http://dx.doi.org/10.1590/1981-86372021001420190135

| ORIGINAL

Higher Education students from health and non-health subject areas: aspects of oral health

Universitários da área de saúde e não saúde: aspectos de saúde bucal

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ABSTRACT

Objective: To evaluate whether the area of study of undergraduate students influences oral health knowledge, attitudes and practices, in addition to the use of dental services, self-reported oral morbidity, self-perception and impacts of oral health. **Methods**: A cross-sectional study was performed, with a probabilistic sample of 681 students from the second semester of a Higher Education Institution, who were allocated into Health (H; n = 347) and Non-Health (NH; n = 334) groups, and answered a questionnaire encompassing their sociodemographic profile and aspects of oral health. Data were analyzed by Fisher's Chi-Square/Exact Test (α = 5%). **Results**: The majority of students were female (H = 70.0%, NH = 56.9%, p = 0.0004), single (H = 82.7%, NH = 76.0%, p = 0.0429) and did not work (H = 30.5%, NH = 37.7%, p = 0.0482). The groups differed in terms of receiving oral health guidelines from the media (H = 19.9%, NH = 13.8%, p = 0.0333) or from other health professionals (H = 25.6%, NH = 13.2%, p <0.0001). Regarding the reasons for their most recent dental appointment, in the Health group "treatment" (42.9%) and "pain" (6.9%) prevailed, while for the Non-Health group "review, prevention or check-up" (41, 9%) and "extraction" (8.1%) (p = 0.0169) were the most prevalent. The Health group was more satisfied with their oral health, with less frequent reports of a self-perception of bad breath (H = 30.3%, NH = 38.3%, p = 0.0483). There was no association between self-perception and impacts on oral health (p> 0.05). **Conclusion**: The groups differed regarding the source of information on oral health, the reason for seeking and type of treatment, and the self-perception of bad breath, with the Health group reporting greater satisfaction with their oral health.

Indexing terms: Knowledge. Habits. Oral Health.

RESUMO

***Objetivo**: Avaliar se a área de graduação influencia nos aspectos de saúde bucal avaliados. **Métodos**: Estudo transversal com amostra probabilística de 681 estudantes do 2° período de uma Instituição de Ensino Superior foi alocada nos grupos Saúde (S; n=347) e Não Saúde (NS; n=334) e respondeu questionário englobando perfil sociodemográfico e aspectos de saúde bucal. Os dados foram analisados*

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How to cite this article

Farias DR, Brito Junior RB, Oliveira AMG, Zanin L, Flório FM. Higher Education students from health and non-health subject areas: aspects of oral health. RGO, Rev Gaúch Odontol. 2021;69:e2021014. http://dx.doi.org/10.1590/1981-86372021001420190135

pelos Testes Qui-quadrado/Exato de Fisher (α=5%). ***Resultados****: A maioria dos estudantes era de sexo feminino (S=70,0%; NS=56,9%; p=0,0004), solteiro (S=82,7%; NS=76,0%; p=0,0429) e não trabalha (S=30,5%; NS=37,7%; p=0,0482). Os grupos diferiram quanto a ter recebido orientações sobre saúde bucal pela mídia (S=19,9%; NS=13,8%; p=0,0333) ou por outros profissionais da saúde (S=25,6%; NS=13,2%; p<0,0001). Quanto aos motivos para a última consulta odontológica, prevaleceu para o grupo S "tratamento" (42,9%) e "dor" (6,9%) enquanto para o grupo NS "revisão, prevenção ou check-up" (41,9%) e "extração" (8,1%) (p=0,0169). O grupo S mostrou-se mais satisfeito em relação à saúde bucal, com menor frequência de relatos sobre autopercepção de mau hálito (S=30,3%; NS=38,3%; p=0,0483). Não houve associação da autopercepção e impactos em saúde bucal (p>0,05).* ***Conclusão****: Os grupos diferiram quanto à fonte de informações sobre saúde bucal, razão da busca e tipo de tratamento, e autopercepção de mau hálito, com o grupo Saúde referindo maior satisfação com sua saúde bucal.*

Termos de indexação: *Conhecimento. Hábito. Saúde bucal.*

INTRODUCTION

University students are considered a vulnerable group for oral pathologies, with greater treatment needs, due to a lack of oral health education, fear of dental procedures and the adoption of habits that negatively affect the oral tissues, such as alcohol consumption, smoking and a high intake of sugar and soft drinks [1-3]. Oral diseases result in pain, tooth loss, low self-esteem and absenteeism, with negative repercussions for academic performance [4].

Studies that assess the knowledge, attitudes, practices, behavior and self-perception of university students in relation to their oral health have found greater levels of knowledge and positive habits among women, students from public institutions, and those taking courses in the area of health, especially dentistry [3-8]. Other studies, meanwhile, have identified limited oral hygiene practices among students from the areas of health, the humanities and the sciences, with such individuals reporting dissatisfaction with their mouths and teeth, and seeking dental care only in case of severe pain or discomfort [9-11].

Identifying the influence of the area of study on these variables enables the needs of students, especially from areas other than health, to be evaluated, supporting strategies aimed at disease prevention and health promotion [1,9,10]. It is important to evaluate hygiene habits among students of health-related subjects, as these individuals are the medical professionals of the future, and will directly influence their patients either through the guidance they provide or as models to be followed [12].

Traditionally, literature has sought to evaluate the knowledge, habits and attitudes in oral health of students of health-related subjects, and expanding the discussion to include the analysis of others, involving students from other areas, represents a new trend. Therefore, the aim of the present study was to evaluate whether the area of study of undergraduate students affects their knowledge, attitudes and practices in oral health, use of dental services, reported oral morbidity, self-perception and impacts on oral health.

METHODS

The study was conducted according to the precepts determined by National Health Council Resolution 466/12 of the Ministry of Health and was approved by the Research Ethics Committee of the São Leopoldo Mandic School of Dentistry and Center for Dental Research under number 1.862.343/2016 (CAAE 62361416.6.0000.5374).

An observational, cross-sectional study, with an analytical approach and a quantitative focus, was carried out in a private Higher Education Institution (HEI) in the city of Parnaíba, the second most populous city in the state of Piauí, and which has been established as a university center in recent years. The respective HEI offered, at the time of data collection (2016), seven (07) courses in the area of health (Nursing, Nutrition, Physiotherapy, Physical Education, Aesthetics and Cosmetics, Pharmacy and Psychology), and eight (08) courses in the areas of the humanities and sciences (Civil Engineering, Architecture, Law, Pedagogy, Administration, Accounting Sciences, Information Systems and Social Work), which in the present article are referred to as "non-health" courses. There were a total of 3,829 students enrolled at the HEI in the period in which the study was conducted (between August and December 2016).

The participants in the study were students who were enrolled and attended class regularly in the 2nd semester of the courses offered by the college, as this period had the highest absolute frequency of students (n=1,184) and was the only one that offered active classes in all courses. We excluded those students who were not present in the institution on the days when

the questionnaire was applied, on two opportunities (corresponding to alternate days of an academic week), and incomplete questionnaires.

For the sample calculation, students enrolled in courses from the *Health* (H) and *Non-Health* (NH) blocks were considered, based on a prevalence of 50%, a value that allows the highest degree of variance and corresponds to the minimum accepted size for the sample to be representative of the population. Considering a 95% confidence level, 10% accuracy, a design effect (deff) of 1.5 [13], a non-response rate of 10% and a finite population adjustment based on the total number of students enrolled in the 2nd semester, the resulting minimum sample size was 309 students from the H Block and 333 students from the NH block.

To allocate the individuals in the sample, the academic secretary of the college was asked to list the classes with the names of the students in alphabetical order. These were then added together to comprise a single list for the *Health* Block, and another for the *Non-health* Block. In each list, the students were numbered sequentially and independently of each other.

To choose the sample elements, a systematic random sample technique was used, with the sample and student range determined based on the start of the randomization. Subsequent participants were obtained by adding the sequential number of the previous student to the sample range, according to the recommended technique [13].

Data collection occurred in the facilities of the college itself, during class times, in the morning and evenings, after a pilot test with ten students who did not participate in the sample, for observation and adjustment of the questionnaire based on any queries that arose.

Initially, the students selected from the draw were contacted and taken to their own classrooms where, after signing the Informed Consent Form, they received a self-administered questionnaire consisting of four blocks of questions, as described below:

– BLOCK 1: Sociodemographic profile – sex, age, marital status, undergraduate course, period enrolled, and whether the student worked, with a description of the workload of any such labor.

– BLOCK 2: Knowledge, attitudes and practices of oral health – grouped questions used in Brazilian and international studies on the theme [3-5,14], through which the interviewees selected the option that best suited their knowledge and behavior in relation to oral health.

– BLOCK 3: Use of dental services and self-reported oral morbidity – in this section the oral morbidity reported by the students was evaluated and how they used dental services, based on questions taken from the instrument employed in the Ministry of Health National Oral Health Survey (SB Brazil Project 2010) [13].

– BLOCK 4: Self-perception and impacts on oral health – this block included questions about how the oral health/disease process was perceived at an individual level, using questions from the SB Brazil Project 2010 [13,15].

The researcher remained in the room during the application of the instrument, for possible clarification of its content, but did not interfere with the participants' answers. After completing the questionnaire, each student deposited their questionnaire in a communal envelope, preserving their anonymity.

Data analysis was performed based on the Health and Non-Health blocks, and the questions were categorized using the sample median in order to study the association between the response and the blocks. To verify the association between the variables, logistic regression analysis was performed, using Fisher's chi-square and exact tests, performed in the SAS* program and considering a significance level of 5%.

RESULTS

The study included 681 students, 347 from the Health block and 334 from the Non-Health block.

The analysis of the association between the area of study and the responses related to personal data (table 1) revealed a significant association ($p<0.05$) between the frequencies of sex, marital status and the fact that the student did not work, and the area of study. In the area of health, most students were female, reported that they were single, and did not work outside their courses.

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* SAS Institute Inc., Cary, NC, USA, Release 9.2, 2010.

Table 1. Associations between responses to questions on Sociodemographic Profile and area of study (health and non-health).

Question	Category	Total	Health	Non-Health	p-value
Sex	Female	433 (63.6%)	243 (70.0%)	190 (56.9%)	0.0004
	Male	248 (36.4%)	104 (30.0%)	144 (43.1%)	
Age	Up to 25 years old	506 (74.3%)	263 (75.8%)	243 (72.8%)	0.3644
	Over 25 years	175 (25.7%)	84 (24.2%)	91 (27.2%)	
Marital Status	Single	550 (80.8%)	289 (83.3%)	261 (78.1%)	0.0888
	Partner	131 (19.2%)	58 (16.7%)	73 (21.9%)	
Do you work outside the course?	No	449 (65.9%)	241 (69.5%)	208 (62.3%)	0.0482
	Yes	232 (34.1%)	106 (30.5%)	126 (37.7%)	
Weekly workload	Up to 40 hours	173 (74.6%)	80 (75.5%)	93 (73.8%)	0.7721
	Over 40 hours	59 (25.4%)	26 (24.5%)	33 (26.2%)	

Regarding the knowledge, attitudes and practices of the students, there was a significant association ($p<0.05$) between the study group and the source of guidance on oral health, represented by the media and other health professionals (table 2), with higher frequencies, in both situations, among university students in the *Health* group.

The other questions related to Block 2 did not present a significant association with the study group

Table 2. Associations between responses to questions relating to knowledge, attitudes and practices in oral health and area of study.

Question	Category	Total	Health	Non-Health	p-value
Oral health considered an integral part of general health	No	3 (0.4%)	2 (0.6%)	1 (0.3%)	1.000
	Yes	678 (99.6%)	345 (99.4%)	333 (99.7%)	
Received oral health guidelines	No	32 (4.7%)	13 (3.7%)	19 (5.7%)	0.2312
	Yes	649 (95.3%)	334 (96.3%)	315 (94.3%)	
Received guidance from the dentist	No	171 (25.1%)	92 (26.5%)	79 (23.7%)	0.3895
	Yes	510 (74.9%)	255 (73.5%)	255 (76.3%)	
Received academic guidance	No	639 (93.8%)	325 (93.7%)	314 (94.0%)	0.8486
	Yes	42 (6.2%)	22 (6.3%)	20 (6.0%)	
Received guidance from the media	No	566 (83.1%)	278 (80.1%)	288 (86.2%)	0.0333
	Yes	115 (16.9%)	69 (19.9%)	46 (13.8%)	
Received family guidance	No	506 (74.3%)	253 (72.9%)	253 (75.7%)	0.3969
	Yes	175 (25.7%)	94 (27.1%)	81 (24.3%)	
Received guidance from other health professionals	No	548 (80.5%)	258 (74.4%)	290 (86.8%)	<0.0001
	Yes	133 (19.5%)	89 (25.6%)	44 (13.2%)	
Daily brushing frequency	Up to 3 times	472 (69.3%)	241 (69.5%)	231 (69.2%)	0.9345
	More than 3 times	209 (30.7%)	106 (30.5%)	103 (30.8%)	
Flossing	No	93 (13.7%)	47 (13.5%)	46 (13.8%)	0.9310
	Yes	588 (86.3%)	300 (86.5%)	288 (86.2%)	
Use of mouthwash	No	209 (30.7%)	99 (28.5%)	110 (32.9%)	0.2129
	Yes	472 (69.3%)	248 (71.5%)	224 (67.1%)	
Tongue cleaning	No	18 (2.6%)	5 (1.4%)	13 (3.9%)	0.1361
	Yes (toothbrush)	598 (87.8%)	308 (88.8%)	290 (86.8%)	
	Yes (tongue cleaner)	65 (9.5%)	34 (9.8%)	31 (9.3%)	

Table 2. Associations between responses to questions relating to knowledge, attitudes and practices in oral health and area of study.

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Question	Category	Total	Health	Non-Health	p-value
Consumption of sweets, soft drinks, candies, chocolate or cookies between meals	No	100 (14.7%)	50 (14.4%)	50 (15.0%)	0.8362
	Yes	581 (85.3%)	297 (85.6%)	284 (85.0%)	
Opinion about types of food that determine the appearance of caries	No	87 (12.8%)	46 (13.3%)	41 (12.3%)	0.7014
	Yes	594 (87.2%)	301 (86.7%)	293 (87.7%)	
Smoker	No	647 (95.0%)	331 (95.4%)	316 (94.6%)	0.6411
	Yes	34 (5.0%)	16 (4.6%)	18 (5.4%)	
Time between toothbrush changes	Up to 3 months	497 (73.0%)	253 (72.9%)	244 (73.1%)	0.7697
	More than 3 months	87 (12.8%)	42 (12.1%)	45 (13.5%)	
	When damaged	97 (14.2%)	52 (15.0%)	45 (13.5%)	

(p>0.05), and there were high frequencies of students who considered oral health to be an integral part of their general health, brushed their teeth up to three times a day and flossed. There was also a high consumption of sweets, soft drinks, candies, gum, chocolate or cookies between meals, as well as the intake of artificial juices more than twice a week. A small portion of the sample declared themselves to be smokers.

In the questions related to the use of dental services and reported oral morbidity, a significant association was observed between the area of study and the reason for the students' most recent dental appointments, as well as in relation to the perception of the presence of bad breath (p<0.05) (table 3). Among university students in the area of health, a higher frequency of "treatment" and "pain" responses was observed, as the reason for the most recent appointment, while among university students in other areas, there was a higher frequency of the answers "review, prevention or check-up" and also of "extraction". In addition, among students in the area of health, there was a lower frequency of the self-perception of bad breath.

Regarding self-perception and impact on oral health, the data showed no significant association (p>0.05) with the area of study (table 4).

Table 3. Associations between responses to questions related to the use of dental services and self-reported oral morbidity. and area of study.

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Question	Category	Total	Health	Non-Health	p-value
Has gone to the dentist at some point in life	No	6 (0.9%)	4 (1.2%)	2 (0.6%)	0.8431
	Yes	675 (99.1%)	343 (98.8%)	332 (99.4%)	
Frequency of going to the dentist	At least every 6 months	303 (44.5%)	152 (43.8%)	151 (45.2%)	0.8948
	More than every 6 months	263 (38.6%)	136 (39.2%)	127 (38.0%)	
	Only in case of pain	109 (16.0%)	55 (15.9%)	54 (16.2%)	
	Has never been to the dentist	6 (0.9%)	4 (1.2%)	2 (0.6%)	
Last appointment location	Public service	94 (13.8%)	56 (16.1%)	38 (11.4%)	0.5219
	Private service	493 (72.4%)	245 (70.6%)	248 (74.3%)	
	Health plan or health insurance	73 (10.7%)	35 (10.1%)	38 (11.4%)	
	Other	6 (0.9%)	3 (0.9%)	3 (0.9%)	
	Don't know	9 (1.3%)	4 (1.2%)	5 (1.5%)	
	Has never been to the dentist	6 (0.9%)	4 (1.2%)	2 (0.6%)	
Reason for last appointment	Review, prevention or check-up	248 (36.4%)	108 (31.1%)	140 (41.9%)	0.0169
	Toothache	43 (6.3%)	24 (6.9%)	19 (5.7%)	
	Extraction	47 (6.9%)	20 (5.8%)	27 (8.1%)	
	Treatment	254 (37.3%)	149 (42.9%)	105 (31.4%)	
	Other	83 (12.2%)	42 (12.1%)	41 (12.3%)	
	Has never been to the dentist	6 (0.9%)	4 (1.2%)	2 (0.6%)	

Table 3. Associations between responses to questions related to the use of dental services and self-reported oral morbidity. and area of study.

Question	Category	Total	Health	Non-Health	p-value
Presence of cavities that required restorations at check-up appointments	Never	163 (23.9%)	79 (22.8%)	84 (25.1%)	0.7691
	Rarely	412 (60.5%)	211 (60.8%)	201 (60.2%)	
	Frequently	100 (14.7%)	53 (15.3%)	47 (14.1%)	
	Has never been to the dentist	6 (0.9%)	4 (1.2%)	2 (0.6%)	
Opinion on whether needs dental treatment today	No	182 (26.7%)	99 (28.5%)	83 (24.9%)	0.2780
	Yes	499 (73.3%)	248 (71.5%)	251 (75.1%)	
Toothache in the previous six months	No	503 (73.9%)	264 (76.1%)	239 (71.6%)	0.1792
	Yes	178 (26.1%)	83 (23.9%)	95 (28.4%)	
Gingival bleeding when brushing	No	381 (55.9%)	207 (59.7%)	174 (52.1%)	0.0793
	Sometimes	285 (41.9%)	135 (38.9%)	150 (44.9%)	
	Always	15 (2.2%)	5 (1.4%)	10 (3.0%)	
Bad breath	No	448 (65.8%)	242 (69.7%)	206 (61.7%)	0.0483
	Sometimes	229 (33.6%)	104 (30.0%)	125 (37.4%)	
	Always	4 (0.6%)	1 (0.3%)	3 (0.9%)	

Table 4. Associations between questions related to self-perception and impacts on oral health, and area of study.

Question	Category	Total	Health	Non-Health	p-value
Satisfaction with teeth/mouth	Very satisfied	51 (7.5%)	28 (8.1%)	23 (6.9%)	0.1897
	Satisfied	286 (42.0%)	150 (43.2%)	136 (40.7%)	
	Neither satisfied nor dissatisfied	225 (33.0%)	120 (34.6%)	105 (31.4%)	
	Dissatisfied	105 (15.4%)	42 (12.1%)	63 (18.9%)	
	Very dissatisfied	14 (2.1%)	7 (2.0%)	7 (2.1%)	
Difficulty eating because of teeth or felt pain in teeth when drinking cold or hot liquids	No	352 (51.7%)	179 (51.6%)	173 (51.8%)	0.9560
	Yes	329 (48.3%)	168 (48.4%)	161 (48.2%)	
Stopped playing sports because of teeth	No	671 (98.5%)	342 (98.6%)	329 (98.5%)	1.000
	Yes	10 (1.5%)	5 (1.4%)	5 (1.5%)	
Teeth caused discomfort when brushing	No	631 (92.7%)	327 (94.2%)	304 (91.0%)	0.1075
	Yes	50 (7.3%)	20 (5.8%)	30 (9.0%)	
Difficulty speaking because of teeth	No	632 (92.8%)	328 (94.5%)	304 (91.0%)	0.0767
	Yes	49 (7.2%)	19 (5.5%)	30 (9.0%)	
Teeth cause embarrassment when smiling or speaking	No	542 (79.6%)	280 (80.7%)	262 (78.4%)	0.4667
	Yes	139 (20.4%)	67 (19.3%)	72 (21.6%)	
Teeth cause nervousness or irritation	No	548 (80.5%)	281 (81.0%)	267 (79.9%)	0.7322
	Yes	133 (19.5%)	66 (19.0%)	67 (20.1%)	
Teeth get in the way of studying/working or doing schoolwork or chores	No	659 (96.8%)	338 (97.4%)	321 (96.1%)	0.3380
	Yes	22 (3.2%)	9 (2.6%)	13 (3.9%)	
Stopped going out, having fun, going to parties, or going for walks because of teeth	No	657 (96.5%)	339 (97.7%)	318 (95.2%)	0.0787
	Yes	24 (3.5%)	8 (2.3%)	16 (4.8%)	
Haven't sleep or have sleep badly because of teeth	No	585 (85.9%)	300 (86.5%)	285 (85.3%)	0.6729
	Yes	96 (14.1%)	47 (13.5%)	49 (14.7%)	

DISCUSSION

Higher education positively affects individuals, as the more educated the individual, the more likely they are to adopt good health practices [8]. In this sense, studies with university students allow the evaluation of the relationship between a higher level of education and attitudes and habits, which should be used to benefit both the individual and the progress of the society in which they will be professionally inserted, in addition to supporting changes that eliminate failings that may occur during training.

The predominance in the sample of full-time students, with a marital status of single, was due to the age group of the interviewees, as the majority were aged up to 25 years. The predominance of women can be associated with the greater contingent of the female sex in the Brazilian population in recent years and the increasing female participation in the labor market, which requires a greater need for qualifications. The microdata of the Higher Education Census has shown that in the last ten years the number of women entering, enrolled and concluding higher education was greater than that of men, mainly in private institutions [16].

In the present study, high frequencies of affirmative responses were observed for the receiving of instruction on oral health, more prevalently in the *Health* block, and especially in relation to the female sex, corroborating studies that highlight women as having greater knowledge and better habits in relation to oral health [1-3,5,9,11-12]. The guidance from the media and other health professionals demonstrated an association with the study groups. Due to difficulties in accessing dental services in some regions, people often try to resolve their oral problems with the help other health professionals, while it is observed that the media, with its penetrative power in Brazilian society, provides an educational function, placed in the background by some dentists who prioritize the mechanistic and technical character of the profession [5].

Other findings of this block indicated a greater number of students who performed tooth hygiene three times a day, and the replacing of toothbrushes within three months, consistent with the recommendations of the American Dental Association (ADA), which recommends brushing with fluoridated toothpastes, routinely, at least twice a day, generating the effective removal of plaque, and changing one's toothbrush every three or four months [17,18]. Tongue cleaning (with a toothbrush) and flossing were reported by most participants, while the use of mouthwash was not mentioned as frequently, corroborating previous findings [3-5,14]. Smoking was reported by only 5% of the interviewees, contrasting with data from the Vigitel 2016 survey, which associated the reduction of smoking with increased schooling due to greater knowledge about the damage stemming from tobacco and its products [19].

The presence of practices that contradict knowledge of dental health was also noteworthy, as while the students stated that certain types of food were determinant for the appearance of caries, the frequency of those who reported the consumption of sugar, soft drinks or artificial juices between meals, and those who changed their toothbrush only when it was damaged, was in line with other studies [3,5,20].

The analysis of data regarding the use of dental services and reported oral morbidity indicated that almost all the students reported having visited the dentist, with a significant association in relation to the reasons for their most recent appointment. The *Health* group presented a higher percentage of "treatment" and "pain" responses, while in the *Non-Health* group the reasons "review, prevention or check-up" and "extraction" were most prevalent. In previous studies, health students cited having regular check-ups [20] and review or control appointments [3,4], while students from other areas responded with "treatment" [21] and "severe pain or discomfort" [22]. The results of the SB Brasil 2010 survey indicated that for the respective age group, the main reasons for dental appointments were "treatment" and "review or prevention", with a predominance of the answers "treatment" and "extractions" as age increases [23]. It is noticed that as the *Health* group had more individuals aged up to 25 years, they followed the regional and national trend of seeking treatment when they felt pain, while the *Non-Health* group, which encompassed many individuals over 25 years, chose to perform tooth extractions.

Another aspect with a significant association within this block was the self-perception of bad breath, which was low in both groups and reported less frequently in the *Health* group. This fact may be due to the low incidence of smokers in the sample, as well as indicating greater oral hygiene care among the group members, since society requires, even as students, that future health professionals have a pleasant personal appearance. Within this context, studies among students in the non-health area and from

private institutions, there observed a higher frequency of smokers, predominantly men, who considered their oral health poor and had greater dental needs [4,6,10].

Private dental services were predominantly indicated as the place of the most recent appointment, corroborating previous findings [3,4]. Considering that the majority of the interviewees in the present study were aged up to 25 years old, a difference was observed with the result of a national survey for the group aged 15 to 19 years (where the majority claimed to have gone to public services), while there was a similarity with the data of adults (35-44 years) who attended private services more often [23]. It should be emphasized that in the northeast of Brazil there are often difficulties in accessing public dental services, leading to a migration of patients to private services.

Most students visited the dentist at least every six months, as observed in literature [3,5,14] and in the results of a national epidemiological survey on oral health, where most of the adolescents interviewed stated that their most recent appointment had been within the last year [23]. It is important to highlight that some students, mainly from the "*Non-Health*" group, reported going to the dentist "only in case of pain", similar to other studies [11,20]. This finding is worrisome since oral pathologies in an advanced state can impact the general health of the individual, leading to death in extreme cases, requiring an awareness of the importance of regular visits to the dentist for diagnostic evaluations and preventive guidance.

Similar to the findings of other studies [4,7,10,14], a high frequency of students reported gingival bleeding when brushing their teeth, and stated that they needed dental treatment, even though they had not suffered toothache in the previous six months. In the SB Brasil 2010 survey, dental morbidity was widely self-reported by young northeasterners and Brazilians, as well as the absence of pain in the last semester [23].

Regarding self-perception and impacts on oral health, most of the university students interviewed were satisfied with regard to their teeth and mouth. Considering the mean age of the sample, this level of satisfaction corroborates the data from the SB Brazil 2010 survey, where the majority in the 15 to 19 year old age group were satisfied, both regionally and nationally. The most prevalent impacts observed were those related to difficulty eating, embarrassment when smiling and being irritated or nervous, similar to SB Brasil 2010 for the adolescent age group [23].

One limitation of the present study is that, similar to other articles based on the self-reporting of oral health [2,5,8,20], there was no normative evaluation of the oral cavity of the students for comparison with the oral health conditions reported. Future investigations should be carried out to assess whether this influence occurs among students in the final periods of their courses, combined with oral examinations that corroborate the self-reported information.

Addressing oral health during academic life is strongly evidenced in studies where teachers of the early years of education indicated that they had received little information on the subject in pedagogy degree courses [24]. Thus, there is a need to review training policies, seeking to improve the qualifications and knowledge of these professionals, who represent essential agents in health education programs and self-care, as schools are environments for acquiring and reinforcing good habits, while children, although at an age of risk in relation to oral health problems, are conducive to the adoption of educational and preventive measures [25].

Some negative aspects identified in the study (the high intake of sugar between meals, gingival bleeding, the seeking of treatment only in case of pain) express the need for awareness programs among university students, culminating in the acquisition and maintenance of good oral health. It is believed that with the recent inclusion, in 2018, of the dentistry course at the institution, the entire academic community will benefit through educational actions, as well as curative approaches, since a significant number of students reported needing treatment.

CONCLUSION

The area of undergraduate study was found to influence the source of information on oral health, the reason for seeking and the type of treatment, and the self-perception of bad breath, with the *Health* group reporting greater satisfaction with their oral health. The *Health* and *Non-Health* groups stated that they had received instruction on oral health, however a portion of the students demonstrated a lack of knowledge and poor practices, which can be reversed through strategic programs aimed at the academic community.

Collaborators

DR FARIAS collaborated in the bibliographic research, data collection and analysis, and writing of the article. AMG OLIVEIRA, RB BRITO JUNIOR and L ZANIN collaborated in the critical review and writing of the article. FM FLORIO oversaw the conception, design and development of the study, assisted in data analysis, contributed to the final review and writing of the manuscript and participated in the final approval of the article.

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Received on: 14/9/2019
Final version resubmitted on: 17/12/2019
Approved on: 12/2/2020