



ORIGINAL ARTICLE

## Oral health-related quality of life among gastronomy students of the Regional Autonomous University of Andes

Carmen Salinas-Goodier<sup>1</sup>✉ , Mónica Alexandra Acosta-Vargas<sup>1</sup> , Emily Carolina Aldaz-Valle<sup>1</sup> , Karina Alejandra Arcos-Lara<sup>1</sup> 

<sup>1</sup>Regional Autonomous University of the Andes, Ambato, Ecuador.

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### ABSTRACT

**Introduction:** oral diseases impact individuals' health, self-esteem, and social life, thereby affecting their quality of life.

**Objective:** to determine the impact of oral health on the well-being of Gastronomy students.

**Methods:** an observational, descriptive, cross-sectional study was conducted with a purposive sample of 117 Gastronomy students from Universidad Regional Autónoma de los Andes (Ambato, 2023-2024). Data were collected through the OHIP-14Sp questionnaire, which provided the analyzed variables. Descriptive and inferential statistical methods were applied, in accordance with medical ethics.

**Results:** more than 50 % frequently experienced dental sensitivity, 40 % were dissatisfied with the appearance of their teeth, and nearly 20 % reported dental pain affecting their work capacity. A total of 68,2 % had a mild impact and 21,8 % a moderate impact. A significant association was found between female gender and the perception of worse breath ( $p=0,003$ ) as well as dental sensitivity ( $p=0,008$ ).

**Conclusion:** oral health significantly affects the well-being of the study group, with one in three students experiencing dental issues that limit daily activities and social life. A correlation was observed between participants' gender and their perception of dental aesthetics, with women placing greater importance on the appearance of their teeth.

**Keywords:** Quality of Life; Oral Health; Dentistry; Students, Dental.

## INTRODUCTION

The World Health Organization (WHO) defines health education as the responsibility to promote, organize, and direct the educational process with the aim of influencing knowledge, attitudes, and practices related to health at the individual and community level. For this reason, the WHO advocates for the inclusion of health education in various contexts, such as the academic context (universities and schools), where the information provided must be clear and presented in a comprehensible manner. The goal is to capture attention, motivate participation, and raise awareness about health issues. In this context, a bidirectional participatory approach is used, facilitating an active exchange of information between the educator and the student, whether in a group or individual manner.<sup>(1)</sup>

Diseases such as dental caries, periodontitis, and malocclusion have been linked to hygiene or smoking, in addition to systemic diseases such as diabetes, the use of various medications, and age, which contribute to the increase of oral pathologies. Caries affect approximately 60 % of the population in developed countries, while in Ecuador the prevalence exceeds 80 %.<sup>(2)</sup>

It is fundamental to understand the variability in the impact of dental problems at global, regional, and national levels, taking into account both their prevalence and disability-adjusted life years. Caries in permanent teeth are the most common condition, affecting 2,500 million people worldwide. The prevalence of other oral disorders such as oral cancer was 1,8 %. The number of people affected by untreated dental caries, severe periodontitis, and edentulism amounts to 3,500 million worldwide. Moreover, the higher prevalence of caries in permanent teeth was observed in Andean Latin America (54,9 %). Oral disorders, influenced by sociodemographic variables and the prevalence of untreated dental caries, represent a significant proportion of global disease burden.<sup>(3,4)</sup>

Some analyses suggest that as countries experience economic growth and development improvements, oral disorders may not only represent a larger share of disability-adjusted life years worldwide, but the indirect impact of chronic dental diseases and edentulism may reflect population differences within a country.<sup>(4,5)</sup> However, it should be considered that in developing countries there is underreporting of oral diseases, so this data should be interpreted with caution.

The way to address dental problems combines daily practices and seeking professional care, though economic and work-related limitations condition access to health services, generating feelings of neglect, guilt, or self-victimization. Oral diseases, such as caries and periodontitis, affect not only masticatory function and facial aesthetics, but also self-esteem, social interaction, and quality of life, in addition to being related to systemic health. Therefore, preventive care and appropriate treatments are essential to preserve both oral health and overall well-being.<sup>(6,7)</sup> With this in mind, this research was developed, whose objective was to determine the impact of oral health on the well-being of students in the Gastronomy program, Regional Autonomous University of the Andes, Ambato campus, in the academic period November 2023 to March 2024.

## METHODOLOGY

An observational, descriptive, cross-sectional study was conducted in Gastronomy students at the Regional Autonomous University of the Andes, Ambato campus, in the academic period November 2023 to March 2024.

From the universe consisting of Gastronomy program students at that institution, 117 were selected through non-probabilistic convenience sampling, who met inclusion criteria (students who attended the 2023-2024 academic period, belonging to the undergraduate Gastronomy program, present at the time of the survey) and exclusion criteria (students who did not agree to participate in the survey).

To obtain information, a survey was applied between February 15 and 19, with prior authorization from the Dean of the Faculty of Business Management. The survey collected the investigated variables: age (in years), gender (female and male) and the OHIP-14-Sp questionnaire questions,<sup>(8)</sup> which comprises 14 questions, with five response options (0 never; 1 almost never; 2 sometimes; 3 often; 4 always), these results were scored as: 0 = no impact, 1-18 = mild impact, 19-37 = moderate impact, 38-56 = severe impact, all referring to quality of life.

A statistical analysis was conducted, beginning with descriptive statistics, including relative frequencies and averages. Subsequently, possible associations were analyzed using the chi-square test. Stata MP 14.0 was used.

## RESULTS

A total of 110 responses were obtained, out of 117 students, with a response rate of 94 %. Of these responses, 52,70 % were female (n=58) and 47,30 % were male (n=52). The average age was 22,3 years (SD: 2,2).

The results obtained from the survey are presented in Table 1, where the responses for each OHIP-14Sp question are broken down across the five response categories of the measurement scale: never, almost never, sometimes, frequently, and always; the number of responses obtained and their representative percentages are shown.

**Table 1.** Questionnaire OHIP-14Sp.

Questions	Never		Almost		Sometimes		Frequently		Always	
	No.	%	No.	%	No.	%	No.	%	No.	%
Have you felt that your breath has deteriorated due to problems with your teeth, mouth, or prosthesis?	50	45,45	34	30,91	22	20,00	3	2,73	1	0,91
Have you felt that your digestion has worsened due to problems with your teeth, mouth, or prosthesis?	63	57,27	27	24,55	18	16,36	0	0	2	1,82
Have you had sensitive teeth, for example due to cold foods or liquids?	30	27,27	23	20,91	45	40,91	11	10,0	1	0,91
Have you had toothaches?	24	21,82	47	42,73	34	30,91	3	2,73	2	1,82
Have dental problems made you feel totally unhappy	35	31,82	40	36,36	25	22,73	4	3,64	6	5,45

Have you been dissatisfied with the appearance of your teeth, mouth, or prosthesis?	34	30,91	26	23,64	36	32,73	10	9,09	4	3,64
Has the way you speak been unclear due to problems with your teeth, mouth, or prosthesis?	58	52,73	30	27,27	19	17,27	1	0,91	2	1,82
Have people misunderstood some of your words due to problems with your teeth, mouth, or prosthesis?	58	52,73	33	30,0	14	12,73	4	3,64	1	0,91
Has your sleep been disturbed due to problems with your teeth, mouth, or prosthesis?	66	60,0	25	22,73	12	10,91	6	5,45	1	0,91
Have you been annoyed or irritable due to problems with your teeth, mouth, or prosthesis?	46	41,82	32	29,09	26	23,64	4	3,64	2	1,82
Have you been less tolerant with your partner or family due to problems with your teeth, mouth, or prosthesis?	59	53,64	32	29,09	18	16,36	0	0	1	0,91
Have you had difficulty doing your usual work due to problems with your teeth, mouth, or prosthesis?	62	56,36	29	26,36	17	15,45	1	0,91	1	0,91
Have you been completely unable to function due to problems with your teeth, mouth, or prosthesis?	64	58,18	31	28,18	13	11,82	1	0,91	1	0,91
Have you been unable to work to your full capacity due to problems with your teeth, mouth, or prosthesis?	66	60,0	23	20,91	19	17,27	1	0,91	1	0,91

According to the score obtained, 9 % (n=10) of the population did not have their quality of life affected by their oral health, 68,2 % (n=75) had a mild impact, 21,8 % (n=24) had a moderate impact, and 1 % (n=1) a severe impact. A Chi-squared test was performed, finding a statistically significant association with female gender for "Have you felt that your breath has deteriorated due to problems with your teeth, mouth, or prosthesis?" ( $p=0,003$ ) and "Have you had sensitive teeth, for example, due to foods or liquids that are cold?" ( $p=0,008$ ). That is, women reported feeling worse breath and greater sensitivity compared with men.

More than 50 % have had dental sensitivity frequently in their life; 35 % of the population sometimes have had pain, making their oral health concerning. 40 % of the population sometimes do not feel satisfied with the appearance of their teeth; while almost 20 % of the population have felt that dental pain sometimes or frequently has presented an inability to perform their work.

## DISCUSSION

Dental sensitivity can have several underlying causes, ranging from enamel erosion due to excessive brushing or consumption of acidic foods, to gum recession exposing sensitive dentin. In addition, the presence of dental caries, defective dental restorations, or gum disease can also contribute to the development of dental sensitivity. Therefore, a comprehensive evaluation is important to identify the underlying cause and determine the best treatment approach.

According to the results of this study, Zeola et al.,<sup>(9)</sup> mention that prevalence rates of dental sensitivity range from 17 % to 89,1 % in the Brazilian population, which compares with our study showing more than 50 % of the student population presenting dental sensitivity. Therefore, it is important to carry out a comprehensive evaluation to identify the cause of sensitivity and determine the best treatment approach.

Goulart et al.,<sup>(10)</sup> in their study conducted in Brazil, show how the studied population reports dissatisfaction with the aesthetic appearance of their teeth, considering factors such as dental position which they report as not having a significant relation with quality of life; on the other hand regarding color and dental health present OR=2,73 (CI95 % 1,73- 4,32) and OR=2,78 (CI95 % 1,76- 4,37), respectively, presenting a relationship with quality of life; aligning with the result of our study where 40 % of the population feel insecure about the appearance of their teeth affecting their quality of life.

A different study by Narhi et al.,<sup>(11)</sup> on dental aesthetics, oral health-related quality of life, and satisfaction with it, applied in Finland, obtained results showing participant satisfaction with their dental aesthetics regardless of presenting severe deteriorations that could trigger a decrease in psychological health and thus quality of life, but aligning with our result that women participants in the study tend to show greater impact regarding aesthetics than men.

Cerón,<sup>(12)</sup> shows that it has been found that 91,97 % of individuals perceive that their oral well-being influences their quality of life, and this percentage is slightly higher in women ( $p=0,85$ ). This allows examining aspects such as physical discomfort, psychological discomfort, low self-esteem, and social interaction problems, among others; according to our study it is shown that 20 % of the population report negative effects on quality of life, with some times and frequently notable impact in the work environment. It is essential to address the concept of quality of life in relation to oral health in an integrated manner, considering factors such as discomfort, pain, functional alterations, and the emotional and social aspects associated with oral health. It is relevant to note that as age increases, there is a decrease in quality of life as well as in oral health and well-being.

According to the study by Matamala et al.,<sup>(13)</sup> they show that when analyzing the proportions of patients who reported any effect on Oral Health-Related Quality of Life (OHRQoL), dental caries as the number one factor in dental pain seems to have a negative effect on adolescents' quality of life (OR: 2.50; 95 % CI: 1.47-4.26;  $I^2=93$  %), together with our study, where 35 % of the population presents this condition.

León et al.,<sup>(8)</sup> present the impact that deterioration of oral health has in relation to people's performance in their work and social life, determining that this leads to psychological harm due to the appearance of their teeth, dental pain, up to bad breath. It also presents a very strong connection ( $p < 0.0001$ ) between the realms of Psychological Disability and Social Disability. These points are also relevant in our study, with similarities to the study conducted by the authors in Chile.

The results obtained in the surveys coincide with what Diaz et al.,<sup>(14)</sup> present, who detail that oral health-related quality of life should be taken into account because it is an effective tool for patient diagnosis, treatment planning, and prognosis, which allows predicting patient adherence to the proposed plan or adjusting the plan according to patient perception, ultimately ensuring its success. The application takes only a few minutes and provides essential information for the proper development of the patient-professional relationship.

## CONCLUSIÓN

From the data of this study, it was determined that oral health has an impact on the well-being of the studied group since one in three students has suffered dental conditions that have impeded normal performance in their activities and, consequently, in their social life. In addition, a relationship was observed between the gender of the participants and how they perceive their dental aesthetics, with the female gender placing greater importance on the appearance of their teeth.

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