Knowledge of oral hygiene of patients attended in a Dentistry Program as a precursor of changes in teaching paradigms

Larissa Oliveira de Assis*; Elizabeth Pimentel Rosetti; Raquel Baroni de Carvalho***; Rodrigo Schwab Rasseli*****

* Master's student in Dentistry, Federal University of Espírito Santo
** Professor, Department of Periodontics, Federal University of Espírito Santo
*** Professor, Department of Public Health, Federal University of Espírito Santo
**** Professor, Department of Periodontics, Universidade Vila Velha

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ABSTRACT

The practice of healthcare education aims at contributing to healthcare assistance and promotion, providing health-disease control and its management through knowledge. This study aims to compare the degree of knowledge of oral hygiene of individuals who are undergoing treatment at the Integrated Clinic of the Dentistry Program of the Federal University of Espírito Santo (UFES) with individuals who are not undergoing dental treatment. This is a cross-sectional, exploratory study in which we evaluated 174 individuals, of whom 87 were undergoing dental treatment and 87 were in the waiting room accompanying the patients, but who were not undergoing treatment. Regarding the sample profile, women were predominant in both groups (71.26%). As for oral hygiene performed 3 times a day, it corresponded to 50.57% for the group under treatment and 54.02% for the control group. We may conclude that teaching was not highlighted in the prevention, thus justifying the need for changing the paradigm of teaching to a model focused on the person. To do so, we proposed the implementation of a preventive protocol in the teaching Dental Clinic.
Descriptors: Teaching. Oral Hygiene. Healthcare Promotion.

1 INTRODUCTION

Oral health has been increasingly recognized as a factor affecting the quality of life of individuals, negatively influencing people in their daily performance[1]. It is paramount to understand how people perceive their oral health status and the importance given to it, making them seek adequate treatment and avoiding negative impacts on quality of life. Patients' perception of the need for treatment makes them seek solutions that improve their oral health[2]. Thus, professionals must evaluate these needs to plan the appropriate therapeutics, considering subjective information and the impact on the quality of life of the patients[3].

Feldman and Valachovic[4] discussed changes that occurred in the last decade within and outside of dental education as well as changes affecting a broad healthcare system, healthcare professionals, and higher education. According to the American Dental Education Association (ADEA)[5], forces that will shape the future of dental education can be grouped into five domains: technology, education, demographics, health care, and the environment.

ADEA[5] states that three main objectives will guide the efforts of a community: "1) Person-centered health care will become the dominant model in health systems. 2) Future-ready graduates from health professions education programs will deliver health care 3) Graduates will be educated in a transformative learning environment."

The person-centered care is a model of study that gains the trust of the patients, because it respects their values, preferences, needs, and beliefs, emphasizing the freedom of choice of individuals while promoting emotional and physical comfort[5]. It is meaningful to the person, since it helps users to develop knowledge, skills, and the confidence they need to manage and make decisions based on their own health and care in a more effective way. Health care is coordinated and adapted according to the needs of the individual. Moreover, it is paramount to ensure that people are always treated with dignity, compassion, and respect[6].

Person-centered care is provided by oral healthcare professionals mainly in order to establish a long-term trust relationship. Most of the success of the treatment depends on the patient. Success or failure is almost totally dependent on patients' adherence to prevention through rigorous oral hygiene: brushing, flossing, regular examinations, and diet[6].

This study aims to compare the degree of knowledge of oral hygiene of individuals who are undergoing treatment at the integrated clinic of the Dentistry Program of the Federal University of Espírito Santo (UFES) with individuals who are not undergoing dental treatment.

2 METHODOLOGY

The research was conducted according to ethical standards, following the norms of Resolution no. 466/12, and was approved by the Ethics and Research Committee of the UFES (Opinion no. 2,042,042, CAAE no. 66025717.9.0000.5060). An Informed Consent Form was delivered to the recruited individuals, who have the option to participate or not in the study. Those who agreed to participate signed the informed consent form.

This is a cross-sectional, exploratory study with a quantitative approach that was carried out at the Integrated Clinic, which is a clinic that comprises several specialties of the UFES Dentistry Program. The choice of the location was intentional, since it is an

outpatient clinic that contemplates all disciplines in which students that perform integrated dental treatment. Since patients were in the waiting room of this outpatient clinic, they had time to participate in the study. For the control group, we recruited 87 individuals who were in the waiting room accompanying the patients, but who did not undergo dental treatment.

The sample size estimation was based on the number of patients attended every six months at this outpatient clinic (197) and resulted in 174 individuals, 87 in each group.

As an evaluation instrument, a semi-structured questionnaire was used, with 30 closed questions in order to reduce errors in the answers, based and validated in the study developed by Cyrino *et al.* (2011)[7], who covered sociodemographic aspects and self-perception of oral health related to periodontal health and knowledge of oral hygiene. The following parameters were evaluated: skin color, income, knowledge of periodontal disease, oral hygiene habits, and perception of signs and symptoms of periodontal disease.

Participants were randomly selected and the exclusion criteria consisted of age below 18 or over 70 years, illiterate, and presence of less than six teeth.

The application of the questionnaire was performed by a single interviewer duly calibrated, during all work shifts of the clinic from May/2017 to July/2017, in order to interview the largest possible number of individuals. The questionnaire was presented by joint reading, without the interference of the interviewer in the answers, only playing the role of the note maker. Participants were instructed to respond with seriousness and according to their knowledge. Shortly thereafter, an explanatory leaflet on periodontal health and oral hygiene was distributed. Data are presented as descriptive statistics.

3 RESULTS

Regarding the characterization and distribution of the sample (Table 1), in the group undergoing integrated dental treatment we evaluated individuals with a mean age of 53.3 ± 11.6 years (18 to 70 years); in the control group, they aged 42.9 ± 15.0 years (24 to 70 years). We observed a predominance of white, brown, and black individuals in both groups, with approximately 1/3 of participants from each of these ethnicities. In both groups, the individual monthly income of most participants was none or up to R$930.00 (BRL).

Knowledge of oral hygiene was estimated by the daily frequency of brushing, material used to perform hygiene, time for replacing the toothbrush, availability of necessary materials, and material that was generally lacking (Table 2). Oral hygiene is performed 3 times a day by 54.02% of the participants in the control group, and by 50.57% of them in the treatment group. In the control group, 9.20% of individuals do not always have the necessary materials, whereas 18.39% of those in the treatment group reported this lack of materials. Among the most lacking materials, were reported toothpaste (3.45%) and others (3.45%) in the control group. In the group under treatment, toothpaste was mentioned as the material that lack the most (12.64%). Most participants reported using a toothbrush, toothpaste, and dental floss, and this response accounted for 60.92% and 54.02% of the individuals in the control and treatment groups, respectively. The time for replacing the toothbrush was longer than 3 months.

Knowledge of patients on oral hygiene as

a precursor of changes in teaching paradigms was mentioned in the response of 72.00% of individuals in the control group, and of 74.00% of patients undergoing treatment.

Table 1. Characterization and distribution of the sample regarding age, sex, skin color/ethnicity, and monthly income

Variable		**Control Group**		**Treatment Group**	
Age (mean ± standard deviation)		42.9 ± 15.0		53.3 ± 11.6	
		n	%	n	%
Sex	Women	62	71.26	62	71.26
	Men	25	28.74	25	28.74
Skin color/Ethnicity	White	20	22.99	28	32.18
	Brown	30	34.48	29	33.33
	Black	34	39.08	28	32.18
	Yellow	3	3.45	1	1.15
	Indigenous	0	0.00	1	1.15
Individual monthly income	None	25	28.74	18	20.69
	Up to R$930 (BRL)	30	34.48	31	35.63
	From R$931 to R$1,530 (BRL)	13	14.94	19	21.84
	From R$1,531 to R$2,550 (BRL)	10	11.49	12	13.79
	From R$2,551 to R$4,080 (BRL)	9	10.34	7	8.05

Regarding questions involving oral health status, 93.10% of those in treatment and 80.46% of the controls reported they presented dental loss. When questioned about the knowledge of the reason for this loss, 44.83% of the group in treatment showed lack of knowledge, whereas in the control group 40.23% said they did not know the reason. The positive report concerning having had periodontal or gingival disease was 44.83% in the treatment group, and 31.03% in the control.

In the group receiving dental treatment, 55.17% of the patients observed soft teeth and of these, 89.66% did something to solve the problem, whereas in the control 39.08% observed soft teeth and 86.21% sought a solution.

4 DISCUSSION

In this study, the degree of knowledge of patients undergoing treatment was similar to those who were not receiving treatment. In total, brushing frequency was similar in the groups, and practically all the sample reported brushing 2 or more times a day, a result similar to some epidemiological studies whose authors used interviews and questions[8,9], demonstrating that adults who participated in this study reported having toothbrushing habits similar to those of population groups in other regions of the country.

Usually, patients of the teaching outpatient clinic are considered an object with treatment needs, which are allocated according to the demand of the different disciplines and certain procedures[10]. Thus,

basic procedures of instruction for oral hygiene, such as the brushing frequency, are not prioritized. Such may vary in the population[11], however, the most frequently reported frequency in surveys using questionnaires is three times a day[9]. Such response may be influenced by the social convention that this is the recommended frequency, and which is not always performed on the day to day of the patient[12].

Table 2. Characterization of knowledge on oral hygiene of the evaluated patients

Variable		Control Group		Treatment Group	
		n	%	n	%
What do you use for oral hygiene?	Toothbrush and toothpaste	33	37.93	37	42.53
	Toothbrush, toothpaste, and dental floss	53	60.92	47	54.02
	Toothbrush, toothpaste, and dental floss	1	1.15	3	3.45
What is the periodicity for replacing the toothbrush?	After 1 month	4	4.60	2	2.30
	After 2 or 3 months	20	22.99	21	24.14
	Over 3 months	63	72.41	64	73.56
Do you always have the necessary materials?	No	8	9.20	16	18.39
	Yes	79	90.80	71	81.61
What do you usually lack?	Toothbrush	0	0.00	1	1.15
	Toothpaste	3	3.45	11	12.64
	Dental floss	2	2.30	1	1.15
	Other	3	3.45	3	3.45
	Does not apply	77	88.50	70	80.46
	No information	2	2.30	1	1.15
How many times a day do you perform oral hygiene?	1 time	3	3.45	7	8.05
	2 times	20	22.99	19	21.84
	3 times	47	54.02	44	50.57
	4 or over	17	19.54	17	19.54

Patients who were undergoing treatment did not receive oral hygiene training, a worrisome finding considering the preventive philosophy. Educating patients ensures the ability to identify their problems and thus intervene and prevent the disease evolvement[13]. To provide appropriate care, and therefore the best possible quality of life for people, we need to rethink the relationship between users and their healthcare services. Due to the faced abandonment and difficulties, unfavorable oral health status take place in adulthood (mean age of 39.4 years in the present study), precisely a result of the absence of specific programs for this population group, actions aimed at health education, with emphasis on self-protection and self-perception, which should be more investigated[14].

It is evident the peculiar reality of teaching outpatient clinics and their purpose to educate new professionals and, in this context, we discuss the actions carried out inside such environments during the training process. There are questions about whether the end justify the

means, and what matters is the training of the future dentist, disregarding the patients, in the condition of the object of teaching, and how they are treated throughout the process[15]. Care when informing patients about the signs and symptoms of periodontal disease makes them cooperating more[16]. Regarding bone loss, there was a greater number of individuals informed in the treatment group, based on the information provided by the dentist who is performing dental care. Adequate education and motivation will only occur if professionals have technical-scientific knowledge, disposition, responsibility, and pleasure when doing their job, besides the empathy and affection between professional and patients[16].

Several studies[3,17,18] evidence the greater demand of women by healthcare services when compared with men, similar to the result that we observed. Thus, women properly aware and prepared can play the role of the main healthcare agent in the family[19]. Regarding wage income, the vast majority of respondents receive between none and even a minimum wage, and it is known that worse living conditions, such as economic and social disadvantage, inadequate health care, and attitudes of discrimination, reflect a less positive self-reported oral health[17]. This is the profile of patients seeking treatment at UFES, in such a way we should better educate the students to meet the users' healthcare needs. The student-centered teaching model of health care helps them developing their dental knowledge and technical skills. Care should be much broader, it should be coordinated and adapted to the needs of the patients[20]. For example, it is common to distribute toothbrushes and dentifrices in educational programs within in the public school network, which rarely occurs in the environment in which the study was conducted. The supply of these materials could be adopted as a daily practice, since the universalization of access is a strategy that has been encouraged in a collective approach to healthcare promotion and prevention[21].

The educational process in oral health can promote changes in the lives of individuals and in the reality of a society. To establish efficient programs we must previously evaluate the habits and the level of knowledge of the target audience[22]. Nowadays, throughout their training, healthcare professionals are familiar with models of health care centered on the student or patient, but Dentistry programs should conform to the new model proposed by ADEA, the person-centered care[4], theme of great interest in the current dentistry teaching[15].

The student-centered care focuses on the students' interest and on patients who may be adequate to obtain enough experiences in completing treatments according to their income to bear the costs of such procedures. Such model of care perceives the patients as a means of performing specific dental procedures based on the students' training needs, sequences of treatments focused on the difficulty and/or availability of supervisor professors. The treatment is selected based on the supervision of the faculty recommendation and/or the needs of the students, and results of the treatment are based on the completion of procedures and on the treatment planing[23].

Patient-centered care focuses on the patient during individual visits, in the management of the disease, and usually considers the systems of the body as separate from each other and from the psychosocial domain. The person-centered care is even more challenging, because it focuses on the person, usually perceives the patient in a holistic way, with all the interrelated systems, concerns about people's health, and social determinants. It considers individual information and sought for

care, basing the results on improving the overall health and wellbeing of the person, considering multiple factors[23].

Research providing elements, such as characteristics of a given population, associated risk factors, and etiology observation, becomes paramount for the planning, implementation, and evaluation of these new strategies for prevention and control of diseases. The research allowed the diagnosis of conducts aimed at the curative aspect and the academic production of numerical clinical results, in addition to the understanding that making changes is necessary. Within this context, professors of the Dentistry Program play an important role in the education of future professionals. They represent a reference model to be followed by the students, both concerning technical skills and the ethical posture when facing everyday situations in the clinic. Therefore, they are responsible for showing the students a reflection on these activities and to provide them with the necessary information to support it[24]. We must discuss and rethink teaching practices as humanized practices, in an attempt to reconcile academic interests with the needs of the patient instead of prioritizing one at the expense of the other. As an example of the need to change this context, we have the report of teeth loss evaluated in the study, with high percentage of teeth lost in both groups. And what is worrisome is that almost half of those people who have lost their teeth are unaware of the reason for the extraction. Dental loss has a major public impact on Brazil, and it has been a challenge to understand factors that lead to this condition as well as prevention, promotion, and reference assistance in order to minimize the problems caused by such loss[25].

Participants of our study had the benefit of receiving a leaflet with periodontal health and oral hygiene contents addressing their needs, which was extremely important, because they were interested in learning about periodontal disease and preventive methods concerning oral hygiene. Our results led to a new proposal of oral hygiene-related education practice for the discipline, suggesting that all patients in the integrated clinic fulfill, during the diagnosis, the questionnaire, characterizing a preventive approach, including the importance of effectively brushing the teeth and flossing, an explanation of etiology, signs and symptoms of oral diseases, and the interrelationship with systemic health. When starting the treatment, theoretical explanations with the aid of a study model and illustrative figures will be emphasized, and patients will be given the leaflet used as a guide for these explanations and created for this research. Then, we concentrate on the practice of the brushing technique, always providing a toothbrush in such a way patients can perform brushing and floss, improving their technique. In the following appointments, we suggested to always draw attention to the improvement of the oral hygiene status, signs of disease – such as bleeding, bad breath, dental mobility, bad taste –, to emphasize the hygiene technique and important points on oral health, so that learning is developed with the repetition of information. Before the conclusion of the treatment, the questionnaire will be applied again in order to verify if learning was really developed and resume the points that were still doubtful. Academic institutions in the healthcare fields rooted in student-centered care should deal with the transition to a patient-centered care. The transition to a person-centered care will be even more challenging. Such change will require not only a change in the way students and professors approach patients, but also in the educational philosophies of healthcare institutions.

Person-centered care requires academic institutions and dentistry programs to focus on supporting the general healthcare needs of individuals and their families. In a dental clinic, oral healthcare professionals should know their patients, rather than concentrating exclusively on the procedure itself.

5 CONCLUSION

We concluded that patients in dental treatment in the UFES Integrated Clinic have a degree of knowledge in prevention and oral health as unsatisfactory as those of individuals who were not undergoing treatment. In both groups, most had extracted teeth and nearly half of the patients did not know the reason for the loss. Thus, it becomes evident that teaching has no emphasis on prevention, indicating the need to change the teaching paradigm to a person-centered model.

RESUMO

Conhecimentos sobre higiene bucal de pacientes atendidos em um curso de Odontologia como precursor de mudanças de paradigmas de ensino

A prática de educação em saúde tem como propósito contribuir no cuidado e na promoção da saúde, fornecendo o controle saúde-doença e a condução de seus hábitos por meio da inserção de conhecimento. Este estudo tem por objetivo comparar o grau de conhecimento sobre higiene bucal de indivíduos que estão em tratamento na clínica integrada do Curso de Odontologia da Universidade Federal do Espírito Santo (UFES) com indivíduos que não estão realizando tratamento odontológico. Trata-se de um estudo transversal do tipo exploratório que avaliou 174 indivíduos, dos quais 87 estavam em tratamento odontológico e 87 estavam na sala de espera acompanhando os pacientes atendidos, mas não faziam tratamento odontológico. Em relação ao perfil da amostra, o gênero feminino foi predominante em ambos os grupos (71,26%). Em relação à higiene bucal realizada 3 vezes ao dia correspondeu a 50,57% para o grupo em tratamento e 54,02% para o grupo controle. Pode-se concluir que o ensino não apresentou ênfase na prevenção, justificando a necessidade de mudança de paradigma de ensino para um modelo voltado para a pessoa, e com esta finalidade foi proposta a implementação de um protocolo preventivo na Clínica Odontológica de ensino.

Descritores: Ensino. Higiene Bucal. Promoção da Saúde

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Correspondence to:
Larissa Oliveira de Assis
e-mail: larissa_assis@hotmail.com
Rua Antônio Gil Veloso, 240/403
29101-010 Vila Velha/ES, Brazil