

Perception on general and oral health in a comparative analysis between graduates from Dentistry, Nursing, Medicine and Pharmacy

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ABSTRACT

Objective: to understand the meanings of health and disease in the context of general and oral health, as well as to analyze the impact of different academic education.

Material and Methods: to this end, an exploratory study was held with a population of graduates in the courses of Dentistry (n=25), Nursing (n=19), Medicine (n=24) and Pharmacy (n=11) of the Federal University of Espírito Santo (UFES). The information was collected through a semi-structured questionnaire applied by trained interviewers. Data were analyzed and expressed through descriptive, relative and absolute values. **Results:** a total of 75.94% of graduates in the four courses qualified health according to the concept standardized by the World Health Organization. Also, most graduates in Dentistry and Medicine stated having a higher degree of knowledge and appreciation in general and oral health when compared to graduates in Nursing and Pharmacy. However, these four populations present a similar definition for the term "health", recognize oral health as a component of general health, value dental aesthetics and associate loss of anterior teeth with decrease in quality of life. **Conclusion:** graduates in courses in the health care area in many aspects present a similar vision regarding the health-disease process and appreciate the dental aesthetics.

Keywords: Health; Oral health; Health perception; Social values.

Introduction

Cultural values influence strongly the concepts of health and disease.¹ Over time, these concepts were enhanced and with it, a greater biopsychosocial understanding of the disease started to emerge.² Besides, the latest definitions of the health-disease process associate the latter with quality of life.^{3,4}

According to the period, studies show several forms of understanding the health-disease process, enabling the creation of different models to explain it. Exceeding the natural understanding of space only as an inert and passive environment, the sight of a socially-constructed geographical space has been associated as an essential factor in understanding the health-disease process, both as recipient and enabler of social processes.⁵ Previously, health care was traditionally focused on the biological determinants of diseases; however, the multidimensionality of health – which includes the subjective information of the health-disease process – has been considered because it expands and meets the limits of the previous model.⁶

In this sense, the health-disease process is understood as the condensation of several determining factors, which are intrinsically linked to the social, economic, political and cultural context of the population studied.⁷

In the specific field of oral health, intentional dental modifications keep offering new definitive body changes due to the endless search for an aesthetically pleasing smile with

clear and aligned teeth⁸ to increase the self-esteem and achieve a basic human need of fitting into society.⁹ In addition, a known factor that directly involves health perception is the educational level, which has been reported as a protective factor in relation to the individual's general health.¹⁰

Thus, considering that teeth are an important stage for the human psychic organization, their loss may impact on subjects' emotional life. In this sense, it is crucial to understand how individuals recognize/perceive their oral health condition because this perception tends to condition their behavior and importance given to oral health.⁶

Given this, the objective of this study was to understand the meanings attributed to health and disease along with graduating student in Dentistry, Nursing, Medicine and Pharmacy at the Federal University of Espírito Santo (UFES), as well as to assess the value assigned to the teeth and the impact of dental loss on their life.

Material and Methods

This study had as subjects 25 graduating students in Dentistry (total n=31), 19 in Nursing (total n=25), 24 in Medicine (total n=40) and 11 in Pharmacy (total n=15), totaling 79 students graduated in the second semester of 2012; configuring a convenience sample. Only those who previously consented to the study were part of the sample. No social variable of any nature (age, marital status, socioeconomic condition, color, ethnicity, educational level, etc.) was es-

tablished as inclusion or exclusion criteria for this research. A study with quantitative methodology was proposed. It was held by application of a semi-structured questionnaire adapted from Garbin *et al.*¹¹ and co-validated by Fadel *et al.*¹² as an instrument to collect information.

This study was approved by the Research Ethics Committee of UFES, under opinion no. 109/11. The questionnaire was pre-tested and applied to academics in 2012, the last year of the aforementioned higher education courses. During the pilot study, researchers aimed to assess the understanding of the "test sample" regarding the text, sensitivity of responses and vocabulary used. The pilot study also served as an important mean for interviewers' training. The application was held by two researchers, trained to collect data and solve doubts, without influencing the answers. The questions aimed at investigating topics related to the academic vision, especially in relation to what concerns the health-disease process, the value assigned by graduating students to the teeth and the impact on their lives in the face of an alleged dental loss.

The questionnaire was applied in collective mode in the classroom at a time considered appropriate and convenient to the students. The information collected was reviewed and categorized and the results were expressed in descriptive, relative and absolute values. Data were categorized in Excel spreadsheet (Microsoft Corp., United States), and the program used for evaluation of statistical data was the Epi Info 3.5.1 (Centers for Disease Control and Prevention, Atlanta, United States).

All academics were previously informed about the purpose of the research and, if consenting to participate, signed an informed consent form (TCLE).

Table 1. Distribution of academics according to health perception. UFES/ES, 2012

Variables	Dentistry		Nursing		Medicine		Pharmacy	
	n	%	n	%	n	%	N	%
Standardized health concept	19	76.0	14	73.7	19	79.2	9	81.8
Health as absence of disease	0	-	0	-	3	12.5	0	-
Broadened view of health	2	8.0	1	5.3	0	-	0	-
Standardized concept of health associated with absence of disease	0	-	1	5.3	1	4.2	1	9.1
Broadened view of health associated with absence of disease	0	-	1	5.3	1	4.2	1	9.1
No answer	1	4.0	1	5.3	0	-	0	-
Others	3	12.0	1	5.3	0	-	0	-
Total	25	100	19	100	24	100	11	100

According to Table 1, most academics (77.21%) understand health as a standardized concept of physical, mental and social well-being (Table 1).

In relation to factors that motivate the search for a health professional, in which academics could pick more than one option, 36 students responded seeking them for routine examinations and 33 students seeking in cases of pain or severe discomfort that would impair activities of daily living

Results

Seventy-nine students participated in the research: 25 academicians from Dentistry, 19 from Nursing, 24 from Medicine and 11 from Pharmacy, all courses are ministered at the Federal University of Espírito Santo (UFES). The mean age of students was 24.22 years, with a standard deviation of 3.00. The minimum age was 21 and the maximum, 45 years. Of the total number of students, 29 (36.7%) were male and 50 (63.3%) were female.

The first inquiry to academicians was related to their understanding of the concept of health. Considering the individuality of answers, seven thematic nuclei resulted from this question (Table 1):

- (1) Standardized concept of health: "Physical, mental and social well-being." Dentistry, 23 years.
- (2) Health as absence of disease: "Health is an adaptive state in which the person feels well with the absence of disease." Medicine, 24 years.
- (3) Broadened view of health: "Quality of life, physical, social, mental, family well-being..." Nursing, 23 years.
- (4) Standardized concept of health associated with absence of disease: "Biopsychosocial well-being; absence of disease." Medicine, 24 years.
- (5) Broadened view of health associated with absence of disease: "Health is the state of equilibrium of body and mind. Absence of disease. It is everything that one makes to promote the individual's well-being, such as practice of exercise, hygiene, proper nutrition." Pharmacy, 23 years.
- (6) No answer.
- (7) Other: "Favorable conditions of the organism that maintain the human being's life." Dentistry, 22 years.

(Table 2).

The students' perception about the relationship between health and nourishment (93.67%), culture (72.15%) and personal hygiene (94.93%) is described in Table 3. Also, considering the health and disease process, academicians were asked if they believed that caries, gingivitis and absence of teeth affect their overall health. One-hundred percent of students from the four courses answered "yes".



Table 2. Distribution of academics according to factors that motivate the search for a health professional. UFES/ES, 2012

Variables	Dentistry		Nursing		Medicine		Pharmacy	
	n	%	n	%	n	%	n	%
Clearance of doubts	6	24.0	2	10.5	4	16.7	0	-
Routine examination	16	64.0	6	31.6	10	41.7	4	36.4
Mild pain or discomfort, even if not interfering with daily activities	7	28.0	6	31.6	7	29.2	3	27.3
Severe pain or discomfort preventing me from performing activities of daily living	3	12.0	11	57.9	15	62.5	4	36.4
Others	0	-	0	-	1	4.2	0	-

Table 3. Percentage and numerical distribution of items that are related to health, according to academics' reports. UFES/ES, 2012

Variables	Dentistry		Nursing		Medicine		Pharmacy	
	n	%	n	%	n	%	n	%
Nourishment								
Yes	24	96.0	18	94.7	23	95.8	10	90.9
No	1	4.0	1	5.3	1	4.2	1	9.1
Culture								
Yes	19	76.0	7	36.8	23	95.8	8	72.7
No	6	24.0	12	63.2	1	4.2	3	27.3
Education								
Yes	22	88.0	12	63.2	24	100	10	90.9
No	3	12.0	7	36.8	0	-	1	9.1
Personal hygiene								
Yes	24	96.0	17	89.5	24	100	10	90.9
No	1	4.0	2	10.5	0	-	1	9.1
Hospital								
Yes	19	76.0	9	47.4	22	91.7	8	72.7
No	6	24.0	10	52.6	2	8.3	3	27.3
Information								
Yes	22	88.0	11	57.9	23	95.8	11	100
No	3	12.0	8	42.1	1	4.2	0	-
Leisure								
Yes	21	84.0	15	78.9	20	83.3	9	81.8
No	4	16.0	4	21.1	4	16.7	2	18.2
Doctor/dentist/psychologist								
Yes	22	88.0	7	36.8	22	91.7	10	90.9
No	3	12.0	12	63.2	2	8.3	1	9.1
Dwelling								
Yes	23	92.0	13	68.4	23	95.8	8	72.7
No	2	8.0	6	31.6	1	4.2	3	27.3
Practice of sports								
Yes	22	88.0	17	89.5	21	87.5	8	72.7
No	3	12.0	2	10.5	3	12.5	3	27.3
Basic sanitation								
Yes	23	92.0	18	94.7	22	91.7	11	100
No	2	8.0	1	5.3	2	8.3	0	-
Income								
Yes	19	76.0	6	31.6	22	91.7	7	63.6
No	6	24.0	13	68.4	2	8.3	4	36.4
Total	25	100	19	100	24	100	11	100



Tables 4 and 5 refer to questions about the value assigned to teeth and the impact caused on life in the face of an alleged dental loss by the graduates. A total of 63.29% of academics reported that they would immediately submit

to placement of a dental implant/ prosthesis if he/she needed extraction of posterior teeth with no apparent aesthetic involvement (Table 5).

Table 4. Numerical and percentage distribution of answers to questions about the value assigned to the teeth and the impact on life in the face of an alleged dental loss, according to academic vision. UFES/ES, 2012

Questions	DENTISTRY		NURSING		MEDICINE		PHARMACY	
	n	%	n	%	n	%	N	%
Question 5								
Would not influence/would influence a little	13	52.0	8	42.1	14	58.3	5	45.5
Would influence a lot	12	48.0	11	57.9	10	41.7	6	54.5
Question 6								
Yes	24	96.0	17	89.5	21	87.5	10	90.9
No	1	4.0	2	10.5	3	12.5	1	9.1
Question 8								
Would not influence/would influence a little	0	-	0	-	0	-	0	-
Would influence a lot	25	100	19	100	24	100	11	100
Total	25	100	19	100	24	100	11	100

5- How a malpositioned tooth in your mouth (slightly misaligned) would influence your quality of life?

6. Would you submit to a dental whitening treatment?

8. How the loss of an anterior tooth – "front tooth of the mouth" –, occurred accidentally or indicated by a dentist, would influence your life?

Table 5. Percentage and numerical distribution of academics according to the treatment of choice in the face of the loss of a posterior dental element. UFES/ES, 2012

Variables	Dentistry		Nursing		Medicine		Pharmacy	
	n	%	n	%	n	%	n	%
None, I would easily adapt to the new situation.	0	-	4	21.1	2	8.3	0	-
I would immediately submit to the placement of a dental prosthesis/implant	23	92.0	5	26.3	17	70.8	5	45.5
I would submit to the placement of a dental prosthesis/implant if, over time, I felt difficulty in adapting to the new situation.	2	8.0	10	52.6	5	20.8	6	54.5
Total	25	100	19	100	24	100	11	100

7. In case you have to undergo a posterior dental extraction – "tooth at the back of the mouth" – (except the wisdom teeth), with no apparent aesthetic reason, what would be the treatment of your choice?

Discussion

Studies conducted in the last years have provided a lot of evidence supporting that the association of psychosocial factors to diseases must be emphasized.⁶ For Reis & Marcelo,¹³ only numeric indicators have been usually used for diagnosing health/disease conditions of population groups. This posture tends to ignore fundamental social and behavioral aspects that must be considered in the general assessment of health conditions. In this context, health perception must be included in studies because it allows analyzing the assigned values and the meaning of health of each individual.

In this study, although graduates of Dentistry and Medi-

cine, in many instances, have presented a greater perception on health and its determinants and a greater appreciation of the teeth in a general context, one must take into consideration that graduates of Nursing and Pharmacy on many aspects presented a similar health perception and appreciation of teeth. However, the discrepancy of answers from Nursing academicians was expressive compared to the rest of the group.

The first question proposed to the academicians was about their understanding on the concept of health. Similarly to the results obtained by Pacheco & Garbin,¹⁴ the significant majority of responses from academics (77%) in-



dicated the understanding of health as physical, mental and social well-being. Reis & Marcelo¹³ state that the concepts of health and disease are abstract and difficult to define because they refer to complex and multidimensional phenomena, which assume different meanings, varying according to the context experienced by each individual.

Another aspect investigated was the causal linkage that students expose between social determinants and their health. The academicians' responses in general showed no discrepancy in relation to the items that they related to their health. The significant majority of graduates from the 4 courses responded positively to all items; thus demonstrating real knowledge about social determinants of health (SDH). However, with respect to items: culture, hospital, doctor/dentist/psychologist and income, most Nursing students showed partial and fractioned knowledge about the SDH when they marked that these items do not relate to their health.

In addition, it should be noted that a significant portion of students of Dentistry, Nursing and Pharmacy marked that the items culture, education, hospital, information, dwelling, practice of sports and income are factors not related to their health. It is suggested, therefore, that the knowledge about the SDH should be better explained during the educational and training period, because health and its determinants must be evaluated in the social, cultural and economic dimension, which is revealed in the environment where the individual and his/her collective are inserted.¹⁵

Satisfactorily, the totality of the academicians of Dentistry, Nursing, Medicine and Pharmacy believe that oral diseases, as dental caries, gingivitis and absence of teeth affect general health. There was no significant difference between the groups of academics. Such findings corroborate with the study of Carminatti *et al.*,¹⁶ where the authors claim that dental caries, malocclusion and oral habits impact on quality of life.

In relation to dental malposition, there were different opinions regarding this subject both in relation to Dentistry students as for the other courses of the health area. In this sense, subjectivity related to dental malocclusion was expressed.

Abreu *et al.*¹⁷ showed that malocclusion can noticeably impact the quality of life of a person. According to Campos *et al.*,¹⁸ malocclusions are among the oral alterations that have the highest potential of interfering with the quality of life of the population, both in social and cultural aspects of diseases, because they affect facial aesthetics, besides damaging mastication, speech and social interaction, and are associated with decreased in sense of well-being. In general, these findings point to the importance of investigating the relationship between clearly determined malocclusion and

patients' self-perception.

Regarding the tooth whitening treatment, most academics said that they would participate in it. This result is in accordance with the study by Zavanelli *et al.*¹⁹ who showed that 66% of people were dissatisfied with the color of their teeth.

From students who agree to undergo the whitening treatment, 73% justified such a choice by aesthetics and well-being. There was no significant variation among students in Dentistry and other courses in the aspects acceptance/appreciation of tooth whitening treatment. This fact indicates that students of these courses appreciate the aesthetics in a similar way.

Although survey respondents are from different courses and experience disparate situations and experiences in relation to the emphasis given to the teeth in the higher education, all respondents answered that the loss of an anterior tooth would influence a lot on their quality of life. This is due to a significant association between anterior teeth and dental aesthetics. The study by Probst *et al.*²⁰ showed that these dental losses impact the self-image and decrease the self-confidence.

However, regarding the tooth absence in the posterior region, a significant difference was perceived in relation to the importance given to teeth among academics. If on the one hand most students of Dentistry and Medicine reported that they would immediately submit to the placement of a prosthesis/implant in case of absence of a posterior tooth; on the other hand, most students of Nursing and Pharmacy said that they would only submit to the placement of a prosthesis/implant, if, over time, they felt difficulty in adjusting to the new situation.

This variation of appreciation of posterior teeth is possibly related to their non-visibility while talking and smiling. It is common sense that the absence of anterior teeth results in more complaints than that of posterior teeth.¹²

It is emphasized that the variable gender was not taken into account in this study, because most academicians of the four courses were females, which could bias in the results. In addition, Fernandez-Martinez *et al.*²² state in their study that genre is not a determining factor in the health condition.

In general, this study emphasized the importance of creating and maintaining a link between health and education. This bond must be kept constant not only in the academic contexts, but in all circumstances. Thus, the context of health promotion would be extended not only to academics (future health professionals), but to the entire population broadly assisted by such professionals in the future; and, with that, the indexes of oral health and quality of life would be expanded widely and unrestrictedly.

Conclusion

Graduates of the courses of the health area in many ways present similar vision about the health-disease process, appreciate the dental aesthetics, especially in relation to anterior teeth and attribute correctly the relationship of oral

health with general health. With regard to the discrepancies found between some questions, further studies are required to show the possible causes of difference in the teaching-learning relationship as to courses of the health area.

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