



BRIEF COMMUNICATION

Oral health and well-being in patients of Totoras Health Center, Ambato

Carmen Salinas-Goodier¹✉, Leonardo Alexander Mendoza-Caicedo¹, Rómulo Guillermo López-Torres¹

¹Universidad Regional Autónoma de Los Andes. Ambato, Ecuador.

Received: December 30, 2025

Accepted: December 31, 2025

Published: December 31, 2025

Citar como: Salinas-Goodier C, Mendoza-Caicedo LA, López-Torres RG. Salud oral y bienestar en pacientes del Centro de Salud de Totoras, Ambato. Rev Ciencias Médicas [Internet]. 2025 [citado: fecha de acceso]; 29(S2): e7081. Disponible en: <http://revcmpinar.sld.cu/index.php/publicaciones/article/view/7081>

ABSTRACT

Introduction: oral health directly influences quality of life, affecting basic functions, psychological well-being, and social performance, especially in populations with educational and economic inequalities.

Objective: to evaluate oral health-related quality of life in patients treated at the Totoras Health Center, Ambato.

Methods: an observational, descriptive, cross-sectional study was conducted at the Totoras Health Center. Using non-probabilistic convenience sampling, 50 patients aged between 25 and 60 years were selected. The application of the validated OHIP-14 questionnaire allowed the collection of information that addressed the analyzed variables. Descriptive analysis and Chi-square test with significance at $p < 0.05$ were employed. Bioethical principles were respected.

Results: 58 % of patients reported a moderate impact on their quality of life, 38 % a mild impact, 2 % severe, and 2 % no impact. A significant association was found between gender and impact, with men being the most affected. Likewise, patients with lower educational levels reported a greater perception of work incapacity due to dental problems. The majority identified as mestizo (88 %), and 40 % reported incomes equivalent to one unified basic salary.

Conclusions: oral health showed a relevant impact on quality of life, with greater affectation in men and individuals with lower educational levels. These findings highlight the need for inclusive oral health strategies that reduce inequalities and strengthen access to dental services in vulnerable populations.

Keywords: Quality Of Life; Patient Comfort; Oral Health.

INTRODUCTION

Oral health-related quality of life (OHRQoL) has been widely used as a measure of the impact of oral diseases and disorders on individuals and society. Unlike normative clinical indicators, quality-of-life measures aim to capture the broad consequences of poor oral health from the perspective of affected adults, children, and families.^(1,2) Various conditions affect OHRQoL in the daily lives of many patients. Globally, particularly among the poorest populations, individuals continue to suffer from oral problems such as dental caries and periodontal diseases. For many years, oral health was assessed solely through clinical criteria, which failed to reflect the true impact of oral diseases on patients' daily lives.⁽³⁾

There has been growing interest in dental research to quantify the consequences of disease on patients' routines. Several questionnaires have been developed to measure the impact of oral problems on quality of life. Oral diseases can lead to difficulties in chewing, reduced food intake with consequent weight loss, insomnia, irritability, and low self-esteem. Although most oral conditions do not pose an immediate risk of death, they significantly diminish quality of life by prolonging pain and suffering and causing functional, aesthetic, nutritional, and psychological problems. Actions focused on health education—emphasizing self-perception, self-protection, and self-care—should be explored. Additionally, equity-based programs aimed at reducing inequalities and their negative effects on individuals' quality of life must be implemented.^(3,4)

It is well established that chronic diseases and multimorbidity are associated with poorer health-related quality of life in adults. Both physical limitations—such as reduced mobility or impaired physical function—and psychological disturbances negatively affect health-related quality of life in this population. Recently, environmental factors such as satisfaction with one's surroundings and health services have also been identified as relevant contributors to better health-related quality of life among older adults.^(5,6)

Beyond physical, mental, and environmental aspects, social factors may also play a crucial role in health-related quality of life. However, only a few population-based studies have examined the relationship between social factors and quality of life in older adults. Previous research has indicated that advanced age, female gender, lower educational level, lower occupational status, lower income, external health locus of control, lower social support, and reduced physical activity are associated with poorer health-related quality of life.^(2,5,6)

Health inequities refer to differences in health that are socially produced, avoidable, and unjust. Socioeconomic inequalities—including those related to sociopolitical context, income, and education—create a social gradient in population health. Individuals experiencing social and economic disadvantage generally exhibit worse overall and oral health. Theoretical explanations for socioeconomic disparities in oral health include the notion that lower socioeconomic status leads to a lack of material resources—such as housing and food—and limited access to health services, resulting in higher disease burden.^(7,8)

Negative impacts on health-related quality of life have been associated with low income, low educational attainment, greater household crowding, and low social status—even after adjusting for clinical characteristics. One possible explanation is that individuals with lower socioeconomic status are more susceptible to general and oral health risk factors and, consequently, to oral disorders that negatively affect the functional, psychological, and social dimensions of quality of life.^(3,7) The above considerations motivated the present study, which aimed to evaluate oral health-related quality of life among patients attending the Totoras Health Center in Ambato.

METHODS

An observational, descriptive, cross-sectional, and retrospective study was conducted at the Totoras Health Center, Totoras parish, Ambato canton, Tungurahua province, Ecuador. Data collection took place from February 6 to 8, 2024.

Inclusion criteria were:

- Patients attending the health center during the study days
- Age between 25 and 60 years
- Ability to read and write
- Voluntary consent to participate in the survey

The final sample included 50 patients selected via non-probabilistic convenience sampling, considering only those who met the established criteria.

Procedures and techniques

Data were collected using the validated OHIP-14 (Oral Health Impact Profile) questionnaire, supplemented with sociodemographic questions. Variables included: gender (male/female); educational level (none, primary, secondary, higher); economic status (<60 USD, 61–90 USD, 91–1 Unified Basic Salary [SBU], 1 SBU, >1 SBU); and ethnic self-identification (mestizo, indigenous, white, montubio, Afro-descendant).

OHIP-14 responses were coded on a scale from 0 to 4 (0 = "Never," 4 = "Always"). Total scores were used to categorize impact into four levels: no impact (0); mild impact (1–18); moderate impact (19–36); severe impact (≥ 37). Surveys were administered in person by trained researchers to ensure uniform instrument delivery.

Statistical analysis

Descriptive analysis of variables was performed using absolute frequencies and percentages. Associations between sociodemographic variables and OHRQoL were explored using the Chi-square (χ^2) test, with statistical significance set at $p < 0.05$. Data were processed using Stata software version 14.1. Missing data were handled through case exclusion, and consistency checks were applied to minimize information bias.

Ethical considerations

The study was approved by the Ethics Committee of the Universidad Regional Autónoma de Los Andes (UNIANDES). All participants received information about the study's objectives and procedures and provided signed informed consent prior to completing the survey. Data confidentiality and participant anonymity were guaranteed, in compliance with the principles of the Declaration of Helsinki and applicable national regulations for health research.

RESULTS

The sample comprised 50 participants who met inclusion and exclusion criteria. Demographic characteristics are shown in Table 1, with a predominance of females (56 %), income equivalent to one SBU (40 %), primary education (66 %), and mestizo ethnicity (88 %).

Table 1. Demographic characteristics of the sample.

Variable		No.	%
Gender	Male	22	44
	Female	28	56
Economic income	<60 USD	7	14
	61–90 USD	19	38
	1 SBU	20	40
	>1 SBU	4	8
Educational level	Primary	15	66
	Secondary	33	30
	Higher	2	4
	None	0	0
Ethnic self-identification	Mestizo	44	88
	Indigenous	5	10
	White	1	2
	Montubio	0	0
	Afro-descendant	0	0

Note: SBU = Unified Basic Salary

Results in Table 2 show that dental problems significantly affected various dimensions of patients' daily lives. High frequencies of "Always" and "Frequently" responses were observed for items related to dental pain (50 % always), sensitivity (56 % always), bad breath (48 % always), and impaired digestion (46 % always), reflecting direct impacts on physical and functional health. Additionally, 36 % reported feeling completely unhappy due to dental problems, and 30 % were dissatisfied with their appearance, indicating clear psychological and social repercussions. In contrast, items related to oral communication and work performance showed less impact, with most responses in "Never" or "Almost never." Collectively, these findings suggest that the main dimensions affected by oral health in this population are pain, masticatory function, and self-esteem, while social and occupational limitations appear less intense—though still relevant to overall quality of life.

Table 2. Descriptive analysis of survey responses.

Variable		No.	%
Have you felt that your breath has worsened due to problems with your teeth, mouth, or dentures?	Never	7	14
	Almost Never	3	6
	Sometimes	5	10
	Frequently	11	22
	Always	24	48
Have you felt that your digestion has worsened due to problems with your teeth, mouth, or dentures?	Never	13	26
	Almost Never	5	10
	Sometimes	1	2
	Frequently	8	16
	Always	23	46
	Never	7	14

Have you had sensitive teeth, for example, due to cold foods or liquids?	Almost Never	3	6
	Sometimes	3	6
	Frequently	9	18
	Always	28	56
Have you had tooth pain?	Never	6	12
	Almost Never	4	8
	Sometimes	4	8
	Frequently	11	22
	Always	25	50
Have dental problems made you feel completely unhappy?	Never	16	32
	Almost Never	11	22
	Sometimes	0	0
	Frequently	5	10
	Always	18	36
Have you felt dissatisfied with the appearance of your teeth, mouth, or dentures?	Never	20	40
	Almost Never	10	20
	Sometimes	0	0
	Frequently	5	10
	Always	15	30
Has the way you speak been unclear due to problems with your teeth, mouth, or dentures?	Never	30	60
	Almost Never	12	24
	Sometimes	3	4
	Frequently	2	6
	Always	3	6
Have people misunderstood some of your words because of problems with your teeth, mouth, or dentures?	Never	33	66
	Almost Never	9	18
	Sometimes	3	6
	Frequently	2	4
	Always	3	6
Has your sleep been interrupted due to problems with your teeth, mouth, or dentures?	Never	34	68
	Almost Never	8	16
	Sometimes	2	4
	Frequently	2	4
	Always	4	8
Have you been upset or irritated because of problems with your teeth, mouth, or dentures?	Never	33	66
	Almost Never	8	16
	Sometimes	2	4
	Frequently	4	8
	Always	3	6
Have you been less tolerant with your partner or family due to problems with your teeth, mouth, or dentures?	Never	33	66
	Almost Never	10	20
	Sometimes	1	2
	Frequently	3	6
	Always	3	6

Have you had difficulties performing your usual work because of problems with your teeth, mouth, or dentures?	Never	33	66
	Almost Never	13	26
	Sometimes	1	2
	Frequently	1	2
	Always	2	4
Have you been completely unable to function due to problems with your teeth, mouth, or dentures?	Never	37	74
	Almost Never	10	20
	Sometimes	0	0
	Frequently	2	2
	Always	1	4
Have you been unable to work to your full capacity because of problems with your teeth, mouth, or dentures?	Never	35	70
	Almost Never	11	22
	Sometimes	1	2
	Frequently	2	4
	Always	1	2

(Full table reproduced faithfully as provided in the original text)

DISCUSSION

This study revealed moderate impairment in 58 % of cases. A statistically significant association was found between gender and quality-of-life impact, with men being more affected. Men also reported higher frequencies of bad breath and digestive problems due to dental issues. Educational level also played a role: individuals with secondary or higher education reported less frequent work disability due to dental problems compared to those with only primary education.

Our finding that men experienced greater oral health-related quality-of-life impairment contradicts results from other studies,^(6,10) yet gender may moderate the relationships between social factors and health-related quality of life. Further research is needed to examine gender's moderating effects. Previous studies have explored gender roles in oral health-related quality of life, finding that instrumental activities of daily living, nutrition, education level, average monthly income, and better oral health literacy were associated with better oral health-related quality of life among men. Such findings suggest that gender-specific oral health education should be delivered through culturally adapted community health programs.⁽¹¹⁾

Oral diseases can cause chewing difficulties, weight loss due to reduced food intake, insomnia, irritability, and low self-esteem. Given the wide range of problems stemming from poor oral health or other orofacial conditions, it is essential to understand each patient's oral health-related quality of life and its influencing factors to improve their condition.⁽⁸⁾

García Pérez A et al.⁽⁸⁾ reported that populations with medium and low socioeconomic status experience the greatest oral health-related quality-of-life impairments, demonstrating that inadequate oral health—particularly in developing countries—has a substantial impact on individuals' well-being. The risk of oral diseases disproportionately affects low-income individuals due to limited access to health services and oral health education.

Education level plays a critical role in health and well-being. Studies consistently show that higher educational attainment correlates with better health outcomes, as more knowledgeable individuals have improved access to resources and medical care to maintain good health. Both personal and parental education levels directly influence oral health through knowledge and attitudes toward it.⁽¹²⁾ In our study, individuals with lower education more frequently reported work disability due to dental problems, consistent with prior research showing that lower education is associated with greater oral health-related quality-of-life impairment.^(13,14)

This study had several limitations. The use of non-probabilistic sampling may introduce bias and limit generalizability to the broader population. Additionally, data were collected at a single health center over a short period, potentially failing to capture temporal or regional variability. Finally, reliance on self-reported data may be subject to recall and social desirability biases. Despite these limitations, the study has notable strengths, including the use of a previously validated instrument (OHIP-14) and a sample encompassing diverse economic, educational, and ethnic backgrounds, enhancing the representativeness of the findings.

CONCLUSIONS

This study underscores that oral health significantly impacts adults' quality of life, with variations by gender and educational level. Men and individuals with lower education reported greater impairments. These findings emphasize the need for more inclusive and equitable oral health strategies.

BIBLIOGRAPHIC REFERENCES

1. Chaffee BW, Rodrigues PH, Kramer PF, Vítolo MR, Feldens CA. Oral health-related quality-of-life scores differ by socioeconomic status and caries experience. *Community Dent Oral Epidemiol* [Internet]. 2017 Jun 1 [Citado 20/09/2025]; 45(3):216–24. Disponible en: <https://pubmed.ncbi.nlm.nih.gov/28083880/>
2. Riva F, Seoane M, Reichenheim ME, Tsakos G, Celeste RK. Adult oral health-related quality of life instruments: A systematic review. *Community Dent Oral Epidemiol* [Internet]. 2022 Oct 18 [Citado 20/09/2025]; 50(5):333–8. Disponible en: <https://pubmed.ncbi.nlm.nih.gov/34409626/>
3. Spanemberg JC, Cardoso JA, Slob EMGB, López-López J. Quality of life related to oral health and its impact in adults. *J Stomatol Oral Maxillofac Surg* [Internet]. 2019 Jun [Citado 20/09/2025]; 120(3): 234-239. Disponible en: <https://pubmed.ncbi.nlm.nih.gov/30763780/>
4. Hassan BH, Abd El Moniem MM, Dawood SS, Alsultan AA, Abdelhafez AI, Elsakhy NM. Dental Anxiety and Oral-Health-Related Quality of Life among Rural Community-Dwelling Older Adults. *Int J Environ Res Public Health* [Internet]. 2022 Jun 22 [Citado 20/09/2025]; 19(13): 7643. Disponible en: <https://pubmed.ncbi.nlm.nih.gov/35805302/>
5. Yun J, Lee Y, Lee HJ. A comparison of health-related quality of life and personal, social, and environmental factors of older adults according to a residential area: a propensity score matching analysis. *Quality of Life Research* [Internet]. 2022 Sep 2 [Citado 20/09/2025]; 31(9): 2631–43. Disponible en: <https://pubmed.ncbi.nlm.nih.gov/35366760/>

6. Geigl C, Loss J, Leitzmann M, Janssen C. Social factors of health-related quality of life in older adults: a multivariable analysis. *Quality of Life Research* [Internet]. 2023 Nov 17 [Citado 20/09/2025]; 32(11): 3257–68. Disponible en: <https://pubmed.ncbi.nlm.nih.gov/37458960/>
7. Knorst JK, Sfreddo CS, de F. Meira G, Zanatta FB, Vettore MV, Ardenghi TM. Socioeconomic status and oral health-related quality of life: A systematic review and meta-analysis. *Community Dent Oral Epidemiol* [Internet]. 2021 Apr 28 [Citado 20/09/2025]; 49(2): 95–102. Disponible en: <https://pubmed.ncbi.nlm.nih.gov/33368600/>
8. García Pérez A, González-Aragón Pineda ÁE, Gonzalez Olivares H. Oral health-related quality-of-life scores differ by socioeconomic status, mother's level of education, dental visits and severity of malocclusion in mixed dentition of eight-to-ten-year-old schoolchildren. *PeerJ* [Internet]. 2021 Sep 1 [Citado 20/09/2025]; 9: e12062. Disponible en: <https://pubmed.ncbi.nlm.nih.gov/34557348/>
9. Montero J, Lopez JF, Vicente MP, Galindo MP, Albaladejo A, Bravo M. Comparative validity of the OIDP and OHIP-14 in describing the impact of oral health on quality of life in a cross-sectional study performed in Spanish adults. *Med Oral Patol Oral Cir Bucal* [Internet]. 2011 [Citado 20/09/2025]; 16(6): e816-21. Disponible en: <https://pubmed.ncbi.nlm.nih.gov/21217617/>
10. BASTOS RS, SÁ LM, VELASCO SRM, TEIXEIRA DF, PAINO LS, VETTORE MV. Frailty and oral health-related quality of life in community-dwelling older adults: a cross-sectional study. *Braz Oral Res* [Internet]. 2021 [Citado 20/09/2025]; 35: e139. Disponible en: <https://pubmed.ncbi.nlm.nih.gov/34932668/>
11. Lee CJ, Ho MH, Joo JY, Montayre J, Lin YK, Chang CC, et al. Gender differences in the association between oral health literacy and oral health-related quality of life in older adults. *BMC Oral Health* [Internet]. 2022 Dec 25 [Citado 20/09/2025]; 22(1): 205. Disponible en: <https://pubmed.ncbi.nlm.nih.gov/35614446/>
12. Bernabé E, Suominen AL, Nordblad A, Vehkalahti MM, Hausen H, Knuuttila M, et al. Education level and oral health in Finnish adults: evidence from different lifecourse models. *J Clin Periodontol* [Internet]. 2011 Jan [Citado 20/09/2025]; 38(1): 25–32. Disponible en: <https://pubmed.ncbi.nlm.nih.gov/21058971/>
13. Berezovsky B, Bencko V. ORAL HEALTH IN A CONTEXT OF PUBLIC HEALTH: PREVENTION-RELATED ISSUE. *Cent Eur J Public Health* [Internet]. 2021 Dec 1 [Citado 20/09/2025]; 29(4): 317–21. Disponible en: <https://cejph.szu.cz/pdfs/cjp/2021/04/11.pdf>
14. Knorst JK, Vettore MV, Brondani B, Emmanuelli B, Ardenghi TM. The Different Roles of Structural and Cognitive Social Capital on Oral Health-Related Quality of Life among Adolescents. *Int J Environ Res Public Health* [Internet]. 2023 Apr 1 [Citado 20/09/2025]; 20(8): 5603. Disponible en: <https://pubmed.ncbi.nlm.nih.gov/37107885/>