

Cristina Berger Fadel¹
Karina Tonini dos Santos Pacheco²
Raquel Baroni de Carvalho²
Danielle Bordin¹
Mariana Dias Flor Ribeiro²

Influência da formação acadêmica na compreensão do processo saúde-doença e no valor atribuído aos dentes

RESUMO | Objetivo: *Compreender os significados atribuídos ao binômio saúde-doença e analisar o valor atribuído aos aspectos gerais da saúde bucal, considerando o impacto da perda dentária na vida de acadêmicos universitários, constituiu-se escopo deste estudo multicêntrico.*
Métodos: *Estudo transversal, quali-quantitativo, com questionário semiestruturado. Para análise quantitativa utilizou-se os testes qui-quadrado e exato de Fisher, e para qualitativa, a técnica da Análise de Conteúdo. Os sujeitos foram formandos de Odontologia (n=100) e Engenharia Civil (n=74) de duas universidades públicas brasileiras. A coleta ocorreu através de questionário estruturado auto-aplicável.*
Resultados: *A maioria dos indivíduos revelou que saúde é percebida como análoga ao bem-estar. Entretanto, com relação à articulação causal exposta entre determinantes sociais e saúde, para a maioria dos fatores relacionados, e ainda quanto ao motivo da procura por um profissional da saúde, evidenciou-se diferença significativa entre os cursos: os formandos de Odontologia expuseram, com maior frequência, o modelo da determinação social da saúde e asseguraram uma postura proativa de cuidado, quando comparados aos egressos da Engenharia. A influência de um dente mal posicionado na boca sobre a qualidade de vida dos estudantes, e o tratamento de eleição frente à suposta perda de um elemento dentário posterior, também mostrou importante discrepância.*
Conclusão: *Sugere-se que formação acadêmica na área da saúde parece ter influência positiva sobre o entendimento dos determinantes sociais do processo saúde-doença, os cuidados reservados à saúde e a valorização dental, entretanto, com relação às dimensões conceituais expostas, o domínio científico pareceu pouco influenciar na aceção dos estudantes.*

Palavras-chave | Saúde-doença; Saúde bucal; Valores sociais.

Influence of academic training on the understanding of the health-disease process and on the value assigned to the teeth

ABSTRACT | Objective: This multicenter study aimed to understand the meanings assigned to the health-disease binomial and analyze the value assigned to broad aspects of oral health and teeth, considering the impact of tooth loss, on university students with different backgrounds. **Methods:** A cross-sectional, quali-quantitative study was conducted using a semi-structured questionnaire. Quantitative analysis was performed by the chi-square and Fisher exact test, and the techniques of content analysis were used for qualitative analysis. The sample included senior students of Dentistry (n=100) and Civil Engineering (n=74) of two Brazilian public universities. **Results:** According to most individuals, health is perceived as analogue to welfare. However, with respect to the causal relationship between social determinants and health, for most related factors, as well as concerning the reason to search for a health professional, there was significant difference between courses: Dentistry graduates were more often exposed to the model of social determination of health that ensured a proactive care, when compared to Engineering graduates. The influence of a malpositioned tooth in the mouth on the quality of life of students and the treatment of choice for the supposed loss of a posterior tooth also showed significant discrepancy. **Conclusion:** These findings suggest that academic training in the health area seems to have a positive influence on the understanding of social determinants of the health-disease process, healthcare measures and value assigned to the teeth; however, in relation to conceptual dimensions, the scientific domain seemed to have little influence on the opinion of students.

Keywords | Health-disease; Oral health; Social values.

¹Universidade Estadual de Ponta Grossa, Ponta Grossa/PR, Brasil.

²Universidade Federal do Espírito Santo, Vitória/ES, Brasil.

INTRODUCTION |

Since ancient times, the history of health and disease has been a report of meanings on nature functions and body structure, as well as on body-spirit and person-environment relationships. The importance to know the individuals' concepts on health and disease has been acknowledged by theoretical and practical implications, especially in the fields of health and education, considering the involvement of these meanings on individual and collective health practices and their reflex in healthy behaviors.

Studies on the health-disease process present varied results over time, yielding different theses on this aspect. Knowledge on the health-disease process is associated with conceptions that explain the world, habits, values and beliefs of the respective society, reflecting the predominant thought in a given historical moment¹. However, the evolution of concepts and practice on health and disease should consider some paradigms beginning from the religious magic view in Antiquity up to the biomedical model, still deeply rooted and opposed to the current and desirable multidimensionality of health². Therefore, the different meanings of health and disease according to time and culture evidence the relevance of studies to understand these perceptions in different populations.

Also, considering that the self-image of individuals, which is more adopted than constructed, influences their insertion and integration in society³, any rupture to the human nuclei may cause significant implications in their daily lives. Even though the esthetic construction of subjects is subjective and changeable, maximization of the esthetic phenomenon is currently observed. The body esthetics emphasizes the appearance, observed from a group logics that includes different social groups or, as stated by the author, different urban tribes. Thus, this perspective has a particular importance when applied to oral health and young individuals.

Within this context, further analysis is necessary on the subjectivity of the health dimension. Based on the multidimensionality, it is understood that health is composed of both social and individual processes that are established in this experience. Therefore, since health is not restricted to a specific field and allows different conceptual productions, the standpoints of different fields of knowledge are relevant to enrich the theoretical support.

Based on these considerations, this study aimed to understand the meanings assigned to the health-disease binomial and analyze the value assigned to broad aspects of oral health and teeth, considering the impact of tooth loss, on university students with different backgrounds.

METHODS |

All participants were informed on the study objectives and signed an informed consent form. The study was approved by the Institutional Review Boards of State University of Ponta Grossa, under protocol COEP n. 65/11, and Federal University of Espírito Santo, protocol CEP n. 109/11.

This exploratory cross-sectional study comprised a quantitative approach, using a semi-structured questionnaire adapted from a similar instrument used by Garbin *et al.*⁴.

The study population was composed of all senior students of the courses of Dentistry and Civil Engineering at State University of Ponta Grossa – UEPG (n= 52 and 31, respectively) and Federal University of Espírito Santo - UFES (n= 57 and 47, respectively), graduating in the year 2011.

The questionnaire was pre-tested on senior students one year before the study, of both institutions. The questions investigated aspects related to the academic life, referring to the health-disease process, value assigned to the teeth and the impact of a supposed tooth loss in their lives. This stage was important to adjust the instrument text, vocabulary and sensitivity of responses. After this test, the senior students in the sample were interviewed collectively in the classroom by two investigators, one from each institution, trained to collect the data and elucidate possible doubts.

Data of closed questions were analyzed by descriptive and inferential statistics. Initially, a bivariate analysis was applied to assess the distribution of frequencies of variables. The association between variables was analyzed by the chi-square test or Fisher exact test, when the conditions for the chi-square test were not met. The results were considered statistically significant at $p < 0.05$. Data were digitized on an Excel worksheet (Microsoft Corp., United States), and statistical calculations were performed on the software Epi Info 3.5.1 (Centers for Disease Control and Prevention, Atlanta, United States).

The responses to the open question “*What do you understand by health?*” were grouped and categorized and then analyzed by descriptive and inferential statistics.

RESULTS |

The study was conducted on 174 students, being 57 and 47 studying Dentistry and Civil Engineering at UFES, respectively, and 43 and 27 studying Dentistry and Civil Engineering at UEPG, respectively. Sample loss occurred by absence of students when the questionnaire was applied or by refusal to participate. The mean age of students was 23.15 years (standard deviation 1.92), ranging from 21 to 34 years. Among them, 81 (46.6%) were males and 93 (53.4%) were females.

The first question presented to the students referred to their understanding on the concept of health. Considering the individuality of responses, four thematic domains arose from this question (Table 1):

- **(1) Health as absence of disease:** “*The person does not present any disease, feels well and has a healthy organism.*” Civil Engineering student, 27 years.

- **(2) Standardized concept of health:** “*Physical, psychological and social welfare, as well as absence of disease.*” Dentistry student, 23 years.

- **(3) Expanded view of health:** “*It is a biopsychosocial welfare, which influences the quality of life and is influenced by external areas of the human body as basic sanitation, leisure, housing, etc.*” Dentistry student, 21 years.

- **(4) others:** “*Physical state of the body.*” Civil Engineering student, 23 years.

Table 1 - Percent and number distribution of students according to health perception, UEPG/PR; UFES/ES, 2011

Variables	DENTISTRY (UFES/UEPG)		ENGINEERING (UFES/UEPG)		p-value
	N	%	N	%	
Health as absence of disease	6	6	12	16.2	<0.05*
Standardized concept of health	71	71	29	39.2	<0.05*
Expanded view of health	21	21	19	25.7	>0.05*
Others	2	2	14	18.9	<0.05*
Total	100	100	74	100	

*qui-square test.

Table 2 presents the distribution of students according to factors that lead them to attend a health professional. Statistically significant difference was observed between courses in the responses ‘routine consultation’ (significant for Dentistry) and ‘severe pain or discomfort, complicating the daily activities’ (significant for Engineering). In this question, the respondents could indicate more than one option.

Table 2 - Percent and number distribution of students according to factors leading them to attend a health professional, UEPG/PR; UFES/ES, 2011

Variables	DENTISTRY (UFES/UEPG)		ENGINEERING (UFES/UEPG)		p-value
	N	%	N	%	
Elucidation of doubts	20	15.5	9	8.8	>0.05*
Routine consultation	60	46.5	28	27.2	<0.05*
Mild pain or discomfort, even without damage to daily activities	27	20.9	26	25.2	<0.05*
Severe pain or discomfort, complicating the daily activities	22	17.1	36	34.9	<0.05*
Others	0	-	4	3.9	-
Total	129	100	103	100	

*qui-square test.

The perception of students on the determinants of health and comparison between students of different courses is presented in Table 3. Concerning the health and disease process, the students were asked if they believe that dental caries, gingivitis and absence of teeth affect their general health. Only two Civil Engineering students (2.7%) responded ‘no’.

Table 3 - Percent and number distribution of factors related to health, according to reports of students, UEPG/PR; UFES/ES, 2011

Variables	DENTISTRY (UFES/UEPG)		ENGINEERING (UFES/UEPG)		p-value
	N	%	N	%	
Diet					
Yes	98	98.0	68	91.9	>0.05*
No	2	2.0	6	8.1	
Culture					
Yes	81	81.0	38	51.3	<0.05**
No	19	19.0	36	48.7	
Education					
Yes	93	93.0	46	62.2	<0.05**
No	7	7.0	28	37.8	
Personal hygiene					
Yes	98	98.0	72	97.3	>0.05*
No	2	2.0	2	2.7	
Hospital					
Yes	81	81.0	51	68.9	<0.05**
No	19	19.0	23	31.1	
Information					
Yes	89	89.0	55	74.3	<0.05**
No	11	11.0	19	25.7	
Leisure					
Yes	93	93.0	40	54.0	<0.05**
No	7	7.0	34	46.0	
Physician/dentist/psychologist					
Yes	94	94.0	61	82.4	<0.05*
No	6	6.0	13	17.6	
Housing					
Yes	92	92.0	48	64.9	<0.05**
No	8	8.0	26	35.1	
Sports practice					
Yes	92	92.0	59	79.7	<0.05**
No	8	8.0	15	20.3	
Basic sanitation					
Yes	97	97.0	68	91.9	>0.05*
No	3	3.0	6	8.1	
Income					
Yes	100	100	72	97.3	-
No	-	-	2	2.7	
Total	100	100	74	100	

*Fisher exact test.
**qui-square test.

Tables 4 and 5 present the value assigned to the teeth and the impact of a supposed tooth loss in their lives.

Table 4 - Percent and number distribution of questions on the value assigned to teeth and the impact of a supposed tooth loss in life, according to the standpoint of students, UEPG/PR; UFES/ES, 2011

Questions	DENTISTRY (UFES/UEPG)		ENGINEERING (UFES/UEPG)		p-value
	N	%	N	%	
Question 5^a					
No or little influence	43	43.0	44	59.4	<0.05*
Great influence	57	57.0	30	40.6	
Question 6^b					
Yes	90	90.0	64	86.5	>0.05*
No	10	10.0	10	13.5	
Question 8^c					
No or little influence	-	-	2	2.7	-
Great influence	100	100	72	97.3	
Total	100	100	74	100	

^aHow would a malpositioned (slightly misaligned) tooth in your mouth influence your quality of life?
^bWould you undergo a tooth bleaching treatment?
^cHow would the loss of an anterior tooth – “front tooth in the mouth” –, either accidental or indicated by a dentist, influence your life?
*qui-square test.

Table 5 - Percent and number distribution of students according to the treatment of choice for a missing posterior tooth, UEPG/PR; UFES/ES, 2011

Variables	DENTISTRY (UFES/UEPG)		ENGINEERING (UFES/UEPG)		p-value
	N	%	N	%	
None, I would easily adapt to the new situation	2	2.0	7	9.4	>0,05*
I would immediately search for a dental prosthesis or implant	88	88.0	37	50.0	<0.05**
I would search for a dental prosthesis or implant if I felt difficulty to adapt to the new situation with time	10	10.0	30	40.6	<0.05**
Total	100	100	74	100	

*Fisher exact test.
**qui-square test.

DISCUSSION |

This study evaluated and compared the perception on health and disease and the importance assigned to oral health among students with and without training in health sciences, herein represented by senior students of Dentistry and Civil Engineering. According to Sharda and Shetty⁵, professional students may be more easily investigated if the study aims to evaluate the awareness and practice in oral health among young adults.

The first question referred to the students' understanding on the concept of health. According to Reis and Marcelo⁶, concepts of health and disease are abstract and difficult to define, because they refer to complex and multidimensional aspects, which are well delineated and whose meanings vary according to the individual experiences. However, in the last years, many evidences have related psychosocial factors and diseases².

Most responses in both groups revealed that health is often understood as analogue to welfare (Table 1), similar to the reports of Pacheco-Filho and Garbin⁷. Doshi *et al.*⁸ stated that, since the term 'health' was defined by the World Health Organization in 1948, resources all over the world have attempted to promote the awareness of individuals to change the existing disease-centered approach, highlighting that healthcare measures should be focused on health promotion and the concept of welfare.

Conversely, some students understand health simply as the absence of disease or pain, which indicates a partial and incomplete perception of health. According to Rodrigues-Neto⁹, health does not have only an organic meaning, i.e. of balance, yet it is the result of quality of life of a population and policies adopted by the State.

The article 196 of the current Brazilian Constitution mentions that the State should adopt public policies to allow the economic and social development, reduction of social inequalities, elimination of factors that negatively affect the population health (as poor education, unemployment, low income and other determinants of poor quality of life, which influence the health conditions) and increase the risk of disease. Thus, health is considered in a complex process involving several factors that may favor or prevent a health status.

This study revealed that only 22.9% of all students presented an expanded view of health with more representative

and contemporary responses, besides exploiting the term 'quality of life'.

Carvalho *et al.*² reports that healthcare had a traditional approach focused on the biological determinants of diseases. With the increasingly clear perception and exploration of the actual health model, there is evidence of a new paradigm that considers the multidimensionality, including subjective information on the health-disease process. Therefore, in agreement with Abreu *et al.*¹⁰ the most current concepts of health and disease include their associations with the quality of life.

Concerning the search for health professionals (Table 2), the academic population of Dentistry attends health services more frequently and does not wait for a disease for such, like most of the Engineering population. This reveals a greater perception and value assigned to health compared to the academic population of Engineering.

Padrol *et al.*¹¹ indicate that pain is the main reason to search for hospital care. Also, the study of Davoglio *et al.*¹² revealed that the main causes to search for oral healthcare were restorative, such as toothache, accident, oral trauma, dental caries, gingival bleeding or interest in retreatment.

The causal articulation reported by students between social determinants and their health was also analyzed (Table 3). There was statistically significant difference between courses for most factors. These findings may be explained because dental students are instructed on the wide causes that lead to the cure and disease processes in health during their course, including the related elements and their relevance, promoting greater knowledge on this subject.

According to Sant'Anna *et al.*¹³, the health and its determinants must be weighed in social, cultural and economic dimensions, which are manifested in the environment of the individual and its collectiveness. Therefore, it is important to create actions to encourage health education in the entire population, regardless of age, profession, income or any factor, because each person educated and motivated in health becomes a diffusor of health knowledge. Also, this is a principle of justice that allows the universality and integrality of healthcare.

Geib¹⁴ mentions that economic, cultural and environmental conditions also include supranational determinants, as the globalization process. These macrodeterminants act

on all others, because the standard of living reached by specific groups determines the choice of housing, work, social interactions and dietary habits, with repercussions on health.

Fortunately, nearly all students investigated believe that oral diseases affect the general health. These findings corroborate the study of Tesch *et al.*¹⁵, who state that oral health, besides integrating the general health, is fundamental for the quality of life.

McGrath and Bedi¹⁶ reported that the importance of oral health for the quality of life is perceived by individuals in a variety of forms in physical, social and psychological domains. The most relevant factors interfering with the quality of life are considered the ability to feed, as a positive factor, and the occurrence of pain and discomfort, as a negative factor.

When the students were questioned on how the presence of a malpositioned tooth in the oral cavity would influence their quality of life, most students of Dentistry stated it would have a great influence, while in the group of Engineering, most reported that this situation would have little or no influence (Table 4).

Shah *et al.*¹⁷ demonstrated that malocclusion may have a clear impact on the quality of life, corroborating the report of Traebert and Peres¹⁸. In general, these findings indicate the importance to investigate the relationship between clearly determined malocclusion and the self-perception of patients.

The scientific findings addressed so far indicate that malocclusion may affect the quality of life because it may present negative social implications¹⁹, which in turn may affect the self-esteem and occasionally even the behavior²⁰.

However, the attitudes and perceptions in relation to the dental appearance differ between populations and between individuals in a population²¹. This study demonstrated that students of Dentistry present a higher level of perception and assign greater importance to tooth alignment within standards considered as 'perfect', compared to students of Engineering. This might be related to the greater emphasis to the teeth and their esthetic aspects addressed during the academic experience of Dentistry, while students of Engineering did not experience or explore these questions in their education environment.

The majority of respondents replied that they would undergo tooth bleaching (Table 4). This result indicates similarity between subjects for this esthetic procedure, which agrees with previous studies suggesting that most individuals are unsatisfied with their own tooth shade^{22,23}.

Samorodnitzky-Naveh, *et al.*²² stated that most individuals wish to have pearl white teeth and that tooth shade is among the most important factors determining the satisfaction with the dental appearance.

Among students with positive responses, most justified their answers for esthetic reasons and related with welfare, including 36 (30%) males and 72 (60%) females. This result agrees with the studies of Tim-OO *et al.*²¹ and Vallittu *et al.*²⁰ (1996), in which female patients presented greater concern with the dental appearance compared to males. Hassel *et al.*²⁴ also stated that women are more critical in judging their dental appearance.

According to Kershaw *et al.*²⁵, white teeth are positively related with high indices of social competence, intellectual capacity, psychological adjustment and relationship status. Also, the patients relate dental esthetic treatments to better quality of life and enhanced psychological status²⁶.

Even though the subjects in this study attend different courses and live different situations and experiences in relation to their superior education, 98.9% responded that the loss of an anterior tooth would have a great influence on their quality of life (Table 4). This is due to the strict relationship between anterior teeth and dental esthetics. Oosterhaven *et al.*²⁶ indicated that absence of anterior teeth causes a 'very bad appearance' and stated that the opinion on losing teeth that affect the dental appearance differed little between dentists and the general population. Other studies also indicate that the absence of anterior teeth usually leads to dissatisfaction with the dental appearance²⁷. According to Akarslan *et al.*²³, in the last 20 years, the esthetics became as important as the structural and biological function in the dental practice.

However, when senior students were asked on the extraction of a posterior tooth, though without visible esthetic involvement, there was statistically significant difference between groups for the treatment of choice (Table 5). This once again evidences that students of Dentistry assign greater importance to the teeth, this time with the expected functional value assigned to the tooth.

Gerritsen *et al.*²⁸ indicated that the possible impact of tooth absence in the posterior region depends on their visibility during smile and speech. The result of their study indicated that the absence of anterior teeth causes more complaints than posterior maxillary teeth.

The gender differences should be considered between senior students in this study as a limitation factor for the present results, especially concerning questions involving the esthetic perception. While the Engineering course presented predominance of males (62.2%), Dentistry had predominance of females (65%), which agrees with the tendency of female predominance in Dentistry described by several authors^{29,30}.

In general, female students presented greater knowledge on oral health, attitude and behavior compared to male students⁶. Carneiro *et al.*³⁰ reported studies that evidenced positive association between females and the impact on the quality of life. In those studies, the females reported higher number of negative events, greater dissatisfaction with appearance, greater perception of positive or negative oral impacts on the quality of life, greater perception on tissue damage or oral diseases and greater social and psychological dimension.

Gerritsen *et al.*²⁸ also mentioned that females are more critical about their esthetics than males for less visible sites, which may also influence the results and the association with a female predominance in Dentistry.

CONCLUSION |

Academic training in the health area seemed to have a positive influence on the understanding of determinants of the health-disease process, as well as the search for preventive medical care rather than curative health practices. However, the academic training did not seem to influence the concepts of health. Also, concerning the value assigned to the teeth, there were divergent opinions: future dental professionals assigned greater value to dimensions of tooth function and esthetics, while the esthetic involvement was the most significant for Civil Engineering graduates.

REFERENCES |

1. Maranhão DG. O processo saúde-doença e os cuidados com a saúde na perspectiva dos educadores infantis. *Cad Saude Publica*. 2000; 16(4):1143-8.
2. Carvalho RWF, Santos CN, Oliveira CC, Gonçalves SR, Novais SM, Pereira MA. Aspectos psicossociais dos adolescentes de Aracaju (SE) relacionados à percepção de saúde bucal. *Cien Saude Colet*. 2011; 16(1):1621-8.
3. Feitosa DAS, Dantas DCRE, Guênes GMT, Ribeiro AIAM, Cavalcanti, AL, Braz R. Percepção de pacientes e acadêmicos de odontologia sobre estética facial e dentária. *RFO*. 2009; 14(1):23-6.
4. Garbin CAS, Fadel CB, Garbin AJI, Saliba NA. The teeth's value: a study with dentistry and veterinary medicine academics. *Rev Odontol UNESP*. 2009; 14(1):23-6.
5. Sharda AJ, Shetty S. A comparative study of oral health knowledge, attitude and behaviour of non-medical, para-medical and medical students in Udaipur city, Rajasthan, India. *Int J Dent Hygiene*. 2010; 8:101-9.
6. Reis SCGB, Marcelo VM. Saúde bucal na velhice: percepção dos idosos, Goiânia, 2005. *Cien Saude Colet* 2006; 11(1):191-199.
7. Pacheco Filho AC, Garbin CAS. A saúde e seu direito sob o olhar do usuário. *Rev Bras de Pesq em Saude*. 2010; 12(3):39-45.
8. Doshi D, Baldava P, Anup N, Sequeira PS. A comparative evaluation of self-reported oral hygiene practices among Medical and Engineering University students with access to health promotive dental care. *J Contemp Dent Pract*. 2007; 8(1):1-8.
9. Rodrigues Neto E. Saúde: promessas e limites da constituição. Rio de Janeiro: FioCruz; 2003. 264 p.
10. Abreu MHNG, Pordeus IA, Modena CM. Representações sociais de saúde bucal entre mães no meio rural de Itaúna (MG), 2002. *Cien Saude Colet*. 2005; 10(1):245-9.
11. Padrol A, Pérez-Esquiva M, Olana M, Francesh A, Tomas I, Rull M. Estudio de la prevalencia Del dolor en pacientes hospitalizados. *Rev Soc Esp Dolor*. 2001; 8(8):555-1.

12. Davoglio RS, Aerts DR, Abegg C, Freddo SL, Monteiro L. Fatores associados a hábitos de saúde bucal e utilização de serviços odontológicos entre adolescentes. *Cad Saúde Pública*. 2009; 25(3):655-67.
13. Sant'Anna CF, Cezar-Vaz MR, Cardoso LS, Erdmann AL, Soares JF. Determinantes Sociais de Saúde: características da comunidade e trabalho das enfermeiras na saúde da família. *Rev Gaúcha Enferm*. 2010; 31(1):92-9.
14. Geib LTC. Determinantes sociais da saúde do idoso. *Cien Saude Colet*. 2012; 1(17):123-33.
15. Tesch FC, De Oliveira BH, Leão A. Mensuração do impacto dos problemas bucais sobre a qualidade de vida de crianças: aspectos conceituais e metodológicos. *Cad Saude Publica*. 2007; 23(11):2555-4.
16. Mcgrath C, Bedi R. A national study of the importance of oral health to life quality to inform scales of oral health related quality of life. *Qual Life Res* 2004; 13:813-8.
17. Shah ND, Arruda A, Inglehart MR. Pediatric patients' orthodontic treatment need, quality of life, and smiling patterns - an analysis of patient, parent, and provider responses. *J Pub Health Dentistry*. 2011; 71(1):62-0.
18. Traebert ES, Peres MA. Do malocclusions affect the individual's oral health-related quality of life? *Oral Health Prev Dent*. 2007; 5:3-12.
19. De Paula Júnior DF, Santos NC, da Silva ET, Nunes MF, Leles CR. Psychosocial impact of dental esthetics on quality of life in adolescents – association with malocclusion, self-image, and oral health-related issues. *Angle Orthod*. 2009; 79(6):1188-3.
20. Vallittu, P Vallittu A, Lassila V. Dental aesthetics – a survey of attitudes in different groups of patients. *J Dentistry*. 1996; 24(5):335-8.
21. Tim-OO MM, Saddki N, Hassan N. Factors influencing patient satisfaction with dental appearance and treatments they desire to improve aesthetics. *BMC Oral Health*. 2011; 11(6):1-8.
22. Samorodnitzky-Naveh G, Geiger S, Levin L. Patients' satisfaction with dental esthetics. *J American Dent Assoc*. 2007; 138(6):805-8.
23. Akarslan ZZ, Sadik B, Erten H, Karabulut E. Dental esthetic satisfaction, received and desired dental treatments for improvement of esthetics. *Indian J Dent Research*. 2009; 20(2):195-0.
24. Hassel AJ, Wegener I, Rolko C, Nitschke I. Self-rating of satisfaction with dental appearance in an elderly German population. *Internat Dent J*. 2008; 58(2):98-2.
25. Kershaw S, Newton J, Williams D. The influence of tooth colour on the perceptions of personal characteristics among female dental patients: comparisons of unmodified, decayed and 'whitened' teeth. *British Dental J*. 2008; 204(9):256-7.
26. Oosterhaven SP, Westert GP, Schaub RM. Perception and significance of dental appearance: The case of missing teeth. *Community Dent Oral Epidemiol*. 1989; 17:123-6.
27. Bengmark D, Nilner M, Rohlin M. Graduates' characteristics and professional situation: a follow-up of five classes graduated from the Malmö model. *Swed Dent J*. 2007; 31(3):129-5.
28. Gerritsen AE, Sarita P, Witter DJ, Kreulen CM, Mulder J, Creugers NH. Esthetic perception of missing teeth among a group of Tanzanian adults. *The Int J Prosthodont*. 2008; 21(2):169-3.
29. Berthelsen H, Hjalms K, Söderfeldt B. Perceived social support in relation to work among Danish general dental practitioners in private practices. *Eur J Oral Sci*. 2008; 116(2):157-3.
30. Carneiro FC, Souza-Santos R, Rebelo MAB. Quality of life related to oral health: contribution from social factors. *Cien Saude Colet*. 2011; 16(Sup.1):1007-15.

Correspondência para/Reprint request to:

Cristina Berger Fadel

Rua Dr. Paula Xavier, 909, Ponta Grossa/PR, Brasil

CEP: 84010-270

Tel.: (42) 3220-3104

E-mail: cbfadel@gmail.com

Submetido em: 13/08/2014

Aceito em: 27/03/2015