superior e a integração com a rede de atenção à saúde. *Rev ABENO*. 2017; 17(3):10-20.
18. Chaise R. Levantamento das condições de saúde bucal e necessidades de tratamento em pacientes não submetidos a atendimento prévio que se dirigiram ao setor de triagem da Faculdade de Odontologia da Universidade de Passo Fundo [Dissertação de Mestrado]. São Paulo. Faculdade de Odontologia, Universidade de São Paulo, 2001.
 19. Melo JC, Elias DC, Souza RD, Oliveira LR. Perfil dos pacientes atendidos na clínica odontológica da UNINCOR. *Rev Univers Vale Rio Verde*. 2014; 12(1): 614-20.
 20. Ceccim RB, Feuerwerker LCM. O quadrilátero da formação para a área da saúde: ensino, gestão, atenção e controle social. *Rev Saúde Coletiva*, 2004; 14(1):41-65.
 21. Ferraz D. Diretrizes Curriculares Nacionais de Odontologia e análise dos Projetos Pedagógicos dos cursos do Estado de São Paulo. [Dissertação de Mestrado]. São Paulo. Universidade Federal de São Carlos, 2016.
 22. Nakamura CC, Gonçalves DR, Castro RFM, Closs PS. Perfil dos pacientes atendidos na clínica odontológica da Faculdade São Lucas, Porto Velho - RO. *Saber Científico Odontológico*, 2010; 1(1): 42-52.
 23. Brasil. Ministério da Saúde. SB Brasil 2010: Pesquisa Nacional de Saúde Bucal: Resultados principais. Brasília: Ministério da Saúde, 2012.
 24. Barreto Júnior BD, Ferreira JM, Sena Filho M, Ferreira NP, Brandão NA, Florenzano S, Dantas TS, Rocha DG. Identificando mecanismos de estimulação da integralidade da atenção em clínicas de ensino odontológico: o papel da mudança curricular. *UNOPAR Cient Ciênc Biol Saúde*, 2009; 11(2): 5-8.
 25. Arruda WB, Siviero M, Soares MS, Costa CG, Tortamano IP. Clínica Integrada: o desafio da integração multidisciplinar em odontologia. *RFO*, 2009; 14(1): 51-5.
 26. Moimaz SAS, Wakayama B, Garbin AJI, Garbin CAS, Saliba NA. Análise situacional do estágio curricular supervisionado nos cursos de graduação em Odontologia no Brasil: uma questão de interpretação. *Rev ABENO*. 2016; 16(4); 19-28.
 27. Silva AP, Dutra LC, Martins YVM, Araújo HSP, Seabra EJG. Cobertura da atenção secundária em saúde bucal no Rio Grande do Norte (RN) à perspectiva do Decreto 7508/2011 e do GraduaCEO. *Rev ABENO*. 2015; 15(2): 65-73.
 28. Furtado KKFA, Alves WA, Costa LED, Sousa RL, Rodrigues RQF, Ribeiro RA, Sousa JNL. Viabilidade de adesão do curso de Odontologia da UFCG ao GraduaCEO. *Rev ABENO*. 2016; 16(3): 58-65.
 29. Ugá MAD, Lima SML. Sistemas de alocação de recursos a prestadores de serviços a saúde. Fundação Oswaldo Cruz. A saúde no Brasil em 2030 - prospecção estratégica do sistema de saúde brasileiro: estrutura do financiamento e do gasto setorial. Rio de Janeiro: Fiocruz/Ipea/Ministério da Saúde/Secretaria de Assuntos Estratégicos da Presidência da República, 2013; 4; 135-68.
 30. Volpato LER, Scatena JH. Análise da política de saúde bucal do município de Cuiabá, Estado de Mato Grosso, Brasil, a partir do banco de dados do Sistema de Informações Ambulatoriais do Sistema Único de Saúde (SIA-SUS). *Epidemiol Serv Saúde*. 2006; 15(2): 47-55.
 31. Carvalho DM. Grandes sistemas de informação em saúde: revisão e discussão da

situação atual. Informe Epidemiológico do SUS, 1997; 5(4): 7-46.

32. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Regulação, Avaliação e Controle. Sistemas de Informação da Atenção à Saúde: Contextos Históricos, Avanços e Perspectivas no SUS/Organização Pan-Americana da Saúde – Brasília, 2015. 67-82.

Correspondence to:

Mitsue Fujimaki

e-mail: mfujimaki@uem.br

Universidade Estadual de Maringá

Departamento de Odontologia

Av. Mandacaru, 1550

87080-000 Maringá/PR Brazil