QUALIDADE DE VIDA RELACIONADA COM A SAÚDE ORAL EM ESTUDANTES DO ENSINO SUPERIOR
QUALITY OF LIFE RELATED TO ORAL HEALTH IN HIGHER EDUCATION STUDENTS
CALIDAD DE VIDA RELACIONADA CON LA SALUD BUCODENTAL EN ESTUDIANTES DE EDUCACIÓN SUPERIOR

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RESUMO

Introdução: A qualidade de vida relacionada com a saúde oral é multidimensional e traduz o impacto da saúde oral no bem-estar funcional, social e psicológico. Os comportamentos de saúde oral têm tradução ao longo do ciclo vital e podem afetar a qualidade de vida.

Objetivo: Avaliar a qualidade de vida relacionada com a saúde oral em estudantes do ensino superior; inferir da relação entre as variáveis sociodemográficas e comportamentais e o nível de qualidade de vida relacionada com a saúde oral autoreferido.

Métodos: Estudo transversal, quantitativo, descritivo e correlacional em 430 estudantes do ensino superior da região norte de Portugal. Predomínio de indivíduos do sexo feminino (n=342; 79.5%) e com idades entre os 18 e os 22 anos (n=297; 69.1%). Aplicado um questionário *online* constituído por variáveis sociodemográficas e comportamentais e pela versão breve do *Oral Health Impact Profile* (OHIP-14). Utilizaram-se testes não paramétricos com intervalo de confiança de 95%.

Resultados: A maioria dos estudantes escova os dentes e a boca duas ou mais vezes por dia (n=367; 85.4%) e tem patologia da cavidade oral (n=306; 71.1%). 50.2% (n=216) têm zonas edêntulas e 42.3% (n=188) frequentam consultas com profissionais de SO apenas quando é necessário. O score médio do OHIP-14 foi de 6.142 (±9.137). Há associação estatisticamente significativa entre as variáveis comportamentais e o score total do OHIP-14.

Conclusão: A pontuação média do OHIP-14 traduz ausência de impacto da saúde oral na qualidade de vida da amostra. Os comportamentos de saúde oral influenciam a qualidade de vida relacionada com a saúde oral.

Palavras-chave: qualidade de vida; saúde bucal; autorrelato; educação superior; estudantes

ABSTRACT

Introduction: Oral health-related quality of life is multidimensional and reflects the impact of oral health (OH) on functional, social and psychological well-being. Oral health behaviors translate throughout the life cycle and can affect the quality of life.

Objective: To assess oral health-related quality of life in higher education students; to infer the relationship between sociodemographic and behavioral variables and the level of self-reported oral health-related quality of life.

Methods: Cross-sectional, quantitative, descriptive and correlational study in 430 higher education students from the northen region of portugal. Predominance of female individuals (n=342; 79.5%) aged between 18 and 22 years (n=297; 69.1%). An online survey consisting of sociodemographic and behavioral variables and the short version of the Oral Health Impact Profile (OHIP-14) was applied. Nonparametric tests with a 95% confidence interval were used.

Results: Most students brush their teeth and mouth two or more times a day (n=367; 85.4%) and have oral cavity pathology (n=306; 71.1%). 50.2% (n=216) have edentulous areas and 42.3% (n=188) attend consultations with OH professionals only when absolutely necessary. The average OHIP-14 score was 6,142 (±9,137). There is a statistically significant association between behavioral variables and the total OHIP-14 score.

Conclusion: The average OHIP-14 score reflects the absence of an impact of oral health on the sample's quality of life. Oral health behaviors influence oral health-related quality of life.

Keywords: quality of life; oral health; self-report; education, higher; students

RESUMEN

Introducción: La calidad de vida relacionada con la salud bucodental es multidimensional y traduce el impacto de la salud bucodental en el bienestar funcional, social y psicológico. Los comportamientos del SO tienen traducción a lo largo del ciclo vital y pueden afectar a la calidad de vida.

Objetivo: Evaluar la calidad de vida relacionada con la salud bucodental en estudiantes de educación superior; inferir la relación entre las variables sociodemográficas y de comportamiento y el nivel de calidad de vida relacionada con la salud bucodental autodeclarado.

Métodos: Estudio transversal, cuantitativo, descriptivo y correlacional en 430 estudiantes de educación superior de la région norte de Portugal. Predominan las mujeres (n=342; 79,5%) y las edades comprendidas entre los 18 y los 22 años (n=297; 69,1%). Se aplicó un cuestionario online que consistía en variables sociodemográficas y de comportamiento y la versión corta del Perfil de Impacto en la Salud Oral (OHIP-14). Se utilizaron pruebas no paramétricas con un intervalo de confianza del 95%.

Resultados: La mayoría de los estudiantes se cepillan los dientes y la boca dos o más veces al día (n=367; 85,4%) y tienen patología de la cavidad oral (n=306; 71,1%). El 50,2% (n=216) tiene zonas edéntulas y el 42,3% (n=188) acude a las consultas de los profesionales de la salud bucodentale cuando es necesario. La puntuación media del OHIP-14 fue de 6,142 (±9,137). Existe una asociación estadísticamente significativa entre las variables de comportamiento y la puntuación total del OHIP-14.

Conclusión: la puntuación media del OHIP-14 no refleja ningún impacto de la salud bucodentale en la calidad de vida de la muestra. Los comportamientos de la salud bucodentale influyen en la calidad de vida relacionada con la salud bucodentale.

Palabras Clave: calidad de vida; salud bucal; autoinforme; educación superior; estudiantes

THEORETICAL FRAMEWORK

As an indicator of health in general, OH is representative of the individual's quality of life, and the interest in its study has taken on greater expression over the last few years. Conceptualized by the World Health Organization (WHO, 2022) as the absence of orofacial pain, oral pathology and disorders that limit the physical functions of the oral cavity and psychosocial well-being, a high level of OH includes, but is not limited to physiological functions (Glick et al., 2012). In this regard, Lee et al. (2017) highlight the need to base the measurement of OH of populations on the status and condition of OH but also on psychosocial function, recognizing the limitation of morbidity and mortality indicators and the need to value broader social determinants that respond to the growing interest of individuals in health literacy and quality of life.

According to the Global Burden of Disease Study (GDB 2016 Diseases and Injury and Prevalence, 2017), it is estimated that oral pathologies are present in half of the world population, an indicator that places them at the forefront of public health problems (Sousa, 2016). The WHO (2022) predicts that, in Europe, severe periodontal disease affects 5 to 20% of adults between 35 and 44 years of age, and, according to the International Dental Federation (IDF, 2015), in 2010, 3.9 billion individuals had oral pathology. With a prevalence of 40% worldwide (IDF, 2015), dental caries, although preventable, have an impact on food, sleep and rest, growth and school and work absenteeism, reflecting health care and the hygienic-sanitary conditions of the populations. Currently, in Portugal, diseases of the oral cavity are considered a national public health problem, as they have significance in the general health level of individuals and translate into the quality of life (Direção-Geral da Saúde, 2019, 2021).

Young adults, whose chronological age, by definition, is between 18 and 25 years old, experience a period marked by biopsychosocial development, where experiences with peers and the socio-family context lead to the adoption of lifestyles and behaviors that can be protectors or hinderers of the best level of health in general (Committee on Improving the Health, Safety, and Well-Being of Young Adults, Board on Children, Youth, and Families, Institute of Medicine, & National Research Council, 2015). This stage of the life cycle often represents the abandonment of the family nucleus and entry into academic life, which is sometimes characterized by behaviors that hinder a high level of OH, such as the use of tobacco, alcohol intake, addiction to drugs and other substances, a diet rich in sugars and poor oral hygiene (Dias et al., 2020; Kojima et al., 2014). These behaviors are reflected throughout the life cycle and predict the incidence of oral pathology in adult life, so the implementation of programs aimed at this population setting, which integrate awareness of the urgency of oral hygiene care and surveillance of the condition of OH, should be a priority in the definition of health policies. Corroborating this need, Drachev, Brenn and Trovik (2018) state that, although oral disease is prevalent in the elderly population, young adults and adults have worse oral hygiene and, inherently, will have a greater impact on quality of life. Thus, it is urgent to measure the OHRQoL self-perception (Choi, et al., 2015).

The literature review reiterates the weight of the impact of OH status on the quality of life, so it is pertinent to include this variable in studies that concern the assessment of health-related quality of life (Ramos & Soares, 2021). Currently, OHRQoL is understood as a multidimensional concept that reflects the comfort of individuals during eating, sleeping and social relationships and which has an impact on self-esteem and self-image, with higher education students with better self-perception of OH and better OH behaviors better self-report OHRQoL (Yamane-Takeuchi, et al., 2016).

1. METHODS

A possible relationship between quality of life and OH emerges from the literature review, so, given the defined objectives, an empirical, descriptive and correlational study was designed, in a transversal plan, with a quantitative approach.

1.1 Sample

In the academic year 2021/2022, 9082 students attend higher education in the district of Bragança, Portugal, of which 430 participated in the study, mostly female (n=342; 70.5%), aged between 18 and 22 years old (n=297, 69.1%), of Portuguese nationality (n=298; 69.3%) and attending a course taught at the Escola Superior de Saúde (n=326; 75.8%). A convenience sample was constituted, defining as inclusion criteria the written comprehension of the Portuguese language and enrollment in higher education institutions of this district.

1.2 Data collection instruments

Data collection was carried out by answering an online questionnaire prepared on the Google Forms® platform and took place between August and December 2021. For the dissemination of the study, the collaboration of class representatives and teachers of higher education institutions was requested, and the access link to the questionnaire was sent via email.

The data collection instrument consists of a sociodemographic questionnaire designed for this purpose, which integrates sociodemographic and behavioral variables, and the short version of the OHIP-14 translated and validated for the Portuguese population by Afonso et al. (2017). In the sociodemographic characterization, the variables age, sex and nationality were assessed, and, for the behavioral characterization, the students answered questions about the habits of intake of sugary foods, frequency of OH appointments, presence of edentulism, use of tooth replacement and smoking habits. A question was also asked about the self-perception of the OHRQoL level. The OHIP-14 is the most used instrument to assess OHRQoL self-perception and enables the

collection of information on the severity, prevalence and extent of the impact of OH on the quality of life. It comprises 14 items that are grouped together to respond to the dimensions Functional limitation (items 1 and 2), Physical pain (items 3 and 4), Psychological discomfort (items 5 and 6), Physical disability (items 7 and 8), Psychological disability (items 9 and 10), Social Disability (items 11 and 12) and Disadvantage (items 13 and 14). In response to each item, the participant is positioned on a Likert scale scored between 0 and 4 (0=Never; 1=Rarely; 2=Rarely; 3=Sometimes; 4=Almost always) that reflects the frequency with which he experienced the utterance in the previous 12 months. In the present study, we chose to interpret the OHIP-14 through the addition method for all items and dimensions, with the total score varying between 0 and 56 points and the score per dimension between 0 and 8 points. The higher the total score, the greater the impact of OH on the individual's quality of life, with a score equal to or less than 14 points indicating no impact of OH on quality of life (Isiekwe, Onigbogi, Olatosi, & Sofola, 2014). The prevalence of impacts was also calculated by counting the number of items in which the students positioned themselves in the options A few times, Sometimes or Almost always, which allowed the dichotomization of the variable OHRQoL in With impact and Without impact.

The Portuguese version of the OHIP-14 is an instrument with good construct validity, high fidelity and sensitivity to sociodemographic, clinical and self-perception characteristics, it has psychometric properties similar to the original version and has a global internal consistency for the seven dimensions with Cronbach's Alpha. =0.95 (Afonso et al., 2017).

1.3 Statistical analysis

The collected data were processed in the IBM Statistica Package for Social Sciences® software, using descriptive and inferential statistics for their analysis.

The descriptive treatment of the data is presented as mean and standard deviation for continuous variables and as median with interquartile range for categorical variables. For inferential statistics, was chosen to use non-parametric tests, namely the Mann Whitney U Test, the Spearman Correlation and the Chi-Square Test. A confidence level of 95% ($p<0.05$) was defined, and the internal consistency of the OHIP-14 for the sample under study was evaluated by calculating Cronbach's Alpha.

1.4 Ethical procedures

Participation in the study complied with all the precepts recommended in the Declaration of Helsinki, the Oviedo Convention and the General Data Protection Regulation. The answer to the data collection instrument was preceded by the reading of the free, enlightened and informed consent, guaranteeing the confidentiality and anonymity of the data collected, and the identification of the respondent was never allowed during the response to the data collection instrument. A favorable decision was obtained from the Ethics Committee of the Polytechnic Institute of Bragança, according to Opinion Nr. 60/2021.

2. RESULTS

A total of 430 students participated in the study, mostly female (n=342; 79.5%), of Portuguese nationality (n=298; 69.3%) and aged between 18 and 22 years (n=297; 69.1%). The academic characterization of the participants showed that, predominantly, they attend a degree course (n=420; 97.7%) and the Higher Health School (n=326; 75.8%), with 38.4% (n=165) attending the 1st year and only 6.5% (n=28) the 4th year.

In the characterization of the oral condition of the sample, it was found that 71.1% of students (n=306) have a history of oral pathology and 50.2% (n=216) have edentulous areas, of which only 8.3% (n=18) use tooth replacement mechanisms. With regard to behavioral variables (Table 1), all students (n=430; 100.0%) reported brushing their teeth and mouth, with this habit being performed twice or more times a day by 85.4% of the sample (n=367). However, 14.0% (n=60) do not attend appointments with OH professionals. Of those who do it regularly (n=188; 43.7%), the majority attended an appointment less than a year ago (n=275; 64.0%), with oral health surveillance (n=245; 56.9%) the most important. main reason mentioned. When asked about the reason for not attending appointments with OH professionals, the main reasons mentioned were the associated cost (n=119; 27.7%) and fear (n=54; 12.6%).

In the characterization of OH determinants, it was found that most students do not smoke (n=320; 74.4%) and that 48.6% (n=209) occasionally ingest sugary drinks or foods, although 45.1% (n= 194) recognize the increasing intake of these foods during the study period.

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Table 1 - Sample distribution according to sex and behavioral variables

| | | Sex | | | | Total | |
| | | Female | | Male | | | |
		n	%	n	%	n	%
Habit of brushing teeth and mouth	Yes	342	79.5	88	20.5	430	100.0
	No	-	-	-	-	-	-
	Total	342	79.5	88	20.5	430	100.0
Frequency of brushing teeth and mouth	1 once a day	35	8.1	28	6.5	63	14.6
	2 twice or more a day	307	71.4	60	14.0	367	85.4
	Total	342	79.5	88	20.5	430	100.0
Oral pathology	Yes	247	57.4	59	13.7	306	71.1
	No	95	22.2	29	6.7	124	28.9
	Total	342	79.5	88	20.5	430	100.0
Frequency of OH appointments	*Yes, regularly*	158	36.7	30	7.0	188	43.7
	Yes, whenever necessary	150	34.9	32	7.4	182	42.3
	No	34	8.0	26	6.0	60	14.0
	Total	342	79.5	88	20.5	430	100.0
Smoking habits	*Yes, nowadays*	42	9.8	34	7.9	76	17.7
	Yes, previously	26	6.0	8	1.9	34	7.9
	No	274	63.7	46	10.7	320	74.4
	Total	342	79.5	88	20.5	430	100.0
Drinking sugary drinks or foods	*Daily*	50	11.6	17	4.0	67	15.6
	Most days	112	26.0	28	6.5	140	32.5
	Occasionally	171	39.8	38	8.8	209	48.6
	Never	9	2.1	5	1.2	14	3.3
	Total	342	79.5	88	20.5	430	100.0
Increasing intake of sugary drinks or foods during the study	*Yes*	151	35.1	43	10.0	194	45.1
	No	191	44.4	45	10.5	236	54.9
	Total	342	79.5	88	20.5	430	100.0

From the correlational analysis of the sociodemographic variables with the behavioral variables, it was found that the presence of oral pathology is associated with statistical significance with the variables Frequency of intake of sugary drinks or foods (p=0.007) and Increase in intake of these foods during the period of study (p=0.019), with a positive linear relationship between these variables. It was found that there is a statistically significant association between the presence of edentulous areas and the frequency of appointments with OH professionals (p=0.008), and students with edentulism tend to be those who least have this behavior of seeking OH. The age of the respondents is a variable that is statistically associated with the variables Frequency of consultations with OH professionals (p=0.015), Use of dental prosthesis (p=0.000), Presence of edentulous areas (p=0.000) and Tobacco use (p=0.000), having a negative linear relationship with all, except for the frequency of consultations with OH professionals.

Although most of the students self-rate their OH as good (n=226; 52.6%) or very good (n=67; 15.6%), 67.4% (n=290) they also consider that it affects very or moderately their quality of life. The assessment of the OHRQoL self-perception was achieved through the response to the OHIP-14 (Table 2), obtaining a total mean score of 6,142 (±9,137), with scores ranging between 0 and 56 points, reflecting the absence of impact of the OHRQoL. in the quality of life of students. On average, the most scored dimensions were Physical Pain ($\chi=1,423\pm1,648$) and Psychological Disability ($\chi=1,119\pm1,780$) and the least scored were Social Disability ($\chi=0,551\pm1,378$) and Disadvantage ($\chi=0,563\pm1,379$). These results reflect the item-by-item score, as the most rated items were the sensation of pain ($\chi=0.719\pm0.897$) and the feeling of discomfort during eating ($\chi=0.705\pm0.953$) and the lowest punctuated the perception of inability to perform activities ($\chi=0.233\pm0.698$) and the feeling of difficulty in performing usual tasks ($\chi=0.251\pm0.698$). The scale revealed to have a very good internal consistency for the sample under study, with Cronbach's Alpha value for the OHIP-14 being 0.881, with a range for dimensions from 0.580 to 0.915.

Table 2 - OHRQoL self-perception

OHIP-14	Score				Impact on QoL				Cronbach' Alpha
	Average (dp)	Min.	Max.	Variance	With impact		Without impact		
					n	%	n	%	
Dimension 1 Functional Limitation	0.705 (±1.500)	0	8	2.251	25	5.8	405	94.2	0.705
Dimension 2 Physical pain	1.423 (±1.648)	0	8	2.716	49	11.4	381	88.6	0.892
Dimension 3 Psychological Disability	1.086 (±1.726)	0	8	2.979	44	10.2	386	89.8	0.899
Dimension 4 Physical Disability	0.695 (±1.399)	0	8	1.956	23	5.3	407	94.7	0.915
Dimension 5 Psychological Disability	1.119 (±1.780)	0	8	3.168	33	7.7	397	92.3	0.589
Dimension 6 Social Disability	0.551 (±1.378)	0	8	1.898	19	4.4	411	95.6	0.822
Dimension 7 Disadvantage	0.563 (±1.379)	0	8	1.902	22	5.1	408	94.9	0.580
OHIP-14 Total	6.142 (±9.137)	0	56	83.488	57	13.3	373	86.7	0.881

From the correlational study between sociodemographic variables and OHRQoL self-perception, a statistically significant relationship between the age group of students and the total OHIP-14 score (p=0.000) is evidenced, assuming a positive linear relationship between these variables (Spearman correlation with range for dimensions between 0.151 and 0.242). Likewise, the academic year and the educational institution have a statistically significant association with the level of self-reported OHRQoL (p=0.001 and p=0.000, respectively), although there are no statistically significant differences between the academic year and the average of the total score of the OHIP-14 (p greater than 0.05 for the t-Test).

By analyzing the correlation of the OHRQoL level with the behavioral variables, it is inferred that there is statistical significance between the total OHIP-14 score and the number of teeth and mouth brushing (p=0.000), the presence of oral pathology (p=0.000), frequency of appointments with OH professionals (p=0.001), use of dental prosthesis (p=0.000), tobacco use (p=0.003), consumption of sugary drinks or foods (p= 0.040) and increased intake of these products during the study period (p=0.000). With the exception of the variable Frequency of appointments with OH professionals, all the others present a negative linear relationship with the total score of the OHIP-14 (Spearman correlation with intervals between -0.327 and -0.099), so they constitute behaviors that facilitate worse OHRQoL.

3. DISCUSSION

The concept of OHRQoL is multidimensional, so when measuring it, it is essential to integrate factors that go beyond physical discomfort and dysfunction of the oral cavity and that include emotions and social functions associated with OH. Currently, OH indicators reflect a public health concern, meaning loss of years of healthy life and increasing health costs due to the prevalence of oral pathology in communities (Direção-Geral da Saúde, 2021; FDI, 2015; Glick et al., 2012). Although sensitive to determinants such as OH-seeking behaviors, socioeconomic status and age, OH level determines quality of life, and this impact is consensual in the literature review.

In higher education students, the OH status is relevant and has an impact throughout life, and there is a set of conditions arising from the challenges inherent to this stage of the life cycle that present themselves as determinants of OH. At the same time, it is considered that the aesthetic and functional factors resulting from the individual's oral condition affect social life, food, daily performance and well-being, so it is relevant to understand the self-perception of OHRQoL.

In the study carried out, the mean OHIP-14 score was 6,142 (±9,137), revealing the absence of an impact of OH on the quality of life. This evidence is in line with previous studies that used higher education students as units of analysis (Dias et al., 2020; Drachev, Brenn & Trovik, 2018; Isiekwe et al. 2014; Luz, 2020; Yamane.Takeuchi et al ., 2016). However, this result is inconsistent with the oral condition found in the sample and with the national OH indicators that expose the prevalence of oral pathology (Ordem dos Médicos Dentistas, 2021), which reveals the apparent undervaluation by higher education students of the impact of OH on the quality of life. Uzarevic and Bulj (2021), in a study carried out in Croatia, aimed at an average score for the OHIP-14 slightly higher than that of the sample under study, and this difference may depend on the sociodemographic characteristics of the participants as far as they self-define health.

Physical pain, psychological disability and psychological discomfort were the most scored dimensions of the OHIP-14, evidencing the impact of higher education students' OH on social functions. Gonzales-Sullcahuaman et al. (2013) and Yamane-Takeuchi et al. (2016), in studies carried out in similar populations, showed that physical pain and psychological discomfort were highly scored

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dimensions, associating the results obtained with the prevalence of oral disease and the impact that the OH status has on the performance of daily activities and on the relationship with the other.

OH-seeking behaviors are variables that influence the OH level of populations and result from the ease of access to care and the population's level of health literacy. In this sample, students with a history of oral pathology and edentulous areas prevail. This result does not exceed expectations, insofar as it is about participants aged, mostly, between 18 and 22 years old and with skills that allow them to search for knowledge, determinants that present themselves as facilitators of the search for information and the adoption of protective OH behaviors. Although oral hygiene habits are adequate, which corroborate what was evidenced by Fortes et al. (2016) and by Sousa (2016) and which meet the recommendations of national directives (Direção-Geral da Saúde, 2019; 2021), the correlation of behavioral variables with the total OHIP-14 score illustrates the weight of neglect of behaviors such as monitoring the OH condition, eating foods high in sugar or smoking addiction.

Smoking and eating habits are modifiable determinants of OH. In the present study, most respondents do not smoke, but consume sugary drinks or foods, and, similarly to the study by Luz (2020), students who frequently consume these foods self-reported a greater impact of OH on the quality of life. According to the FDI (2015), excessive consumption of sugary rich food promotes the appearance of dental caries and periodontal disease, health conditions with an impact on the physical, functional and social functions of the individual and with significance in comfort, self-image, self-esteem and well-being. Given the evolution of national OH policies and the sociodemographic characteristics of the sample, a lower impact of the determinants of OH on the OHRQoL was expected, a result that reiterates the relevance of studying this variable for the definition of strategies aimed at the needs felt by the individual.

Regarding the demand for OH care, it was found that most students do not attend appointments with OH professionals or only do so when necessary, with the cost associated with care and fear being the main reasons for not seeking them. These results mirror what has been demonstrated by the Portuguese Dental Association (2021) and by Monteiro (2018) and show the urgency of expanding measures that promote the equity in access to OH care and the effective integration of this care into the National Health Service.

CONCLUSION

The average OHIP-14 score reflects the lack of impact of OH on the quality of life of higher education students who participated in the study. The most scored dimensions were Physical Pain and Psychological Disability, inferring that OH is multidimensional and that it determines conditions of discomfort, physical dysfunction, psychological suffering and decreasing well-being. This evidence reiterates the relevance of integrating the OHRQoL assessment in the global assessment of OH status, as this is an outcome variable that offers contributions to the definition of strategies centered on the individual and promoting OH.

It was concluded that behaviors in OH have impact in OHRQoL, and the negligence of seeking OH care has a negative impact on the quality of life of higher education students. From this fact, emerges the need to implement more comprehensive strategies that integrate disadvantaged population settings with regard to OH. In Portugal, despite the evolution of measures promoting equity in access to health care, there is still a gap between the needs in OH and the provision of care, and the costs associated with these are effectively an obstacle in the promotion of OH. Thus, the effective integration of OH care into the National Health Service and the measurement of indicators that go beyond morbidity and mortality are urgent.

The sample size is recognized as a limitation of the study, as it does not allow the generalization of data to the population of higher education students, and the limitation to a geographic area, so it is suggested to carry out more comprehensive studies that include variables such as the socioeconomic status, the OH care network and the OH promotion resources and strategies made available by educational institutions.

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