



ORIGINAL ARTICLE

Impact of oral health on the quality of life of Law students

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ABSTRACT

Introduction: oral health is an essential component of overall well-being and is directly related to individual quality of life.

Objective: to evaluate the impact of oral health on the quality of life of Law students at the Regional Autonomous University of the Andes.

Methods: an observational, descriptive, cross-sectional study was conducted between May and September 2023. The population included 233 students, from which a probabilistic, simple random sample of 145 was selected. The application of instruments such as the Oral Health Impact Profile (OHIP-14) questionnaire allowed the collection of information that addressed the analyzed variables. Descriptive and inferential statistical methods were employed.

Results: of the participants, 55,2 % were male and 72,4 % resided in urban areas. A low impact of oral health on quality of life was reported by 50,3 %, while 49,7 % indicated a high impact. The most affected dimension was psychological distress (79,3 %), followed by psychological disability (38,6 %) and physical disability (23,4 %). A significant association was identified between gender and physical disability ($p < 0,05$), whereas age and residence showed no relevant correlations.

Conclusions: the study demonstrates that, although most students maintain adequate oral health, significant impacts persist in the psychological domain. These findings highlight the need to strengthen preventive and educational strategies that promote hygiene habits and equitable access to dental services, thereby contributing to the improvement of university students' quality of life.

Keywords: Quality of Life; Students; Oral Health.

INTRODUCTION

Oral health is intrinsically linked to general health and encompasses each individual's overall well-being.⁽¹⁾ At the General Assembly of the Fédération Dentaire Internationale (FDI), oral health was defined as the ability of individuals to speak, smile, smell, taste, touch, chew, swallow, and convey a range of emotions through facial expressions—comfortably, without pain, confidently, and in the absence of disease in the craniofacial complex.⁽²⁾

When oral health is compromised—particularly through pain—it can lead to difficulties in chewing, eating, and smiling. Communication may also be impaired when teeth are discolored, fractured, or otherwise aesthetically unpleasing, negatively affecting social interactions and lowering self-esteem, ultimately diminishing the individual's quality of life.⁽³⁾ Oral health-related quality of life (OHRQoL) thus encompasses not only the comfortable performance of basic activities but also individuals' aesthetic evaluation of their mouths during these activities. This factor directly influences self-esteem. Aspects such as smile appearance, tooth color and shape, and gum and lip thickness and color become key criteria that patients consider, as they can alter self-perception and influence personality.⁽⁴⁾

Poor oral health adversely affects individuals' quality of life.⁽⁵⁾ Good oral health depends on several factors, including proper oral hygiene, which reduces the incidence and progression of oral diseases such as caries, gingivitis, and periodontitis, thereby preventing tooth loss.⁽⁶⁾ Oral health is not only associated with personal care but is also closely tied to social determinants. Some individuals lack easy access to health services—particularly dental care—thereby compromising their right to health, which governments are obligated to guarantee.⁽⁷⁾

As noted, not only clinical factors such as oral diseases but also sociodemographic factors—including lack of decent employment, geographic remoteness from urban centers limiting access to dental services, limited knowledge about oral care, and low educational attainment—affect quality of life. Psychological factors such as anxiety, depression, and psychosocial problems further impact individual well-being.⁽⁸⁾ Thus, oral health is a critical yet often overlooked aspect of general health, with potentially significant effects on quality of life. Perceptions regarding oral health care and its impact on quality of life evolve across different life stages.⁽⁹⁾

Indeed, young adults report lower quality of life compared to older adults, as oral conditions at this age often generate negative impacts due to prolonged pain and suffering, leading to functional, aesthetic, nutritional, and psychological problems.^(10,11) One of the most widely used instruments to assess quality of life is the Oral Health Impact Profile (OHIP), considered among the most comprehensive and advanced tools for measuring the importance individuals assign to their oral health.⁽¹²⁾

By identifying aspects of students' daily lives affected by oral health—such as mastication, speech, physical appearance, social relationships, and even employment opportunities—improvement strategies can be developed.⁽¹³⁾ The OHIP-14 instrument, applied in this study, contributes to understanding the relationship between oral health and quality of life in this specific population. Therefore, the present study aims to evaluate the impact of oral health on the quality of life of Law students at the Universidad Regional Autónoma de los Andes.

METHODS

An observational, descriptive, cross-sectional study with a mixed-methods approach (qualitative and quantitative) was conducted. The cross-sectional design was justified by the need to assess, within a single academic period, the impact of oral health on students' quality of life, providing a precise "snapshot" of conditions and perceptions without external intervention. The mixed approach integrated students' subjective perceptions with statistical data analysis.

The study was carried out at the Universidad Regional Autónoma de los Andes (UNIANDES), Ecuador, among hybrid-mode Law students. Data collection occurred between May and September 2023. The target population consisted of 233 enrolled hybrid-mode Law students.

Inclusion criteria were:

- Enrollment in the hybrid-mode Law program
- Age ≥ 18 years
- Voluntary informed consent

Sample size was calculated using the proportion formula:
$$= \frac{N \cdot Z_{\alpha}^2 \cdot p \cdot q}{e^2 \cdot (N - 1 + Z_{\alpha}^2 \cdot p \cdot q)}$$

Where:

n = required sample size

N = population size

Z = statistical parameter based on confidence level

e = maximum acceptable estimation error

p = probability of the event occurring

q = (1 - p) = probability of the event not occurring

Assuming a 95 % confidence level and a 5 % maximum error, the resulting sample comprised 145 students. Simple random probabilistic sampling ensured population representativeness.

Procedures and techniques

Data were collected via an online questionnaire (Google Forms) that included informed consent and the assessment instrument. Surveys were distributed through course presidents and shared via WhatsApp.

The primary instrument was the abbreviated 14-item Oral Health Impact Profile (OHIP-14), previously validated in adult populations.⁽¹²⁾ This questionnaire assessed seven dimensions: functional limitation, physical pain, psychological discomfort, psychological disability, physical disability, social disability, and handicap. Each item was scored on a Likert scale from 0 ("never") to 4 ("always"), yielding a total score range of 0–56. Low impact was defined as ≤ 14 points; high impact as ≥ 15 points.^(14,15)

Study variables included: oral health, oral health-related quality of life (OHRQoL), gender, age, and residence (urban/rural). Data were coded and analyzed using SPSS version 25.

Statistical analysis

Descriptive analysis included absolute and relative frequencies for qualitative variables and measures of central tendency for quantitative variables. Associations between sociodemographic variables and OHRQoL impact were assessed using the Chi-square test, with statistical significance set at $p < 0,05$. The strength of association was measured using Cramér's V coefficient.

Ethical considerations

The study received institutional authorization from UNIANDES and ethical approval from the corresponding ethics committee. All participants provided informed consent prior to survey completion. Data confidentiality and participant anonymity were guaranteed. The research adhered to the ethical principles of the Declaration of Helsinki and applicable national regulations for human subjects research.

RESULTS

As shown in Table 1, the sample was predominantly male (55,2 %), though female representation was nearly half (44,8 %). Most participants were aged 18–23 years (over 80 % combined), with older age groups minimally represented. Urban residence predominated (72,4 %) over rural (27,6 %), reflecting concentration in urbanized areas.

Table 1. Sociodemographic data.

Variable		No.	%
Gender	Female	65	44,8
	Male	80	55,2
Age	18–20 years	64	44,1
	21–23 years	55	37,9
	24–26 years	18	12,4
	27–29 years	7	4,8
	33–35 years	1	0,7
Residence	Rural	40	27,6
	Urban	105	72,4

Analysis of Table 2 reveals that most participants reported minimal oral health-related quality-of-life impairment, as “never” and “almost never” responses predominated across most items. However, notable areas of concern emerged: over 40 % expressed worry about oral problems, and a considerable proportion reported stress (44 % “often”). Additionally, 28 % experienced difficulty resting, and 17 % felt ashamed of their oral condition. Although total inability to perform daily activities was rare (52 % “never”), a minority did report significant limitations. These findings suggest that while overall impact is low, emotional and functional dimensions warrant priority attention.

Table 2. Absolute descriptive statistics for OHIP-14 questionnaire.

Question	Never No. (%)	Almost never No. (%)	Often No. (%)	Almost always No. (%)	Always No. (%)
1. Have you had difficulty pronouncing words?	48 (33)	71 (49)	23 (16)	1 (1)	2 (1)
2. Has the taste of your food worsened?	87 (60)	50 (34)	6 (4)	1 (1)	1 (1)
3. Have you experienced discomfort while eating?	54 (37)	75 (52)	13 (9)	1 (1)	2 (1)
4. Have you felt pain in your mouth?	43 (30)	77 (53)	20 (14)	1 (1)	4 (3)
5. Are you worried about problems with your mouth?	21 (14)	27 (19)	24 (17)	11 (8)	62 (43)
6. Have you felt stressed?	9 (6)	28 (19)	64 (44)	20 (14)	24 (17)
7. Have you had to change your diet (e.g., eat soft foods)?	50 (34)	65 (45)	26 (18)	1 (1)	3 (2)
8. Have you had to interrupt your meals (take a pause while eating)?	54 (37)	74 (51)	13 (9)	2 (1)	2 (1)
9. Have you had difficulty resting (sleeping)?	40 (28)	48 (33)	41 (28)	6 (4)	10 (7)
10. Have you felt ashamed of problems with your mouth?	51 (35)	57 (39)	25 (17)	2 (1)	10 (7)
11. Have you been irritable due to problems with your mouth?	63 (43)	60 (41)	16 (11)	5 (3)	1 (1)
12. Have you had slight difficulty performing your daily activities?	63 (43)	69 (48)	10 (7)	2 (1)	1 (1)
13. Have you felt that life in general has been less enjoyable?	64 (44)	54 (37)	14 (10)	4 (3)	9 (6)
14. Have you been totally unable to perform your daily activities?	76 (52)	60 (41)	6 (4)	2 (1)	1 (1)

The study revealed near-equal distribution between participants reporting low impact (50,3 %) and high impact (49,7 %) of oral health on quality of life. This indicates marked heterogeneity in how students perceive the consequences of oral problems—half experiencing significant effects on general well-being, the other half perceiving minimal impact. Regarding dimensional analysis, psychological discomfort showed the highest impact (79,3 %), followed by psychological disability (38,6 %).

Table 3 shows that, in general, no statistically significant associations were found between the dimensions of oral health impact and the demographic variables of gender, age, and residence, except in the case of physical disability, where a significant relationship with gender was observed ($X^2=9,351$; $p=0,002$). This finding suggests that sex differences could influence the perception or experience of physical limitations resulting from oral problems, while in the other dimensions (physical pain, psychological discomfort, psychological and social disability, and impairment) no relevant variations were observed according to demographic profile.

Table 3. Association between oral health-related quality-of-life dimensions and demographic profile.

Dimension	Gender χ^2	Gender p-value	Age χ^2	Age p-value	Residence χ^2	Residence p-value
Functional limitation	0,45	0,502	6,609	0,158	0,012	0,913
Physical pain	1,106	0,293	6,733	0,151	0,625	0,429
Psychological discomfort	2,021	0,155	1,598	0,809	1,561	0,809
Physical disability	9,351	0,002	4,695	0,320	2,196	0,138
Psychological disability	1,133	0,287	4,644	0,326	2,882	0,090
Social disability	0,02	0,887	6,098	0,192	0,709	0,400
Handicap	0,624	0,429	2,403	0,662	0,657	0,418

DISCUSSION

Regarding difficulty pronouncing words, 49 % of respondents indicated they “almost never” experienced this issue, contrasting with Buyuknacar et al.,⁽¹⁶⁾ who reported 62 % of individuals with speech difficulties—particularly with “s” and “t” sounds. This discrepancy may stem from the current sample’s absence of oral lesions affecting articulation.

Sixty percent reported never noticing a decline in food taste, unlike Sáez et al.,⁽¹⁷⁾ where 50 % of individuals with gingivitis and 30 % with periodontitis reported altered taste. This difference likely reflects the absence of odontogenic diseases causing bad taste in our sample.

Fifty-two percent stated they “almost never” experienced discomfort while eating, compared to Vélez Vásquez et al.,⁽¹⁸⁾ who found 88,1 % of patients cited eating as the most impacted activity—attributable to caries-induced masticatory difficulty, absent in our cohort.

Fifty-three percent reported “almost never” feeling oral pain, consistent with Monroy Olano,⁽¹⁹⁾ who found 42,8 % with low oral pain levels. Both studies suggest good oral hygiene practices prevent discomfort, as dental pain is commonly linked to poor hygiene.

Forty-three percent “always” worried about oral problems, versus Domínguez Crespo et al.,⁽²⁰⁾ who reported only 16,21 % frequent concern—possibly because higher education levels in our sample correlate with greater health awareness. Forty-four percent “often” felt stressed, lower than Córdova Sotomayor et al.,⁽²¹⁾ who found 75,7 % stress among university students due to academic and life pressures—highlighting the need for balanced daily routines and hygiene habits.

Of those surveyed, 45 % stated that they almost never had to change their food, such as eating soft foods, contrasting with the study by Vega Vega et al.,⁽²²⁾ which shows that 8 % of people had to follow soft diets after simultaneous dental extraction procedures. Therefore, those who have made changes in their diet to soft foods did so due to the dentist’s specifications, especially after major dental procedures such as surgery or tooth extractions.

Meanwhile, 51 % of individuals in this research reported that they almost never had to interrupt their meals, that is, pause while eating. This differs from the findings of Carvajal Vogtschmidt et al.,⁽²³⁾ which showed that 68,95 % of individuals had to pause while eating due to burning and itching in the mouth—specifically the tongue, lips, and palate. When a person pauses while eating, it is due to some oral discomfort; if no discomfort is present, there is no problem. The majority of respondents in this study reported no issues.

The individuals in this survey reported, at 33 %, that they almost never experienced difficulty resting, compared to the study by Arbúes et al.,⁽²⁴⁾ which found that 43,1 % of university students had problems falling asleep or suffered from insomnia. This percentage difference is due to the fact that the subjects in the second study experienced higher levels of stress, anxiety, and uncertainty compared to the individuals in the present study. Meanwhile, 39 % of respondents stated that they almost never felt embarrassed by oral problems, in contrast to the research by Morales Cobos et al.,⁽²⁵⁾ which reported that 50 % of individuals did feel ashamed of their oral issues, mainly due to the presence of halitosis. Thus, it can be said that good oral hygiene contributes to individuals feeling confident and not experiencing embarrassment in social situations, whereas poor oral hygiene or oral health can lead to social shame.

In this survey, 43 % of participants affirmed that they never felt irritable due to oral problems, compared to the study conducted by Ariceta et al.,⁽²⁶⁾ which reported a high rate of 81 % who felt irritable due to oral discomfort. People may feel irritable because oral problems can cause discomfort, unease, and pain; therefore, it is important to maintain good oral hygiene and visit the dentist regularly. Regarding difficulty performing daily activities, 48 % in this study reported almost never experiencing it, compared to the research by Jiménez Gayosso,⁽²⁷⁾ which found that 18 % of individuals did experience difficulty in daily activities due to temporomandibular disorders. If an individual suffers from a temporomandibular disorder, they will face problems in daily activities due to difficulty eating, swallowing, or the pain and discomfort it causes, whereas if no disorder is present, life proceeds without difficulty.

Of the individuals in this survey, 44 % stated they never felt that life had no meaning, while the study by Monterrosa Castro et al.,⁽²⁸⁾ reported that 48,8 % felt sad or depressed. The difference in percentages may be due to multiple causes, such as the level of difficulty of the university programs they are pursuing or problems adapting to higher education. Meanwhile, 52 % affirmed they never felt totally incapable of performing their daily activities. The study by Rivera Reza et al.,⁽²⁹⁾ mentions that 27 % of individuals experienced total incapacity to carry out daily activities due to oral diseases or surgeries. When a person undergoes painful procedures or oral surgeries, they may feel equally incapacitated in their daily activities as they would after surgery in any other part of the body. It is important to follow the dentist's recommendations and rest to avoid future complications.

According to the results obtained from applying the OHIP-14 questionnaire, it is observed that hybrid law students experienced little impact on their quality of life. This information is corroborated by Molina et al.,⁽¹⁴⁾ where the questionnaire was applied to adults over 18 years old, who also reported low impact on quality of life regarding oral health. This is because the impact on quality of life increases as people age.⁽¹²⁾

Another finding of this study was that the dimension with the greatest impact was psychological discomfort, similar to the study by Molina-Merino et al.,⁽¹⁴⁾ which showed a high impact in this dimension. This is due to respondents showing high concern about problems related to their mouth and often experiencing stress about oral health. Guerrero,⁽³⁰⁾ in his study, points out that in young adulthood, students face significant changes and challenges in the search for identity, life purpose, and other social expectations related to their age. These challenges mean that their

quality of life is not limited solely to oral health but also involves other aspects of their academic and personal lives.

Regarding the relationship between the dimension of psychological discomfort and gender, it is observed that there is a greater impact among men compared to women. Likewise, when performing chi-square statistical tests, no significant association was found between gender and the dimension of psychological discomfort; however, in physical disability, a significant association with gender was observed. A similar study was presented by Díaz-Reissner et al.,⁽³¹⁾ where the dimension of physical disability was affected, as respondents presented with open bite, which impacted them when eating. A similar study conducted by Domínguez Crespo et al.,⁽²⁰⁾ observed that the male gender had a greater impact in the dimension of psychological discomfort. Olczak-Kowalczyk et al.,⁽³²⁾ indicated in their study that men over 18 years old have a greater propensity for alcohol and tobacco consumption. These habits increase the risk of developing oral problems, which could result in higher stress levels in this gender.

A comparison was made between the impact of oral health related to quality of life, according to the dimensions provided by the OHIP-14 questionnaire and age. It was evidenced that between 18 and 35 years old there is a high impact in psychological discomfort. In this study, no significant association was found between the variables. These data are corroborated by Quintanilla-Cohello et al.,⁽³³⁾ as their study did not show significant differences in the positive or negative impact of quality of life with respect to the age variable.

Similarly, a study conducted in Ica, Peru by Olivari Abarca,⁽³⁴⁾ did not find a significant difference between age and the impact of oral health, since its p-value was greater than 0,05. Therefore, the null hypothesis was not rejected, showing that there is no direct relationship between the two variables, as in this study.

When relating the area where students live, whether rural or urban, it was observed that, likewise, in the dimension of psychological discomfort there was a high impact, demonstrating that in this aspect they have a low quality of life. However, no significant relationship was found when applying the chi-square statistical test. This information contrasts with a study by Ochoa et al.,⁽³⁵⁾ which found a relationship between quality of life and the area of residence, as the dimensions with the greatest impact corresponded to limitation of oral function and physical pain. It is also mentioned that there are few studies that compare quality of life with the area of residence.

A crucial point of this study, which invites reflection, is the absence of significance between the variables of gender, age, and residence. This may be due to the sample size, similar to the study by Domínguez Crespo et al.,⁽²⁰⁾ which did not find significant differences in sociodemographic variables despite having a sample of 214 adults. Therefore, it is suggested that future studies employ a larger and more balanced sample, that is, with an equal number of male and female participants. Other variables could also be included, such as level of knowledge and presence of oral diseases, to explore more deeply the relationships between these variables.

CONCLUSIONS

The OHIP-14 questionnaire administered to hybrid-mode Law students at UNIANDES revealed low oral health impact on quality of life, reflecting strong commitment to oral care. While most dimensions showed no significant associations with age, residence, or gender, psychological aspects—particularly stress from oral health concerns—were notably affected. The only statistically significant association was between gender and physical disability, suggesting sex-based differences in perceived limitations. These findings highlight the need to strengthen educational interventions and promote accessible dental services—such as prophylaxis and basic treatments—to reinforce oral care habits and further improve students' oral health and university life quality.

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