

Diş Hekimliği Öğrencilerinin Yaşam Kalitesinin Anket Çalışması ile Değerlendirilmesi

Evaluation of the Quality of Life of Dentistry Students with a Survey Study

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ÖZ

Amaç: Yaşam kalitesi, bireylerin genel yaşam doyumunu, duygusal refahını ve işleyişini etkileyen karmaşık bir yapıdır. Dünya Sağlık Örgütü (DSÖ) yaşam kalitesini, bireylerin “içinde yaşadıkları kültür ve değer sistemleri bağlamında, hedefleri, beklentileri, standartları ve kaygıları ile ilişkili olarak yaşamadaki konumlarına ilişkin algısı” olarak tanımlamaktadır. Çalışmamız Türkiye’deki diş hekimliği fakültelerinde eğitim gören diş hekimliği öğrencilerinin yaşam kalitesini Dünya Sağlık Örgütü Yaşam Kalitesi (WHOQOL)-BREF’i kullanarak değerlendirmeyi amaçlamaktadır.

Yöntem: Bu çalışmaya 229 (155 kadın, 74 erkek) diş hekimliği fakültesi öğrencisi katılmıştır. Dünya Sağlık Örgütü Yaşam Kalitesi (WHOQOL)-BREF’i örnek alınarak hazırlanan anket formu soruları online ortamda (Google Forms) paylaşılmıştır. Bu anket soruları ile katılımcıların genel sağlık durumları, fiziksel sağlık, psikolojik durumları, sosyal ilişkileri ve çevreleri değerlendirilmiştir.

Bulgular: Çalışmaya 17-36 yaş aralığında toplam 229 diş hekimliği öğrencisi katılmıştır. Çalışmaya en fazla katılımcı %27,4 ile 1. sınıf öğrencileri iken, en az katılımın olduğu grup %10,2 ile 5. sınıf öğrencileri olmuştur. Katılımcıların hepsi bir devlet üniversitesinde eğitim görmektedir ve %2,7 oranla daha önce bir lisans programını bitiren katılımcı grubu mevcuttur. Katılımcıların %60’ının genel sağlık sorunu bulunmamaktadır. Katılımcılar %40,7 oranla yaşam kalitelerini “ne iyi ne kötü” olarak bildirirken, %3,1 ile en az oranda “çok iyi” olarak belirtmişlerdir.

Sonuç: Çalışma sonuçları dikkate alındığında diş hekimliği öğrencileri yaşam kalitelerinden orta derecede memnundur. Sosyal hayata katılımlarının ve sosyal ilişkilerinin artırıldığı alanlar sağlanması, öğrencilerin eğitim ve yaşam motivasyonlarının artırılmasına katkı sağlayacağı düşünülmektedir.

Anahtar Kelimeler: Diş hekimliği öğrencisi, Fiziksel sağlık, Genel sağlık, Yaşam kalitesi.

ABSTRACT

Objective: Quality of life is a multifaceted concept that influences overall life satisfaction, emotional well-being, and daily functioning. According to the World Health Organization (WHO), it encompasses individuals' perceptions of their position in life within the context of their cultural and value systems, as well as their goals, expectations, standards, and concerns. This study aims to assess the quality of life among dental students in Turkey using the WHO Quality of Life (WHOQOL)-BREF instrument.

Method: A total of 229 dental students (155 females, 74 males) aged 17-36 participated in this study. The WHOQOL-BREF survey was distributed online via Google Forms to evaluate participants' general health, psychological state, physical health, social relationships, and environment.

Results: A total of 229 dental students aged between 17 and 36 participated in this study. The highest number of participants in the study were 1st-grade students with 27.4%, while the group with the least participation was 5th-grade students with 10.2%. All of the participants are studying at a state university, and there is a group of participants who have previously completed an undergraduate program, with a rate of 2.7%. Sixty percent of the participants reported no general health problems. While 40.7% of the participants reported their quality of life as "neither good nor bad", at least 3.1% reported their quality of life as "very good".

Conclusion: The results indicate that dental students are moderately satisfied with their quality of life. Enhancing opportunities for social engagement may improve their educational and life motivation.

Key words: Dental student, General health, Physical health, Quality of life.

1. INTRODUCTION

The concept of quality of life encompasses a complex construct that influences individuals' overall life satisfaction, emotional well-being, and functionality, closely intertwined with emotional and social functioning essential for maintaining a sense of well-being (1, 2). Due to its multidimensional and intricate nature, there is no universally accepted definition of quality of life (3). However, the World Health Organization (WHO) defines quality of life as individuals' perception of their position in life within the context of their cultural and value systems, in relation to their goals, expectations, standards, and concerns (4). Additionally, according to the Salutogenic theory-based definition of quality of life, it is not only influenced by emotional and social factors but can also be affected by various medical conditions (5-7).

The quality of life of students in the field of health sciences has been studied in many countries (2, 8, 9). Systematic reviews have indicated that dental education is a stressful period for students (10, 11). Factors contributing to stress include demanding curriculum, rigorous assessments, lack of leisure time, and the dynamics of peer and educator relationships (11, 12). As a result of these factors, dentistry students experience higher levels of stress compared to the general population and are more susceptible to burnout, depression, and anxiety (10, 11).

Despite extensive research on stress levels and the outcomes of dental education, the relationship between overall quality of life and dental education remains underexplored in the literature (10, 11). Therefore, this study aims to evaluate the quality of life of dentistry students enrolled in Necmettin Erbakan University, Faculty of Dentistry using the World Health Organization Quality of Life Scale (WHOQOL)-BREF.

2. METHOD

Ethical Approval

The necessary ethical approval for the study was obtained from the Ethics Committee for Non-Drug and Non-Medical Device Research of Necmettin Erbakan University Faculty of Dentistry (Approval Number: 2024/385). All participants were provided with detailed information about the study, and the study protocol was conducted in accordance with the principles of the Helsinki Declaration of Human Rights.

The sample size was determined to be 70 using the G*Power program (3.1.9.2, Franz Faul, University of Kiel, Germany) with a true $\alpha = 0.03$, $\alpha = 0.05$, and power $(1 - \beta) = 0.95$ at a 95% confidence level.

A total of 226 (153 females, 73 males) dental students participated in this study. A questionnaire form prepared based on the WHOQOL-BREF was distributed online via Google

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Forms. These questionnaire items assessed participants' general health status, psychological status, social relationships, physical health, and environment.

Survey Study

The study included preparatory class, first-year, second-year, third-year, fourth-year, and fifth-year students enrolled in dental faculties in Turkey as of February 2024. A total of 32 survey questions were asked, consisting of two linear scale and thirty multiple-choice questions. These survey questions encompassed five categories: demographic structure, general health, social relationships, psychological status, physical health, and environment.

In the demographic structure category, five multiple-choice questions were asked, including gender, age, marital status, number of children if any, educational class, and university type (state university, foundation university). The general health category included one linear scale and two multiple-choice questions.

All questions in the physical health, psychological status, social relationships, and environment categories, asked without being consecutive or categorized, consisted entirely of multiple-choice questions (Table 1).

Data Evaluation and Statistical Analysis

The percentages of each question were evaluated based on the responses received via Google Forms. Furthermore, the responses were entered into the IBM SPSS Statistics 21.0 program and recorded. Descriptive statistics were calculated for all data. The differences in quality of life among classes were assessed using the Kruskal-Wallis test. Spearman correlations between quality of life and other variables were also computed to investigate the relationships of variables.

3. RESULTS

Survey Participation and Participant Characteristics

A total of 229 dental students (155 females and 74 males) aged between 17 and 36 participated in the study (Table 2). The highest participation rate was 23% (52 participants) in the 22-year-old group, followed by 16.37% (37) in the 21-year-old group and 15.48% (35) in both the 20 and 23-year-old groups. The lowest participation rates were observed at ages 17, 32, and 36, each with 0.44% (1 participant). Female participants showed a higher involvement in the survey, constituting 67.69% (153 participants), while male dental students showed a lower participation rate of 32.31% (73 participants). Regarding marital status, 98.7% of participants were single, while only 1.3% were married. Only 2 participants (0.88%) reported having children, with one or two children each. All participants were enrolled in a public university. The highest participation rates were observed among first-year (27.43%), third-year (22.12%), and fourth-year (20.79%) students, while the lowest participation rate was 10.61% among fifth-year students, with no participation from preparatory class students.

General Health Assessment

Among the participants, 7.07% (n=16) reported conditions such as arrhythmia, asthma, panic attacks, anxiety, and herniated disc. Regarding their overall quality of life, 41.15% (n=93) described it as "neither good nor bad," followed by 38.05% (n=86) who rated it as "good," and

only 3.09% (n=7) who rated it as "very good." When asked about their satisfaction with their health, the majority (50.44%, n=114) responded positively, while the least positive response (3.98%, n=9) was "not satisfied at all."

Table 1. Descriptive Statistics for Answers of Dental Students (n=117).

	Mean	Std. Dev.	Min-Med-Max	N
How do you find your quality of life?	3.1965	0.8987	1-3-5	229
How satisfied are you with your health?	3.5197	0.9714	1-4-5	229
How much do you need any medical treatment to carry out your daily activities?	4.3057	0.8444	1-5-5	229
How much do you enjoy living?	3.1004	0.9703	1-3-5	229
To what extent do you find your life meaningful?	3.1790	0.9815	1-3-5	229
How good are you at paying attention?	2.7511	0.8186	1-3-5	229
How safe do you feel in your daily life?	3.0611	0.8864	1-3-5	229
To what extent is your physical environment healthy?	3.2751	0.7305	1-3-5	229
Do you have enough strength to sustain daily life?	3.3799	0.9504	1-4-5	229
Do you accept your physical appearance?	3.5022	0.9253	1-4-5	229
Do you have enough money to meet your needs?	3.1397	0.7420	1-3-5	229
To what extent can you access the information and news you need in your daily life?	3.5284	0.7346	1-4-5	229
To what extent do you have opportunities for leisure pursuits?	2.5284	0.8404	1-3-5	229
How satisfied are you with your sleep?	2.7860	1.1012	1-3-5	229
How satisfied are you with your ability to carry out your daily activities?	2.9651	0.9772	1-3-5	229
How satisfied are you with your ability to work?	3.2969	0.9546	1-3-5	229
How satisfied are you with yourself?	3.5721	0.8837	1-4-5	229
How satisfied are you with your relationships with people outside your family?	3.5240	0.9059	1-4-5	229
How satisfied are you with the support of your friends?	3.5371	0.9526	1-4-5	229
How satisfied are you with the conditions of the house you live in?	3.7555	0.9874	1-4-5	229
How satisfied are you with your access to health services?	3.4192	0.9682	1-4-5	229
How satisfied are you with your transportation facilities?	3.0175	1.1771	1-3-5	229
How often do you experience feelings of sadness, despair, anxiety, or depression?	2.4192	0.8318	1-2-4	229
To what extent do you have difficulties with pressure and control in your relationships with people close to you in your life (spouse, colleague, relative)?	2.5633	0.8489	1-3-5	229

Table 2. Descriptive Statistics for Quality of Life Values of Dental Students by Gender.

	Mean	Std. Dev.	Min-Med-Max	N
Female	3.2323	0.8665	1-3-5	155
Male	3.1216	0.9644	1-3-5	74
Total	3.1965	0.8987	1-3-5	229

Physical Health

Participants generally reported having sufficient physical strength and energy, but when it came to satisfaction with physical activities, they were less satisfied with their physical health. The majority (83.62%, 189) reported not needing any medical treatment for daily needs, and 53.53% (121) felt they had enough strength to carry out daily activities. However, satisfaction

with sleep quality (32.74%), visual capacity (48.67%), and the ability to engage in daily activities (32.74%) showed lower percentages of satisfaction.

Psychological Status

Participants reported high levels of satisfaction with themselves (51.76%) and their physical appearance (48.23%). However, satisfaction levels regarding enjoyment of life (57.96%), finding life meaningful (57.96%), ability to concentrate (78.76%), and feeling safe in daily life (64.60%) showed an increase in the "moderate to very low" range. Regarding emotional states, 39.82% reported occasionally experiencing feelings of sadness, hopelessness, depression, or low spirits, while 38.93% reported experiencing them frequently, and 6.19% reported experiencing them always.

Social Relationships and Environment

Satisfaction with relationships with non-family members (63.71%) and friend support (65.48%) was high among participants. However, satisfaction with access to information (54.42%), health facilities (56.63%), and home life (58.84%) decreased, as did satisfaction with physical environmental conditions (61.06%), transportation options (47.34%), financial conditions (70.79%), and leisure activities (80.08%). Regarding interpersonal relationships, 41.15% reported occasional difficulties with pressure and control, while 40.70% reported rarely experiencing such difficulties, and 8.84% reported experiencing them frequently. Only 2.21% reported experiencing them always.

Quality of Life

It is found that there is no statistically significant difference between quality of life values by classes according to Kruskal-Wallis test with $p=0.054$. Descriptive statistics of quality of life values by classes are summarized in Table 3.

All variables except "Peer pressure" were observed to have a positive correlation with quality of life. The variables that have a statistically significant and high correlation with quality of life, along with their correlation values, are provided in Table 4.

4. DISCUSSION

In the present study, the quality of life of dental students was evaluated utilizing the World Health Organization Quality of Life Scale (WHOQOL)-BREF. The results of the study indicated that this scale is reliable for assessing quality of life. When evaluating the effects of sociodemographic characteristics on quality of life, previous studies by Hannah et al. (13) and Zhang et al. (8) found that female students experienced higher levels of stress, whereas Andre et al. (1) did not find a significant difference in quality of life between male and female students. In our study, which included participants aged 17 to 36, only a few participants were in the 17, 36, and 35 age groups, with the majority being in the 20-23 age group. No statistically significant difference was found between age and quality of life. In contrast to our study, Andre et al. (1) found in their study among individuals aged 21 to 42 that stress levels increased with age due to increasing stressors and expenses, indicating a decrease in quality of life with increasing age. These factors were shown to affect individuals' quality of life, with quality of life decreasing with age.

Table 3. Descriptive Statistics for Quality of Life Values of Dental Students by Class.

	Mean	Std. Dev.	Min-Med-Max	N
Class 1	3.3387	0.7453	1-3-5	62
Class 2	3.3261	0.9202	1-3-5	46
Class 3	3.2200	0.9100	1-3-5	50
Class 4	2.8298	1.0069	1-3-5	47
Class 5	3.2500	0.8469	2-3-5	24
Total	3.1965	0.8987	1-3-5	229

Table 4. Spearman Correlations Between Quality of Life and Some Other Variables.

Spearman Correlations	Life quality	Health Satisfaction	Enjoying Life	Meaning of Life	Daily life	Enough Money	Sleep	Daily Challenge	Working Capacity	Self-Complacenc	Sadness, Despair	Peer pressure
Life quality	1	0.505	0.595	0.518	0.419	0.431	0.462	0.508	0.415	0.428	0.436	-0.203
Health Satisfaction		1	0.415	0.402	0.440	0.238	0.381	0.425	0.447	0.485	0.370	-0.144
Enjoying Life			1	0.793	0.522	0.302	0.371	0.521	0.426	0.495	0.490	-0.174
Meaning of Life				1	0.484	0.363	0.322	0.505	0.435	0.496	0.417	-0.223
Daily life					1	0.317	0.308	0.470	0.441	0.411	0.427	-0.133
Enough Money						1	0.244	0.307	0.275	0.270	0.210	-0.124*
Sleep							1	0.560	0.437	0.373	0.374	-0.134
Daily Challenge								1	0.667	0.519	0.487	-0.235
Working Capacity									1	0.609	0.459	-0.169
Self-Complacenc										1	0.481	-0.198
Sadness, Despair											1	-0.327
Peer pressure												1

The correlation value marked with an asterisk (*) is not statistically significant, while all other correlations are significant at the 0.05 level.

In a study conducted in China on medical students, the year of education was reported as a significant indicator of quality of life, with Psychological and Social Relationships being the most influential components (8). Upon evaluating the categories in our study, the domain scores ranked highest in social relationships and environment, general health, physical health, and psychological status, respectively. While our study found general health status to be lower compared to the findings of Andre et al. (1), satisfaction with health status was similarly high. Chazan et al. (9) reported a decrease in quality of life as medical students progressed in their programs in Rio de Janeiro, while other studies indicated that undergraduate students in health fields experienced the greatest negative impact on quality of life in the third year (9, 14-16). These studies suggested that the detrimental effect on quality of life was attributed to tendencies towards perfectionism and strong achievement expectations. Henning et al. (16) and Murphy et al. (17) found that perfectionism was a common personality trait among students in health fields. Perfectionism not only increased the risk of anxiety and depression but also contributed to a phenomenon of "imposter syndrome," leading students to constantly question their abilities, which could result in low performance and decreased patient trust (16, 17). In the present study, no statistically significant difference was found in the quality of life over the five-year dental

program, although fourth-year students exhibited relatively lower quality of life. This observation may be attributed to fourth-year students starting to care for patients in clinical settings for the first time. In Turkey, due to the initiation of clinical observation practices in the third year and clinical practices on patients starting either in the third or fourth year depending on the university, increased stress levels aimed at achieving performance, gaining patient trust, and earning instructors' approval may be influential in this situation. Additionally, the increased expenses due to the rising material needs of students beginning clinical practice may negatively impact their quality of life.

In this study, when evaluating physical health conditions related to physical strength and daily life activities, high rates of positive results were observed, although there was a decrease in satisfaction, sleep quality, and work performance capacity. Andre et al. (1) reported in their study that fourth-year students had the highest values in the physical health domain. Considering that the dental education program in the university where the study was conducted lasts for four years, we can interpret the results as representing dental final-year students. Similarly, in our study, fifth-year students had the highest physical health in the fifth year. Final-year students' curriculum focuses more on clinic-based education to ensure comprehensive patient care. Final-year students may feel more prepared to cope with various challenges compared to students in other years due to their greater clinical experience, competence, and impending graduation.

The psychological status domain, which evaluated enjoyment of life, feeling safe, attention and concentration, physical appearance, self-esteem, and negative emotions, had the lowest percentage among the evaluated categories. Only participants were satisfied with themselves and their physical appearance. Studies in the literature have shown that psychological status varies by class depending on the curriculum, workload, expectations, and stress factors (1, 8). In Turkey, dentistry first and second-year courses include simulation-based preclinical practice lessons alongside theoretical applications to reach clinical competencies. The third year is the year when students encounter patients for the first time, with the addition of clinical observation lessons alongside theoretical and preclinical lessons. Although clinical practices are predominant in the fourth and fifth years, the workload of theoretical courses in the fourth year is higher than that in the fifth year. Zhang et al. found that the psychological status of medical students also significantly decreased in the third year of the program, similar to general quality of life (8). Similarly, Andre et al. reported in their studies that psychological status scores of third-year students were significantly lower than those of first-year students (1). In this study conducted at New York University, clinical years are the third and fourth years. Considering the clinical and theoretical education curriculum in Turkey, the fourth year constitutes the most challenging period. Therefore, our study showed a significant decrease in psychological status compared to the first year among fourth-year students. Possible reasons for this decline may include increased anxiety and stress during clinical years and the difficulty of the curriculum.

The social relationships category among dental students has been observed to have the highest percentage of positive responses, indicating the presence of supportive relationships in close circles. This finding aligns with the literature, which suggests that supportive relationships contribute to reducing levels of stress and anxiety (18, 19). The significance of supportive relationships in mitigating stress and anxiety aligns with the broader literature on social support

and its positive effects on mental health. According to a recent study by Smith et al. (20), strong social relationships have been associated with lower levels of perceived stress and improved psychological well-being among college students. Supportive relationships play a crucial role in mitigating stress and anxiety, particularly among college students. Research by Schulz et al. (21) highlights the significance of parent-adolescent relationships and their longitudinal associations with peer and romantic relationships, emphasizing the positive impact of supportive relationships on mental well-being. Additionally, Sabuncu et al. (22) emphasize the importance of social support and perceived spiritual support in mitigating the negative effects of trauma-induced stressors, further underlining the positive influence of supportive relationships on mental health. This underscores the importance of fostering a supportive social environment within dental education programs to promote students' mental health and overall satisfaction. Additionally, studies have shown that female participants tend to have higher levels of social interaction compared to male participants. However, our study did not find a statistically significant difference between gender and social relationships. This indicates that while gender differences in social interaction have been reported in the literature, our specific study did not find such a distinction. Studies in the literature have shown that female participants tend to have higher levels of social interaction compared to male participants. However, in this study, no statistically significant difference was found between gender and social relationships. Female students' higher social skills and abilities, their tendency to express their emotions more and be more sensitive compared to male students, allow them to establish deeper social bonds with their surroundings, which in turn increases overall satisfaction derived from social relationships. Additionally, studies in the literature have indicated that marital status plays a significant role in social relationships and psychological status. Having a stable source of support from a spouse or significant other has been found to be crucial for psychological health, social relationships, and environmental well-being. In fact, Lloyd and Musser (23), and Reese et al. (24) discovered in a cross-sectional study that married male students reported the lowest average stress scores, while never-married females reported the highest stress scores. However, in our study, no statistically significant difference was found when evaluating the relationship between marital status, social relationships, and the environment.

Limitations

One of the main limitations of this study is the relatively small number of participating students, as it was conducted in only one faculty. Additionally, the lack of participation from other dentistry faculties may limit the generalizability of the results to all dental students in Turkey. Future studies should consider including a larger number of faculties, both public and private, to enhance the representativeness of the findings.

5. CONCLUSION

Dental students generally rated their overall quality of life as above average. They reported high levels of satisfaction in the areas of general health, social relationships, and physical health. While our findings align with previous research to a large extent, which often reports similar results, some literature suggests that dental education may decrease quality of life and increase stress levels. It is essential to recognize that stress and quality of life are distinct yet interconnected domains, and their relationship should be considered carefully. Based on the

study results, interventions, programs, and social activities aimed at improving the quality of life of dentistry students could be implemented. Furthermore, this study could be further refined to generate more targeted solutions. Enhancing the quality of life of dentistry students not only contributes to their academic success and reduced stress levels but also fosters the development of confident, low-anxiety professionals, thus improving patient care outcomes. Moreover, this may have positive effects on patients who experience dental anxiety.

Ethical Consideration of the Study

The necessary ethical approval for the study was obtained from the Ethics Committee for Non-Drug and Non-Medical Device Research of Necmettin Erbakan University Faculty of Dentistry (Approval Number: 2024/385). All participants were provided with detailed information about the study, and the study protocol was conducted in accordance with the principles of the Helsinki Declaration of Human Rights.

Conflict of Interest Statement

No potential conflict of interest was reported by the authors.

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