

Determinants of oral health-related quality of life among undergraduate university students: A cross-sectional study

Nurhidayah Zahrulsham, MDPH, Norkhafizah Saddki, MCommMed (Oral Health), Khuzaimah Kamarazaman, DrDPH

School of Dental Sciences, Universiti Sains Malaysia, Health Campus, Kubang Kerian, Kelantan, Malaysia

ABSTRACT

Introduction: Young adulthood is a critical period for establishing lifelong health behaviours, yet oral health is often neglected. This study investigated factors associated with oral health-related quality of life (OHRQoL) among Malaysian university students.

Materials and Methods: A cross-sectional survey was conducted among 395 undergraduate students aged 18 to 25 years. Data were collected using a structured questionnaire assessing sociodemographic characteristics, perceived oral health status, oral healthcare seeking behaviour, and OHRQoL via the short Malay version of the Oral Health Impact Profile (S-OHIP(M)). Multiple linear regression was used to identify predictors of OHRQoL.

Results: The prevalence of OHRQoL impact was 41.0%, with a mean S-OHIP(M) score of 9.15 (SD=6.39). Significant predictors of poorer OHRQoL included having at least one oral health problem, dissatisfaction with oral health status, and visiting the dentist due to an oral health issue. Dental and medical students reported significantly better OHRQoL compared to health sciences students. Oral health care seeking behaviour, although generally favourable, was not significantly associated with OHRQoL.

Conclusion: OHRQoL among young adults is influenced by both subjective perceptions and behavioural patterns. Promoting routine dental visits and enhancing oral health awareness may improve quality of life outcomes. These findings inform strategies for preventive care and service delivery targeting young adult populations.

KEYWORDS:

Oral health; quality of life; students; health behaviour; Malaysia

INTRODUCTION

Young adulthood marks a pivotal life stage characterised by rapid personal, social, and professional development. This transitional period from adolescence to full adulthood is often accompanied by significant milestones such as pursuing higher education, entering the workforce, and living independently. While these experiences foster growth, they also introduce challenges to maintaining overall health.¹ Despite being in their physical prime, young adults are particularly vulnerable to adopting unhealthy behaviours, including poor dietary habits, irregular sleep

patterns, and sedentary lifestyles, which contribute to the early onset of chronic conditions such as obesity, hypertension, and type 2 diabetes.² Oral health is especially neglected during this phase, as many young adults underestimate the importance of preventive care.³ Financial constraints, logistical barriers, and competing priorities often result in irregular dental visits and poor oral hygiene practices.^{4,5}

Oral health issues are increasingly prevalent among young adults. Dental caries remains high, driven by frequent consumption of sugary and acidic foods and inconsistent oral hygiene practices.⁶ Early-onset periodontitis is also rising and often goes undetected due to subtle symptoms.⁷ Stress-related behaviours like bruxism are common, contributing to tooth wear, jaw pain, and temporomandibular joint disorders.⁸ Pericoronitis, often associated with the eruption of third molars that may become impacted or partially erupt, commonly affects young adults aged 21 to 25.⁹ Tooth sensitivity, often resulting from enamel erosion due to acidic diets, aggressive brushing, use of abrasive toothpaste, and bruxism, is frequently observed and can interfere with daily activities.¹⁰ Additionally, malocclusion, a condition frequently seen in young adults, can significantly impact dental aesthetics and is associated with reduced self-perception and impaired social interactions.¹¹

Oral health is a vital aspect of overall well-being, influencing not only physical function but also psychological and social dimensions of life. Studies show that young adults with visible dental issues often experience embarrassment, reduced willingness to smile, and avoidance of social interactions, factors that can limit daily activities, personal relationships, and professional opportunities.¹²⁻¹⁵ Chronic oral pain or discomfort may further disrupt concentration, sleep quality, and dietary habits.¹⁶⁻¹⁷ Moreover, poor oral health in young adults has been linked to lower levels of life satisfaction and diminished self-esteem.¹²

In this context, oral health-related quality of life (OHRQoL) has emerged as a valuable, multidimensional measure that captures the subjective impact of oral health on daily functioning and overall life satisfaction.¹⁸ OHRQoL is shaped by a complex interplay of physical, psychological, functional, and social factors.¹⁹ For young adults, these influences are particularly dynamic due to lifestyle transitions, evolving self-identity, and shifting health behaviours.¹ Understanding how young adults perceive their

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Corresponding Author: Norkhafizah Saddki

Email: fihaz@usm.my

oral health and utilise oral health services is essential for developing effective public health strategies. This manuscript aimed to explore these interconnected factors, offering insights into the barriers and motivators that influence OHRQoL in this population. The findings are intended to guide policymakers, educators, and healthcare providers in creating targeted initiatives that promote preventive care, improve service accessibility, and ultimately enhance the oral health and overall quality of life of young adults.

MATERIALS AND METHODS

Study design and study population

This cross-sectional study was conducted between May and June 2023 among undergraduate students aged 18 to 25 years old at the Universiti Sains Malaysia Health Campus. The Health Campus comprises three academic schools: the School of Health Sciences (PPSK), the School of Medical Sciences (PPSP), and the School of Dental Sciences (PPSG). While the PPSP and the PPSPSG each offers only one undergraduate programme, the Doctor of Medicine programme and the Doctor of Dental Surgery programme, respectively, the PPSK offers 10 undergraduate health sciences programmes including audiology, biomedicine, dietetic, environmental and occupational health, exercise & sport science, forensic science, medical radiation, nursing, nutrition and speech pathology.

During the study period, undergraduate enrolment varied across the schools. The PPSP had over 700 students, while the PPSPSG enrolled around 250. The PPSK had the highest number of students, with slightly more than 1,000 enrolled during the study period. These figures include international students, primarily from middle eastern countries such as Iran, Saudi Arabia, and Egypt, as well as from China. In this study, only Malaysian students were included. Students with chronic systemic medical conditions or psychiatric disorder were excluded due to the potential confounding effects of these conditions on oral health outcomes.

The required sample size was calculated using a single proportion formula, based on an estimated prevalence of 35.7%, the proportion of Malaysian university students who had visited a dentist within the past year.²⁰ With a precision level of 0.05 and a 95% confidence interval, the minimum required sample size was determined to be 380. To account for a potential 10% non-response rate, the final target sample size was set at 420. Ethical approval for this study was obtained from the Universiti Sains Malaysia Human Research Ethics Committee (USM/JEPeM/KK/23010092).

Research Tool

A structured, self-administered questionnaire was employed to collect data on the variables of interest, which included sociodemographic characteristics, perceived oral health status, oral healthcare seeking behaviour and utilisation, and OHRQoL. The questionnaire was divided into four sections. The first section captured sociodemographic information through seven items, including sex, ethnic group, degree programme, and monthly household income. The household income was also classified based on Malaysia's 2023 household income classification system as

follows: Bottom 40% (B40) for income less than Malaysian Ringgit (MYR) 4,851, middle 40% (M40) for income between MYR 4,851 and MYR 10,970, and top 20% (T20) for income exceeding MYR 10,970.

The second section assessed perceived oral health status and included four items: perceived general oral health status, presence of oral health problems, perceived oral symptoms, and satisfaction with current oral health status. The third section focused on oral healthcare seeking behaviour and utilisation using five items: response behaviour when having oral health problem, perceived ability to access dental care when needed, the time elapsed since last dental visit, the primary reason for that visit, whether it was for a routine check-up or due to a specific oral health issue. If the visit was prompted by a problem, respondents were asked to identify the oral health problem from a predefined list.

The final section comprised the short Malay version of the Oral Health Impact Profile (S-OHIP(M)), a validated instrument used to assess the perceived impact of oral health on quality of life.²¹ The S-OHIP(M) consists of 14 items grouped into seven domains, with two items per domain. Respondents rated the frequency of each impact experienced over the past year using a 5-point Likert scale ranging from 0 (never) to 4 (very often). The total S-OHIP(M) score, ranging from 0 to 56, was calculated by summing the responses to all items, with higher scores indicating greater severity of impact and poorer OHRQoL. Additionally, the prevalence of impact was determined by identifying the proportion of respondents who reported experiencing at least one item 'fairly often' or 'very often'.

Data collection

Name lists of undergraduate students enrolled in the 2022/2023 academic session were obtained from the respective academic offices of each school. A non-proportionate stratified random sampling technique was employed. This approach was chosen to obtain an equal number of participants from each school, ensuring adequate representation across all academic years and programmes. It also secured sufficient sample sizes from smaller schools, particularly the PPSPSG, and enabled meaningful comparisons across academic disciplines despite differences in population size. To minimise the risk of selection bias during recruitment, simple random sampling was used to select 140 students within each school, yielding the predetermined sample size of 420.

The list of selected names was provided to the respective class representatives, who facilitated the distribution and return of questionnaires. An information sheet outlining the study objectives, eligibility, procedures, and other relevant details was provided to the students, and those who consented to participate were required to sign an informed consent form prior to completing the questionnaire. Data collection was conducted in small groups before or after scheduled teaching and learning sessions, when the entire class was already assembled. None of the investigators were present during the data collection sessions, ensuring that participation remained voluntary and free from any potential coercion. Completed questionnaires were collected by the class

Table I: Sociodemographic profile of respondents (n=395)

Variable	Frequency (%)
Sex	
Male	86 (21.8)
Female	309 (78.2)
Ethnic group	
Malay	301 (76.2)
Chinese	50 (12.7)
Indian	31 (7.8)
Others	13 (3.3)
Degree programme	
Health Sciences	134 (33.9)
Dentistry	134 (33.9)
Medicine	127 (32.2)
Monthly household income category (MYR)	
T20 (> 10,970)	69 (17.5)
M40 (4,851 –10,970)	147 (37.2)
B40 (< 4,851)	179 (45.3)

MYR: Malaysian Ringgit

Table II: Perceived oral health status (n=395)

Variable	Frequency (%)
Perceived general oral health status	
Very good	49 (12.4)
Good	232 (58.7)
Fair	110 (27.9)
Poor	4 (1.0)
Very poor	0 (0.0)
Presence of oral health problems	
No	179 (45.3)
Yes	216 (54.7)
Perceived oral symptoms (n= 216)*	
Toothache	22 (5.6)
Sensitive teeth	110 (27.8)
Cavitated tooth	81 (20.5)
Gum pain	13 (3.3)
Bleeding gum	62 (15.7)
Swollen gum	16 (4.1)
Bad breath	27 (6.8)
Abscess gum	1 (0.3)
Loose tooth	4 (1.0)
Oral ulcer	63 (15.9)
Other	0 (0.0)
Satisfaction with current oral health status	
Very satisfied	43 (10.9)
Satisfied	205 (51.9)
Fair	135 (34.2)
Dissatisfied	12 (3.0)
Very dissatisfied	0 (0.0)

*Respondents can choose more than one answer

representatives and subsequently submitted to the principal investigator.

Statistical analysis

Data analysis was conducted using IBM SPSS Statistics version 26.0. The dataset, initially compiled in Microsoft Excel via responses collected through Google Forms, was imported into SPSS for further processing. Prior to analysis, data cleaning procedures were carried out to ensure accuracy and consistency. Descriptive statistics were used to summarise respondents' demographic characteristics and oral health knowledge. Categorical variables were reported as frequencies and percentages, while continuous variables were expressed as means and standard deviations (SD) for

normally distributed data, or as medians and interquartile ranges (IQR) for skewed distributions.

To identify factors associated with respondents' OHRQoL, linear regression analyses were performed. Initially, simple linear regression was used to assess the relationship between S-OHIP(M) score and each of the following independent variables: sex, ethnicity, degree programme, monthly household income, perceived oral health status, presence of oral health problems, satisfaction with current oral health, response behaviour to oral health issues, ability to access dental care when needed, timing of the last dental visit, and the primary reason for that visit.

Table III: Oral healthcare seeking behaviour and utilisation (n=395)

Variable	Frequency (%)
Oral health problem response behaviour	
Immediately seek oral health care	335 (84.8)
Delay in seek oral health care	60 (15.2)
Ability to go to dental clinic if needed	
Very easy	145 (36.7)
Easy	215 (54.4)
Difficult	33 (8.4)
Very difficult	2 (0.5)
Last dental visit	
Within the past 1 year	259 (65.6)
1 – 2 years ago	60 (15.2)
>2 years ago	76 (19.2)
Main reason for the last dental visit	
Regular dental check-up	218 (55.2)
Having oral health problem	177 (44.8)
Oral health problem during last dental visit (n=177)*	
Toothache	68 (17.2)
Sensitive teeth	19 (4.8)
Cavitated tooth	83 (21.0)
Gum pain	7 (1.8)
Bleeding gum	4 (1.0)
Swollen gum	10 (2.5)
Abscess gum	3 (0.8)
Bad breath	0 (0.0)
Loose tooth	11 (2.8)
Oral ulcer	6 (1.5)
Other	1 (0.3)

*Respondents can choose more than one answer

Table IV: Prevalence and severity of oral impact (n=395)

S-OHIP(M) domain and item	Prevalence of impact (%)	Mean S-OHIP(M) score (SD)
Functional limitation		
Difficulty chewing any foods	8 (2.0)	0.5 (0.77)
Problems caused bad breath	13 (3.3)	0.6 (0.82)
Physical Pain		
Discomfort eating any food	14 (3.5)	0.7 (0.86)
Ulcers in mouth	39 (9.9)	1.2 (0.99)
Psychological Discomfort		
Discomfort due to food getting stuck	108 (27.3)	1.9 (1.07)
Felt shy	44 (11.1)	1.0 (1.10)
Physical disability		
Avoided eating certain foods	13 (3.3)	0.6 (0.84)
Avoided smiling	18 (4.6)	0.6 (0.94)
Psychological Disability		
Sleep been disturbed	5 (1.3)	0.3 (0.62)
Concentration been disturbed	4 (1.0)	0.4 (0.68)
Social disability		
Avoided going out	2 (0.5)	0.1 (0.41)
Problems in carrying out daily activities	2 (0.5)	0.2 (0.46)
Handicap		
Had to spend a lot of money	10 (2.5)	0.5 (0.75)
Felt less confident	27 (6.8)	0.8 (1.00)

SD: Standard deviation

Subsequently, multiple linear regression analysis was conducted using forward selection, backward elimination, and stepwise selection methods to construct a preliminary main-effects model. Variables that were statistically significant were further examined for potential two-way interactions and multicollinearity, assessed using the likelihood ratio (LR) test and the Variance Inflation Factor (VIF), respectively. Residual plots were generated to evaluate the assumptions of linearity, normality, and homoscedasticity. Outliers were identified based on

standardised residuals exceeding ± 3.0 . The final regression model is presented with adjusted regression coefficients, 95% confidence intervals (CI), t-statistics, and p-values. A significance level of 0.05 was used throughout the analysis.

RESULTS

A total of 395 undergraduate students completed the questionnaire, giving a response rate of 94.1%. The sociodemographic characteristics of the respondents are

Table V: Factors associated with OHRQoL (n=395)

Variable	Simple Linear Regression		Multiple Linear Regression		
	Crude b (95% CI)	p-value	Adjusted b (95% CI)	t-statistics	p-value
Sex					
Male *					
Female	0.96 (-0.57, 2.50)	0.217	–	–	–
Ethnic group					
Malay *					
Others	-1.29 (-2.77, 0.20)	0.089	–	–	–
Degree programme					
Health Sciences *					
Dentistry	-1.59 (-2.92, -0.27)	0.019	-2.60 (-3.96, -1.23)	-3.74	<0.001
Medicine	-2.30 (-3.73, -1.06)	<0.001	-2.79 (-4.18, -1.40)	-3.94	<0.001
Monthly household income category (MYR)					
T20 (> 10,970) *					
M40 (4,851 –10,970)	1.00 (-0.26, 2.27)	0.120	–	–	–
B40 (< 4,851)	-0.42 (-1.73, 0.89)	0.527	–	–	–
Perceived general oral health status					
Very good/Good *					
Fair/Poor/Very poor	4.06 (2.72, 5.40)	<0.001	–	–	–
Presence of oral health problems					
No *					
Yes	4.25 (2.05, 5.45)	<0.001	2.47 (1.26, 3.67)	4.03	<0.001
Satisfaction with current oral health status					
Very satisfied/Satisfied *					
Fair/Dissatisfied/Very dissatisfied	4.56 (3.33, 5.79)	<0.001	2.79 (1.56, 4.03)	4.45	<0.001
Oral health problem response behaviour					
Immediately seek oral health care *					
Delay in seek oral health care	3.62 (1.89, 5.34)	<0.001	–	–	–
Ability to go to dental clinic if needed					
Very easy/Easy *					
Difficult/Very difficult	2.13 (-0.09, 4.34)	0.060	–	–	–
Last dental visit					
Within the past 1 year *					
>1 year ago	0.17 (-1.17, 1.50)	0.808	–	–	–
Main reason for the last dental visit					
Regular dental check-up *					
Having oral health problem	3.65 (2.43, 4.87)	<0.001	2.45 (1.31, 3.59)	4.23	<0.001

b: Regression coefficient, CI: Confidence interval, MYR: Malaysian Ringgit

* Reference category

shown in Table I. Most were Malay (76.2%) and female (78.2%). About half (45.3%) came from B40 households, based on the Malaysian household income classification at the time of data collection.

Table II presents the respondents' perceptions of their oral health status. Most respondents rated their oral health as either good (58.7%) or very good (12.4%), with none reporting it as very poor. More than half of the respondents (54.7%) reported experiencing at least one oral health problem. The commonly reported problem was sensitive teeth (27.8%), followed by cavitated teeth (20.5%). Other frequently mentioned problems included oral ulcers (15.9%) and bleeding gums (15.7%). Despite the prevalence of oral health problems, most respondents were satisfied (51.9%) or very satisfied (10.9%) with their current oral health status.

Most respondents (84.8%) claimed that they would seek oral health care immediately when having an oral health problem. Most also reported that accessing a dental clinic was either easy (54.4%) or very easy (36.7%). More than half (65.6%) visited a dentist within the past year. The primary reason for the most recent dental visit among 55.2% of respondents was a routine dental check-up. The remainder

visited the dentist due to oral health problems, most commonly for cavitated teeth (21.0%) and toothache (17.2%). These findings are presented in Table III.

The S-OHIP(M) demonstrated good internal consistency in the present sample (Cronbach's alpha=0.822). The prevalence of impact caused by oral health problems over the past 12 months was 41.0%. The severity scores ranged from 0 to 30, with a mean score of 9.15 (SD=6.39). Table IV presents the prevalence and mean severity scores for each S-OHIP(M) item. The most frequently reported impact was psychological discomfort due to food getting stuck (27.3%). Other common impacts were feeling shy because of oral health problems (11.1%) and physical pain from oral ulcers (9.9%). In terms of mean item scores, discomfort due to food getting stuck had the highest score, followed by oral ulcers and feelings of shyness due to oral health problems.

Table V displays the results of the simple and multiple linear regression analyses examining factors associated with the students' OHRQoL. In the univariable analysis, dental students had significantly lower mean S-OHIP(M) scores compared to health sciences students ($p=0.019$), as did medical students ($p<0.001$). Students with at least one oral

health problem also had significantly higher mean scores than those without ($p < 0.001$). Additionally, higher S-OHIP(M) scores were also observed among students who were fairly dissatisfied, dissatisfied, or very dissatisfied with their current oral health status ($p < 0.001$), and among those whose last dental visit was due to an oral health problem ($p < 0.001$).

In the multivariable analysis, having at least one oral health problem, dissatisfaction with current oral health status, and visiting the dentist due to an oral health issue remained significant predictors of higher mean S-OHIP(M) scores. Conversely, being a dental or medical student was associated with lower mean S-OHIP(M) scores. These findings suggest that OHRQoL was significantly better among dental and medical students compared to health sciences students, and poorer among those with oral health problems, dissatisfaction with their oral health, or problem-driven dental visits. The final model accounted for 24.0% of the variance in S-OHIP(M) scores (Adjusted $R^2 = 0.240$). No significant two-way interactions were found, multicollinearity was not detected, and all model assumptions were met with no outliers identified.

DISCUSSION

OHRQoL is a multidimensional construct that reflects the impact of oral health conditions on daily functioning, psychological well-being, and social interactions.¹⁸ The findings of this study underscore a substantial burden of oral health problems among young adults, with 41.0% of respondents reporting impacts on their OHRQoL over the past 12 months, and a mean S-OHIP(M) score of 9.15 ($SD = 6.39$). These results align with global trends but also reveal notable differences when compared to similar studies using the same measurement tool. For instance, Lu et al.²² reported a slightly higher prevalence of OHRQoL impacts (50.6%) among young adults in Hong Kong, but with a lower mean OHIP-14 score of 6.3 ($SD = 5.8$), suggesting less severe impacts despite greater frequency. Similarly, a study among medical and dental undergraduate students in Russia found that 53.6% were impacted by their oral health conditions, with a mean OHIP-14 score of 4.63 ($SD = 4.90$).¹² In contrast, a study among undergraduate students at Jouf University, Northern Border University, and King Saud University in Saudi Arabia, most of whom were enrolled in non-health-related programmes, reported a much higher mean OHIP-14 score of 24.69 ($SD = 5.2$), indicating more severe impacts.¹⁴ Across these studies, the most frequently reported and severe impacts were related to physical pain and psychological discomfort, highlighting a predominantly functional source of distress rather than aesthetic concerns, which are often assumed to be more relevant in this age group sensitive to appearance and social acceptance.

Numerous studies have explored the factors influencing OHRQoL among young adults, identifying a range of associated determinants. These include sociodemographic characteristics, clinical indicators, sign and symptoms, self-perceived oral health status, and behavioural factors such as dental attendance patterns.^{6,12-15,22} Recent evidence indicates that OHRQoL among young and middle-aged adults is shaped more profoundly by subjective perceptions and lifestyle behaviours, such as self-rated oral health, dental self-

care, and socioeconomic context than by clinical indicators alone.²³ In the present study, we examined the role of oral health care seeking behaviour, a factor that, to the best of our knowledge, has not been previously investigated in relation to OHRQoL among young adults.

Oral health care seeking behaviour refers to the actions individuals take in response to perceived oral health issues, based on the belief that professional assessment or treatment is needed.²⁴ It reflects the way oral health services are accessed and utilised. Young adulthood is a critical time to establish and sustain favourable preventive oral healthcare, including oral health seeking behaviour, which may influence subsequent oral health outcomes and well-being.¹ In the current study, a substantial proportion of the respondents (84.8%) reported seeking oral health care promptly when experiencing problems, and only 15.2% delayed having dental check-ups or treatment when having dental problems. This positive finding indicates that the respondents have good oral health awareness, probably because they were students in health sciences programmes and were future healthcare professionals. Furthermore, the availability of on-campus dental services likely facilitated access to care, as reflected in most students reporting that accessing a dental clinic was either easy or very easy. However, despite this favourable behaviour, our analysis revealed that oral health care seeking behaviour was not significantly associated with OHRQoL. This finding suggests that while timely care-seeking may reflect awareness and access, it does not necessarily translate into improved perceived outcomes. It is possible that the nature of the dental visits, often reactive rather than preventive, limits their impact on overall well-being. This underscores the need to promote not only access and responsiveness but also preventive engagement with oral health services to achieve meaningful improvements in OHRQoL.

Regular dental check-ups play a vital role in maintaining oral health and facilitating preventive care. In the absence of reliable evidence regarding the optimum frequency of dental examinations, there is consensus that recall intervals should be determined according to an individual's assessed risk of oral disease.²⁵ Additionally, while current evidence indicates that recall intervals of up to 24 months may not adversely affect oral health outcomes,²⁶ many health authorities, including the Ministry of Health Malaysia, advocate for at least once-a-year dental check-ups as a baseline recommendation. In the current study, most respondents (80.8%) reported having had a dental visit within the past one to two years, suggesting a relatively high level of engagement with oral health services. However, the fact that nearly half (44.8%) were symptomatic dental attendee who sought care only in response to oral health problems, most commonly cavitated teeth (21.0%) and toothache (17.2%). This pattern of problem-driven behaviour is often linked to delayed utilisation of services until symptoms significantly interfere with daily functioning, reflecting a reactive rather than proactive pattern of oral health care seeking. Such individuals typically exhibit irregular dental attendance, which contributes to the progression of oral diseases and often results in more advanced clinical presentations at the time of consultation,²⁷ and potentially poorer OHRQoL.²⁸

Within the public health domain, symptomatic dental attendees represent a critical target for interventions designed to promote timely, routine engagement with oral health services, ultimately supporting healthier behaviours and improved long-term outcomes. Our findings further reinforce this priority by demonstrating that students whose last dental visit was prompted by an oral health problem reported significantly poorer OHRQoL. This pattern is consistent with broader evidence showing that problem-driven dental visits are associated with low OHRQoL.^{23,29} A systematic review of longitudinal studies further supports that regular dental attendance is associated with better oral health outcomes, including less dental caries experience, fewer missing teeth, and improved OHRQoL, whereas symptomatic visits often reflect delayed care and a greater burden of oral disease.²⁷ Therefore, promoting routine dental visits, especially among young adults, may therefore serve as a key strategy in mitigating the severity of oral health impacts and improving overall OHRQoL.

More than half of the respondents in this study reported experiencing at least one oral health problem. Despite this, the majority perceived their oral health status as good or very good and expressed satisfaction with their current condition. This apparent disconnect between clinical symptoms and self-perceived oral health highlights the complex and subjective nature of OHRQoL. It suggests that individuals may normalise or downplay certain oral health issues, particularly when they do not cause significant pain or interfere with daily activities, allowing them to maintain a positive self-assessment. Moreover, as shown by Costa et al.,³⁰ subjective evaluations of oral health among young adults are influenced not only by physical symptoms but also by broader factors such as socioeconomic status, access to and experiences with dental care, and aesthetic concerns, elements that reflect underlying issues of health literacy, service utilisation, and personal expectations. Notably, our findings also revealed that the presence of oral health problems and dissatisfaction with oral health status were significantly associated with greater severity of impact on OHRQoL, indicating that even when overall perceptions remain positive, specific issues can contribute meaningfully to functional and psychological burdens. In agreement, a study conducted among Russia undergraduate students by Drachev et al.¹² reported that dissatisfaction with the condition of the teeth and mouth was significantly associated with lower OHRQoL.

In this study, dental and medical students demonstrated significantly lower mean S-OHIP(M) scores, indicating better OHRQoL compared to students enrolled in other health sciences disciplines. This finding may be attributed to their comparatively higher levels of oral health knowledge and awareness, which exert a positive influence on health-related behaviours and attitudes. Gardner et al.³¹ reported that students with better oral health knowledge were significantly less likely to experience OHRQoL impacts such as speech difficulties, sleep disturbances, and diminished social participation. This protective effect of oral health knowledge among dental and medical students was also evident in a study by Mahanta et al.³² Their regular exposure to clinical environments and familiarity with healthcare settings may

reduce dental anxiety and foster more positive attitudes toward dental care. Moreover, as future healthcare professionals, dental and medical students may feel a stronger sense of responsibility toward maintaining personal health, including oral health. Collectively, these factors may contribute to the reduced functional and psychological burdens related to oral health, resulting in better overall OHRQoL among these students as observed in our study. At the same time, this body of evidence underscores the importance of implementing oral health promotion initiatives targeted at students from non-medical and non-dental disciplines. Such programmes should aim to strengthen oral health literacy, enhance awareness of preventive practices, promote routine dental screenings, and facilitate access to dental care. Addressing these disparities would not only improve OHRQoL among students in other academic programmes but also contribute to fostering a broader culture of preventive oral health within the university setting.

This study offers several notable strengths. It addresses a critical gap by exploring OHRQoL among young adults in Malaysia, a population often underrepresented in oral health research. The use of the validated (S-OHIP(M)) ensures robust measurement across multiple domains of OHRQoL. By including students from diverse health-related disciplines, the study enhances internal diversity and relevance within the university context. Moreover, the incorporation of oral health care seeking behaviour as a variable adds a novel behavioural dimension to the analysis. However, certain limitations should be acknowledged. The cross-sectional design restricts causal interpretations between oral health factors and OHRQoL outcomes. Reliance on self-reported data introduces potential recall and social desirability biases, particularly regarding dental attendance and perceived oral health status. The exclusion of non-Malaysian students may limit the generalisability of findings to international populations in similar academic settings. Additionally, conducting the study within a single institution may constrain external validity beyond the university environment. Future studies should consider recruiting participants from a wider range of educational, occupational, and socioeconomic backgrounds, including non healthcare related young adults, to enhance sample representativeness and strengthen external validity.

CONCLUSION

This study highlights a substantial burden of oral health problems among young Malaysian adults, with nearly half reporting impacts on their quality of life. Key predictors of poorer OHRQoL included the presence of oral health problems, dissatisfaction with oral health status, and problem-driven dental visits. Conversely, students in dental and medical programmes exhibited better OHRQoL, likely due to greater oral health awareness and engagement. While most respondents demonstrated favourable care-seeking behaviour, its lack of association with OHRQoL underscores the need to promote preventive dental visits over reactive ones. These findings support targeted interventions to enhance oral health literacy, encourage routine dental care, and improve service accessibility for young adults.

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