Knowledge of Dentistry undergraduates about Orofacial Harmonization

Ana Luísa Rezende Machado*; Ricardo Henrique Alves da Silva**

- * Master's Degree student, Department of Pathology and Legal Medicine, Ribeirão Preto Medical School, University of São Paulo
- ** Professor, School of Dentistry of Ribeirão Preto, University of São Paulo

Received July 18, 2019. Approved April 18, 2020.

ABSTRACT

The demand for aesthetic and rejuvenating treatments is increasing in society and it is also evident in Dentistry, in which many professionals aim to highlight the beauty of the patient. In this context, many dentists are doing procedures to harmonizing teeth, lips and face as a whole set. This situation needs to be analyzed based in current legislation, also considering the administrative rules and resolutions. The present study aimed to verify the knowledge of undergraduate students in Dentistry from the first and the last semester of the graduation, through a questionnaire with ten questions about the ethical and legal aspects of procedures that integrate the Orofacial Harmonization, as well as the sources of information about the issue. It was possible to observe that in the first semester, most of the answers include the permissibility of the procedures, fact that differs from the answers of the students from the last semester, because they consider as prohibited procedures for dentists. Thus, it is evidenced the importance of the Forensic Dentistry in formation of a critical and reflexive profile of the students during the undergraduate courses, given the divergence between the understanding of participants from the first and the last semester about the permissibility of the procedures.

Descriptors: Ethics, Dental. Esthetics. Legislation, Dental. Forensic Dentistry.

1 INTRODUCTION

The demand for aesthetics and rejuvenation has been growing progressively in society, as well as the offer of products, techniques and equipment that promise to enhance beauty and minimize signs of aging. These procedures are increasingly complex for being products of technical-scientific development¹⁻³.

Many dental professionals have aesthetics and rejuvenation as their main objectives, which do not only cover the lower third of the face, such as teeth and support structures. The new concept of the Orofacial Harmonization aims to combine teeth, lips and face in an integrated aesthetic and functional balance^{1,4,5}.

Numerous training courses are instructing techniques with a simplistic perspective of the procedures with few hours of learning. Among the techniques and procedures in the cited courses are the bichectomy surgery, the use of botulinum toxin and hyaluronic acid, among others ^{1,6}.

However, the current legislation and resolutions are still deficient regarding this new field. There is disagreement between professionals from different categories about the limits of fields, which brings more uncertainties and controversies about the permissibility of these procedures for Dentistry^{2,7}.

In addition, the technical aspect is often disconnected from ethical and legal principles. This fact contributes to the class's unfamiliarity and disinterest about the fields of Dentistry and the relevant legislation⁸⁻¹⁰.

Because of this situation, it is necessary to broaden the teaching of Ethics and Bioethics, not only presenting the articles of the Code of Ethics, but also approaching the importance of continuing education, of communication with the patient and the frequent conflicting issues that involve the daily practice of the dentist⁹.

Forensic Dentistry has a fundamental role for professional class awareness, because it addresses ethical, legal, deontological and diceological contents, contributing to a generalist, humanistic, critical and reflexive formation of the undergraduate student, fleeing mechanistic and mercantilist teaching ⁹⁻¹¹.

The present study aimed to investigate the knowledge of undergraduate students in Dentistry, from the first and the last semester, about the permission and coverage current of different procedures performed in Orofacial Harmonization, as well as the sources of information on the subject.

2 METHODOLOGY

The project was submitted for appreciation by the Human Research Ethics Committee, in order to comply with all the requirements required by Resolution n. 466/12¹². It was approved by CAAE 98630118.7.0000.5419.

To carry out the present study, 40 students from the first and the last semester of the undergraduate course in Dentistry at the School of Dentistry of Ribeirão Preto of the University of São Paulo were randomly selected.

The researches explanted about the research and read the term of free and informed consent. Once the invitation was accepted, an anonymous and self-administered questionnaire was given, with a total of ten questions with a possible answer "yes", "no" and "I don't know" about orofacial harmonization procedures, as shown in figure 1.

The answers were tabulated on an Excel spreadsheet (Microsoft, Redmond,

Washington, United States) and the results were analyzed using descriptive statistics.

() Female () Male	7. When the patient wants to reduce the fat in the neck
Age:_	area, the dentist is allowed to do the "chin liposuction"
_	using deoxycholic acid.
QUESTIONNAIRE	() YES () NO () I DON'T KNOW
1. Facial Harmonization is a specialty recognized by the	8. The use of the orofacial wires for facial lifting is a
Brazilian Council of Dentistry, provided that the dentist	technique widely developed and allowed to dentists,
holds the certificate conferred by the course.	because it is a procedure that is performed on the
() YES () NO () I DON'T KNOW	patient's face and, therefore, in the dentist's field of action.
2. The use of botulinum toxin by dentists is permitted in	() YES () NO () I DON'T KNOW
procedures with aesthetic and functional purposes, as long	
as it is performed on the face.	9. The microneedling is a procedure that uses very fine
() YES () NO () I DON'T KNOW	needles and that reaches only the superficial layer of the
	dermis, so dentists have the technical and legal capacity
3. The use of hyaluronic acid is allowed for the dental class	to use it on the patient's face.
for use in attenuation of furrows and facial wrinkles.	() YES () NO () I DON'T KNOW
() YES () NO () I DON'T KNOW	
	10. In the case of complications during and after the
4. Lip filling is a technique used and allowed to dentists to	procedures of Facial Harmonization, it is possible and
give a complete harmonization between lips and teeth.	allowed to dentist prescibe antibiotics and corticosteroid
() YES () NO () I DON'T KNOW	infiltration.
	() YES () NO () I DON'T KNOW
5. The bichectomy is permitted to dentists only in cases that	
the patients present bites inside of the cheek.	11. How did you receive this information regarding
() YES () NO () I DON'T KNOW	facial harmonization? (It is possible to tick more than one option).
6. Rhinoplasty is a permitted procedure to dental class	() Undergraduate () Books/articles () Family and
because it is in their area of expertise.	friends () Means of communication (TV/radio/journals)
() YES () NO () I DON'T KNOW	() Social media

Figure 1. Questionnaire applied to students

3 RESULTS

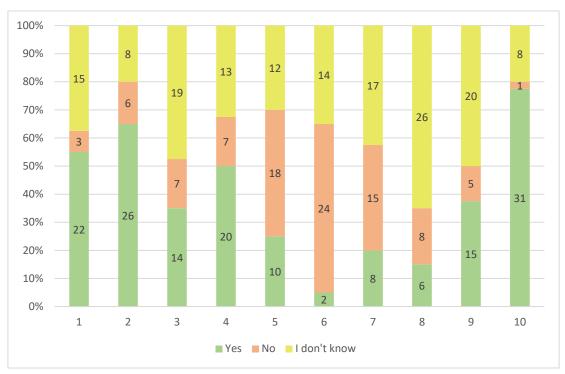
The sample of students from the first semester was composed of 27 girls and 13 boys, with an average age of 19.8 years. They presented a general average of answers with the option "I don't know" of 38%. The question that presented the highest average with this option was about the permission of the procedure "facial lifting" to dentists.

Graphic 1 shows the responses of first semester students to each question. The highest average of responses with the option "no" (60%) was about the permissibility of the rhinoplasty procedure to dentists, followed by the permissibility to bichectomy only in cases of bites inside of the cheek, with 45%. The

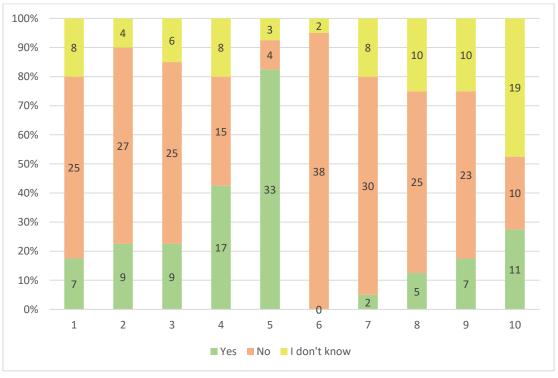
"yes" option was the most frequent option on antibiotic prescription and corticoid infiltration, with 77.5%.

As for undergraduate students in the last semester, the sample consisted of 23 girls and 17 boys, with an average age of 23.75 years. They presented an average response of 20% for the option "I don't know", and the question that presented the highest average with this option was about the prescription antibiotics and infiltration of corticosteroids complications by dentists after from procedures in orofacial harmonization.

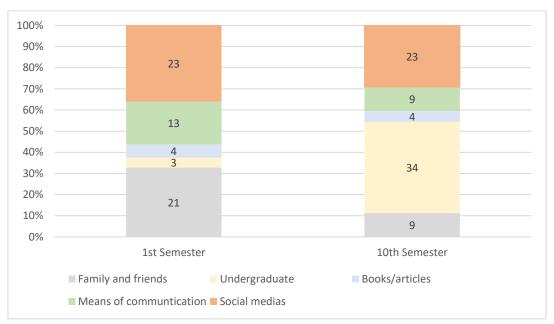
The highest average of responses with the option "no" (95%) was about the permissibility to rhinoplasty procedure. For the "yes" option, a higher average was bichectomy procedure in cases of bites inside observed in the question involving the of the cheek (83%) (graphic 2).



Graphic 1. Distribution of responses from students of first semester to the 10 questions about the permissibility of procedures.



Graphic 2. Distribution of responses from students of tenth semester to the 10 questions about the permissibility of procedures.



Graphic 3. Distribution of the information source on Orofacial Harmonization. Percentage among students in the first and tenth semester (multiple responses).

4 DISCUSSION

In view of the accelerated development of technologies and the expression of social media in the dental field, the Brazilian Council of Dentistry has published numerous resolutions to regulate the performance of new procedures, especially when referring to the new specialty denominated Orofacial Harmonization¹³.

The first resolution that contemplated the limits of aesthetic surgeries, including bichectomy (procedure that involves such specialty), was Resolution n. CFO-100/2010¹⁴, which was prepared by the councils of Dentistry and Medicine. This resolution establishes that it is exclusive competence of doctor the practice of surgeries aesthetics exclusively, while the dentist is responsible for functional aesthetic surgeries of the masticatory apparatus¹⁴.

The first resolution that contemplated injectable hyaluronic acid and the use of botulinum toxin in Dentistry, was Resolution n.

112/2011¹⁵, which prohibited the use of hyaluronic acid until there was more factual scientific evidence. The use of botulinum toxin in dental procedures was restricted to therapeutic purposes only, and was not permitted for aesthetic purposes, according to the following articles of the resolution¹⁵:

"1st Art. Prohibit the use of hyaluronic acid in dental procedures until there is better scientific evidence and recognition of its use in the dental field. 2nd Art. Prohibit the use of botulinum toxin for purely aesthetic purposes and allow for therapeutic use in dental procedures."

On March 27, 2014, the Brazilian Council of Dentistry published Resolution n. 145/2014¹⁶, which allowed the use of hyaluronic acid with scientific evidence. Thus, Article 1st and 2nd of Resolution n. 112/2011¹⁵ was amended with the following wording:

"1st Art. Allow the use of hyaluronic acid in dental procedures, with recognized scientific evidence.

2nd Art. The use of botulinum toxin will be allowed for therapeutic use in dental procedures and prohibited for use in aesthetic procedures, exclusively."

In the same year, Resolution n. 146/2014¹⁷ was published to change the second article of Resolution n. 145/2014¹⁶ and thus allow the use of botulinum toxin for dental procedures and prohibit it for non-dental procedures.

On September 6, 2016, the Brazilian Council of Dentistry published Resolution n. 176/2016¹⁸. It revokes the previous resolutions based on Article 6th of Law 5081 of 1966¹⁹:

"6th Art. The dentist is responsible for: I - perform all acts relevant to Dentistry, resulting from knowledge acquired in a regular course or in graduate courses;

II - prescribe and apply pharmaceutical specialties for internal and external use, indicated in Dentistry;"

Brazilian Council of Dentistry authorized the use of botulinum toxin and dermal fillers by the dentist, for therapeutic and/or functional purposes, as long as it does not exceed the area of operation: superiorly to the hyoid bone to the nasion point and before the tragus, may be include the upper third of the face in non-surgical procedures¹⁸.

However, the last resolution has many conflicts with the Consolidation of the Norms for Procedures in the Dentistry²⁰. It establishes limits as to the purpose of the procedures, authorizing only for functional purposes and regarding the area of operation. It does not allow the performance in the upper third of the face because it establishes the nasion point as the upper limit⁷.

The Brazilian Medical Association and the Brazilian Society of Plastic Surgery filed a public

action, aiming at the suspension of Resolution n. 176/2016¹⁸ because the aesthetic procedures are invasive and exclusive to the medical profession. In December 2017, the judge responsible for the case granted the request for early relief and the resolution was suspended²¹. However, in November 2018, the same resolution was valid again for the extinction of the process without appreciation of merits²².

Early in 2019, the Brazilian Council of Dentistry published Resolution n. 198/2019¹³. It recognized the Orofacial Harmonization as a dental specialty, basing it on the existence of postgraduate courses. In addition, it listed several procedures belonging to the specialty, such as the use of botulinum toxin, dermal fillers, percutaneous collagen-inducing biomaterials, orofacial wires, facial lipoplasty, bichectomy and lip correction.

It is essential to emphasize that the referred resolution does not alter or suspend the previous resolutions, having a new incompatibility with the Consolidation of the Norms for Procedures in the Dentistry Councils²⁰, as well as with Resolution n. 100/2010¹⁴, which establishes the competence of dentist only to functional aesthetic surgeries of the masticatory apparatus.

Given this, most of the students of the first semester consider permitted the use of botulinum toxin, the performance of lip filling and bichectomy in functional and/or aesthetic cases. In addition, the percentage of "I don't know" responses was high in the questions about the permissibility of the "chin liposuction", facial lifting and microneedling procedure. In contrast, most undergraduates from the last semester consider these procedures how prohibited to dentists. As for the answers "I don't know", the question that involves the permissibility of antibiotics prescribing and infiltration of corticosteroids after complications procedures in Orofacial Harmonization stands out.

Students who currently frequent universities present as a generation connected to global trends, not adopting traditional teaching centered on professors. It is necessary build a knowledge with an active and dynamic way, which becomes a great ally to information and communication technologies to improve their motivation and learning²³.

The population group that most use communication tools, such as social networks, is between 18 and 25 years old and is in higher education predominantly. Thus, these means of communication have great influence on society and education, resulting in an increasingly complex and challenging teaching and learning process²⁴.

The same occurs in the dental field, where students and professionals use social networks to publicize their work, which often include procedures performed, before and after images, clinical cases and complementary exams, resulting in commercialization and devaluation of the profession²⁵⁻²⁷.

Thus, it is clear the growing culture of immediacy in Dentistry, which aims the profit through the exercise of the mercantile predominantly profession²⁸. Henry et al.²⁶ found that 87% of dentists who participated of the study have some kind of website and 51% use social networks in their professional practices. Similarly, Martorell et al.²⁵ found that 56.1% of images of patients and dental procedures published on social networks are associated with the profiles of dentistry students (28.5%) and then by the profiles of the patients with only 6.5% of the publications.

In the present study, it is possible to observe the potential influence of social networks on undergraduate students, because a large portion of students in the first semester of the Dentistry undergraduate course chose the option "social media" as a source of information about the Orofacial Harmonization procedures, totaling approximately 57% (n = 23). At the same time, 34 undergraduate students from the last semester chose the option "graduation" and 23 the option "social media", demonstrating that despite the influence of social media has on learning, graduation has a fundamental role in their education.

In this context, the disciplines related to Forensic Dentistry are indispensable, given that they aim to develop a reflective, critical and humanistic profile of academics, not only focused on deontology, but also with ethical and moral development, aiming at risks and possible consequences existing in their professional future, patients and society^{9,25}.

In this way, two points are clear. Firstly, the importance of Forensic Dentistry teaching during undergraduate so that students know the laws surrounding the profession, and thus, know what is allowed or not allowed to dentists, reducing and limiting the influence of social networks strongly present at the beginning of graduation^{9,24}. Another fundamental point is related to the several controversies existing between the published resolutions, generating numerous doubts about the legitimacy of the procedures involved in Orofacial Harmonization performed by dentists, a fact that intensifies the discussion between professionals in the medical and dental fields and their respective councils^{2,7}.

5 CONCLUSION

Most students in the first semester consider the procedures as allowed, which differs from the responses of the undergraduates of the last semester, among which the prohibition of the procedures proved to be the predominant result. It was also possible to observe the great influence of social networks and the importance of graduation given professional formation.

RESUMO

Conhecimento de graduandos em Odontologia sobre a Harmonização Orofacial

procura por tratamentos estéticos rejuvenescedores se apresenta de forma crescente na sociedade, circunstância que também se evidencia na Odontologia, na qual muitos profissionais objetivam, majoritariamente, o realce da beleza do paciente. Nesse quadro, cirurgiões-dentistas têm realizado muitos procedimentos com o objetivo de harmonizar dentes, lábios e face como um todo, o que precisa ser analisado a luz da legislação vigente, considerando também as normas administrativas e resoluções pertinentes. Dessa forma, o presente estudo objetivou averiguar o conhecimento de graduandos em Odontologia, do primeiro e do último semestre, por meio de um questionário abordando os aspectos éticos e legais de procedimentos que integram a Harmonização Orofacial, assim como as fontes informações sobre o assunto. Foi possível observar que, no primeiro semestre do curso, grande parte das respostas abrange a permissibilidade dos procedimentos, fato que difere das respostas dos estudantes do último semestre, os predominantemente, consideram. procedimentos como não pertinentes à área de competência do cirurgião-dentista. Isto posto, fica evidenciada a importância do ensino frente à formação de um perfil crítico e reflexivo durante a graduação, visto a divergência entre o entendimento dos participantes do primeiro e último do semestre quanto a permissibilidade dos procedimentos.

Descritores: Ética Odontológica. Estética. Legislação Odontológica. Odontologia Legal.

REFERENCES

- Cavalcanti AN, Azevedo JF, Mathias P. Harmonização Orofacial: a Odontologia além do sorriso. Rev Bahiana Odontol. 2017; 8(2): 35-6.
- 2. Rosa KSS, Rodrigues LS, Giansante JRL.

- Aspectos éticos e legais do uso de toxina botulínica e preenchedores faciais na Odontologia [dissertation]. Aracajú (SE): Tiradentes University; 2017.
- Narvai PC. Recursos humanos para promoção de saúde bucal: um olhar no início do século XXI. Promoção de saúde bucal: paradigma, ciência, humanização. 2003; 3: 475-94.
- Jesus RF, Vieira PGM, Vieira EAC. O uso da Toxina Botulínica e materiais preenchedores na Harmonização Facial. VIII Encontro de Iniciação Científica da Universidade Vale do Rio Verde. 2016; Belo Horizonte, MG.
- Reis AB, Moreira MJF, Vianna ACF. Prontuário odontológico na harmonização orofacial e o risco iminente de processo cível. Anais da Jornada de Odontologia da Faculdade Patos de Minas. 2019; Patos de Minas, MG.
- 6. Bichectomia: o que é? Quais os prós e os contras? [Internet]. APCD Jornal. 2016. [Cited: February 07, 2019]. Available from: http://www.apcdsaude.org.br/detNot.asp?id =1644&moda=053&contexto=&area=015&evento
- 7. Jacometti V, Coltri MV, Santos TS, Silva RHA. Bichectomy procedure: a discussion on the ethical and legal aspects in odontology. Rev Bras Cir Plast. 2017; 32(4): 616-23.
- Pereira JGD, Recalde TSF, Costa PB, Jacometti V, Magalhães LV, Silva RHA da. Forensic odontology education: from undergraduate to PhD - a Brazilian experience. J Forensic Odontostomatol. 2017; 2(35): 149-56.
- Oliveira CML, Bezerra ESM, Lobato IH, Nobre RM, Machado SM, Barroso RF. Processes against dentists at "Conselho Regional de Odontologia - seção Pará" in the

- last seven years. Saúde, Ética & Justiça. 2010; 15(2): 46-52.
- Amorim KPC, Alves MSCF, Germano RM, Costa ICC. The construction of knowledge in Dentistry: the scientific production of three Brazilian magazines from 1990 to 2004. Interface - Comum, Saúde, Educ. 2007; 11(21): 9-23.
- 11. Brasil. Resolução CNE/CES nº 3, de 19 de fevereiro de 2002. Institui Diretrizes Curriculares Nacionais do Curso de Graduação em Odontologia. Conselho Nacional de Educação. [Cited: March 13, 2019]. Available from: http://portal.mec.gov.br/cne/arquivos/pdf/CES032002.p df.
- 12. Brasil. Resolução CNS nº 466, de 12 de dezembro de 2012. Conselho Nacional de Saúde. [Cited: March 13, 2019]. Available from: http://bvsms.saude.gov.br/bvs/saudelegis/cns/2013/res0466_12_12_2012.html.
- 13. Conselho Federal de Odontologia. Resolução CFO-198, de 29 de janeiro de 2019. Reconhece a Harmonização Orofacial como especialidade odontológica, e dá outras providências. [Cited: March 13, 2019]. Available from: http://cfo.org.br/website/wpcontent/uploads/2019/01/Resolu %C3%A7%C3%A3o-CFO-198-2019.pdf.
- 14. Conselho Federal de Odontologia. Resolução CFO-100, de 18 de março de 2010. Baixa normas para a prática da Cirurgia e Traumatologia Bucomaxilofaciais, por cirurgiões-dentistas. [Cited: March 13, 2019]. Available from: http://www.crosp.org.br/uploads/paginas/33 2908a12e5f1cca55dc48230fd75e55.pdf.
- 15. Conselho Federal de Odontologia. Resolução CFO-112, de 02 de setembro de 2011. Baixa normas sobre a utilização do uso da toxina botulínica e ácido hialurônico. [Cited: March 13, 2019]. Available from:

- http://cromg.org.br/arquivos/Resolucao%20 CFO112-2011.pdf.
- 16. Conselho Federal de Odontologia. Resolução CFO-145, de 27 de março de 2014. Altera redação de artigos da Resolução CFO-112/2011. [Cited: March 13, 2019]. Available from: http://www.croma.org.br/normas/F/federal-2014_104.pdf.
- 17. Conselho Federal de Odontologia. Resolução CFO-146, de 16 de abril de 2014. Altera o artigo 2º da Resolução CFO-112/2011. [Cited: March 13, 2019]. Available from: http://www.croma.org.br/normas/F/federal_2014_105.pdf.
- 18. Conselho Federal Odontologia. de Resolução CFO-176, de 06 de setembro de Revoga Resoluções CFOas 112/2011, 145/2014 e 146/2014, referentes à botulínica utilização da toxina preenchedores faciais, e aprova outra em substituição. [Cited: March 13, 2019]. Available from: www.cromt. org.br/legislacao/download/19
- 19. Brasil. Lei nº 5.081, de 24 de agosto de 1966. Regula o Exercício da Odontologia [Cited: March 13, 2019]. Available from: http://www.planalto.gov.br/ccivil_03/leis/L 5081.htm.
- 20. Conselho Federal de Odontologia. Resolução CFO-63/2012. Consolidação das Normas para Procedimentos nos Conselhos de Odontologia. [Cited: March 13, 2019]. Available from: http://transparencia.cfo.org.br/wp-content/uploads/2018/03/consolidacao.pdf.
- 21. Justiça suspende a Resolução CFO-176/2016: está vedada a utilização da toxina botulínica e dos preenchedores faciais por cirurgiões-dentistas, para fins exclusivamente estéticos [Internet]. CRO-MG. 2017. [Cited: March 13, 2019].

- Available from: http://www.crogo.
 org.br/index.php/noticias/1060-justicasuspende-a-resolucao-cfo-176-2016-estavedada-a-utilizacao-da-toxina-botulinica-edos-preenchedores-facias-por-cirurgioesdentistas-para-fins-exclusivamenteesteticos.
- 22. Nota de esclarecimento: Resolução nº 176/2016 volta a ter validade do território nacional [Internet]. ABOL. 2018. [Cited: March 13, 2019]. Available from: https://contatoabol.wixsite.com/abol/single-post/2018/11/02/Nota-de-esclarecimento-Resolu%C3%A7%C3%A3o-n%C2%BA-1762016-volta-a-ter-validade-do-territ%C3%B3rio-nacional.
- 23. Lino-Junior HL, Gabriel M, Daruge-Junior E, Silva RHA. Ensino de Odontologia Legal no Brasil: um convite à reflexão. Rev ABENO. 2015; 15(2): 38-46.
- 24. Santos VLC, Santos JE. The digital social networks and their influence on society and contemporary education. HOLOS. 2014; 6: 307-28.

- 25. Martorell LB, Nascimento WF, Prado MM, Silva RF, Mendes SDSC. The Use of Images in Social Networks and the Respect for the Dental Patient. J Health Sci. 2016; 18(2): 104-10.
- 26. Henry RK, Molnar A, Henry JC. A survey of US Dental Practices' use of Social Media. JCDP. 2012; 13(2): 137-41.
- 27. Miranda GE, Radicchi R, Júnior ED. Analysis of websites of dentists regarding the ethical and legal issues relating to advertising and propaganda. Rev Bras Odontol. 2013; 70(1): 80-4.
- 28. Spin MD. Analysis of websites of dentists regarding the ethical and legal issues relating to advertising and propaganda [dissertation]. Bauru (SP): University of São Paulo; 2016.

Correspondence to:

Ricardo Henrique Alves da Silva e-mail: <u>ricardohenrique@usp.br</u> Av. do Café, s/n - Campus da USP Ribeirão Preto 14040-904 Ribeirão Preto/SP Brazil