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EVALUATION OF DENTAL ANXIETY IN INDIVIDUALS WHO WILL PROVIDE DENTAL TREATMENT SERVICES IN THE FUTURE

Feyza Özdemir Kısacık

1- Burdur Mehmet Akif Ersoy Üniversitesi Dişhekimliği Fakültesi

ÖZET

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Anahtar Kelimeler: ……

ABSTRACT

Objective: To evaluate the dental anxiety levels comparatively between the 1st, 2nd and 3rd grades of the faculty of dentistry.
Material and Methods: The Modified Dental Anxiety Scale (MDAS) was applied to measure the anxiety levels of 1st year (n=69), 2nd year (n=87) and 3rd year (n=64) students studying at the faculty of dentistry towards dental interventions. Also sex, year of the school, oral care and brushing frequency, first dental experince, age and reason were asked. Those with MDAS scores ≥19 were considered to have high anxiety levels. While evaluating the findings obtained in the study, SPSS Statistics program was used for statistical analysis.
Results: Study was conducted on a total of 220 students, 91 (41.4%) male and 129 (58.6%) female. The MDAS scores of the students ranged from 5 to 25, and high dental anxiety was observed in 1.4% of the students. There is no statistically significant difference between the groups in terms of MDAS score averages (p>0.05).
Conclusion: First-year students' dental anxiety levels were found to be higher than other classes. It shows that both education level and dentistry education can be effective in reducing the level of dental anxiety. It is thought that this study, which aims to evaluate dental anxiety in individuals who will provide dental treatment services in the future, will positively affect future potential dentistry professionals' understanding of dental anxiety levels, empathy and patient approach.

Keywords: Dental anxiety, dental students, survey

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Araştırma Makalesi

*Corresponding author:

1. Introduction

Feeling fear and discomfort due to dental treatment is called dental anxiety. Patients with high anxiety levels pose a serious problem for dentists. These patients are more likely to not come to their appointments and require more time and effort for treatment compared to other patients. (1). Traumatic dental experiences, personal characteristics, gender, age, education levels affect the dental anxiety level of patients.(2) Another study suggested that dental anxiety occurs more frequently in women, children and young people, patients with low education levels, those living in rural areas and those who have not any dental experience before.(3)

Studies have shown that anxiety has been associated with the level of education (4) and even the field of education, apart from the level of education, can also affect dental anxiety. It has been reported that dentistry students have a lower level of dental anxiety than students studying engineering and medicine.(5) Feeling pain and discomfort during previous treatments, unsuccessful dental treatments, post-operative complications and patient-physician incompatibility increase anxiety levels.(6-8). Dental anxiety can affect oral health, social interactions and work performance, and can reduce overall quality of life (9-11)

To evaluate the level of dental anxiety, the questionnaire created by Corah was modified by Humphris et al. and the Modified Dental Anxiety Scale (MDAS) was created. The MDAS consists of five questions with five answer options each, and the total score indicates the patient's overall level of dental anxiety.(12,13)

Researchers have suggested that special attention should be paid to these patients due to the consequences of anxiety on oral health.(14) There are three basic strategies used to solve anxiety problems in dentistry. The general attitude and anxiety-educing behavioral treatment protocol (cooperation, empathy, awareness raising by explaining the application and etc.)pharmacological strategies (general anesthesia, sedation) and to deal strategies (distraction, relaxation, and hypnosis) (15-18). Dentistry students' dental anxiety may negatively affect the patient's attitude towards dental treatment so these basic strategies should be known by students before clinical practice

The aim of this study was to evaluate the dental anxiety levels comparatively between the 1st, 2nd and 3rd grades students of the faculty of dentistry who will do dental treatments in the future.

2. Methods

The study included 1st, 2nd and 3rd year students attending Mehmet Akif Ersoy University Faculty of Dentistry. The data of the descriptive study were obtained using online data collection tools (Google Docs). The survey and form used in the measurement were made ready to be filled online through this platform and delivered to the students. A survey including the prepared information form and the Modified Dental Anxiety Scale (MDAS) was administered to the students participating in the study. The survey consisted of 2 parts. Part 1 included questions about gender, student's grade, tooth brushing habits, oral care, age and evaluation of first dentist experience, and what dental treatments were performed. Part 2 included the MDAS scale questions. Ratings between 1 and 5 are indicated on the scale used to evaluate the fear of the dentist. Accordingly, they were evaluated as "I would not be worried", "I would be slightly worried", "I would be quite worried", "I would be very worried", "I would be extremely worried", respectively. Participants subjected to a scale to assess their fear of the dentist before going to treatment, while waiting for treatment, during treatment, and during cleaning and local anesthetic applications. Scoring was between 1-5 therefore, the maximum score that could be obtained from each question was 5, the maximum score of the entire scale was 25, and the minimum score was 5. Students whose MDAS score value was ≥19 were considered to have high dental anxiety levels.(19) Ethics committee approval, numbered GO2023-433 was received from the non-invasive clinical research Ethics committee of Mehmet Akif Ersoy University.

Descriptive statistics (number, percentage, mean, standard deviation, minimum, maximum and median) are given in this study. The reliability of the scale used in the study was tested. As the first step of the statistical analysis, the assumption of normality was checked with the Shapiro Wilk test. Mann Whitney U test was applied to examine the difference between the means of two independent groups where the normality assumption was not met. Kruskal Wallis test was used to examine the difference between the means of variables that have three or more independent groups that do not have a normal distribution. Post Hoc Bonferroni tests were conducted to determine the group or groups that made the difference. When the sample size assumption (expected value>5) is met in testing the relationship between categorical variables, Pearson Chi Square; In cases where it was not met, Fisher's Exact test was applied. Analyzes were carried out in IBM SPSS 25 program.

3. Results

Study was conducted on a total of 220 students, 91 (41.4%) of whom were male and 129 (58.6%) of whom were female. Of the students participating in the study, 31.4 % were first year students, 39.5% were second year students, and 29.1% were third year students. 96.8 percent of the participants have been to the dentist before and 71.6% have a dentist experince <12 years. The 9.7% of them defined the first experience was bad

Reliability analysis was applied to test the consistency of the scale applied according to the answers given by the participants in the study. The Modified Dental Anxiety Scale used in the study was determined to be highly reliable with a Cronbach's alpha reliability coefficient of 0.824.
When the scores received from the Modified Dental Anxiety scale were examined, the mean was calculated as 8.46 and the standard deviation was 3.05. It was observed that 1.4% of the participants had anxiety and 98.6% did not have anxiety. (Table 1)

Table 1. Total score distribution of the Modified Dental Anxiety Scale

	N	Minimum	Maximum	Mean	Standart Deviation	Median
MDAS	220	5	25	8,46	3,05	8
					n	%
MDAS		No anxiety(18≤)			217	98,6
		Anxiety (≥19)			3	1,4

Mann Whitney U and Kruskal Wallis tests were applied to compare the Modified Dental Anxiety Scale scores according to the demographic and clinical characteristics of the individuals. As a result of the analysis, a statistically significant difference was found between the Modified Dental Anxiety Scale scores of the individuals according to their gender ($p < 0.05$). The average anxiety score of women is higher than the average anxiety score of men.
A statistically significant difference was determined between Modified Dental Anxiety Scale scores according to first dental experience ($p<0.05$). Those who described the first dental experience as bad, had a significantly higher MDAS score.
There was no statistically significant difference between the classes, oral care status, tooth brushing frequency, previous dental visit, age of the first visit and reason for visiting in terms of MDAS score averages ($p>0.05$).
As a result of the analysis, a statistically significant relationship was found between tooth brushing frequency and gender ($p<0.05$). When the observations were examined for the reason for the relationship, it was determined that people who brushed their teeth 2-3 times a day were mostly women, and people who brushed their teeth once a day and 1-2 times a week were mostly men.
As a result of the analyses, a statistically significant relationship was determined between the time of seeing the first dentist and the first dentist experience ($p<0.05$). When the observations were examined for the reason for the relationship, it was observed that people in the <12 age group answered 'good' more than other participants. Also a statistically significant relationship was determined between the time of seeing the first dentist and the first dentist experience ($p<0.05$).
Fisher's Exact test was applied to examine the relationship between the participants' first dentist experience and the reason for visiting. As a result of the analysis, no statistically significant relationship was found between the first dentist experience and the reason for visiting ($p>0.05$).

4. Discussion

Dental anxiety, which often possess a hinders to dental treatments, is a huge problem for both patients and physicians. Many different questionnaires are used to determine dental anxiety(.20.), the method used in the present study to assess the anxiety level was the MDAS questionnaire (21.). It has been validated in different languages, is easy to apply, and is widely used. (22-24.)
There are studies reporting that MDAS is a reliable and valid scale in Turkish society (19,25.).
In a study evaluating the reliability and validity of the MDAS on patients, it was stated that the scale had sufficient sensitivity when a score of 19 or higher was obtained (25)
Since MDAS is a reliable, short and understandable, easy-to-use and accepted scale, we used this scale and the ≥19 criterion in our study.
There are some articles stating that there is no difference between genders (26,27), but some articles have reported that the women's anxiety levels are higher than men (28-32) In our study a statistically significant difference was found between the Modified Dental Anxiety Scale scores of the individuals according to their gender. The women's average anxiety score was higher than men's.
In dental anxiety studies conducted on dentistry students in the literature has been reported that first-year students have higher anxiety levels than senior students.(33,34)

In a dental anxiety study conducted with dental students, it was suggested that as the level of dental education increases, the level of dental anxiety decreases.(35,36)
Although there is no statistically significant difference between the groups in terms of MDAS score averages in our study, the mean MDAS scores of 1st grade students were higher than those of 2nd and 3rd grades. As students learn year by year about treatment approaches in dentistry, their perspectives on dental anxiety can change.
Results show that there was significant relationship between the age of seeing the first dentist and the first dentist experience. When the observations were examined for the reason for the relationship, it was observed that people in the <12 age group answered 'good' more than other participants. Also a statistically significant relationship was determined between the time of seeing the first dentist and the first dentist experience. It can be said that meeting the dentist early has a positive effect on dental anxiety. Similarly, this may be the reason why dental students feel less dental anxiety than the general population.
There is no significant difference between the participants' first dentist experience and the reason for visiting suggests that the treatment method to be applied has no effect on the development of dental anxiety. Factors that determine dental anxiety can be examined as the person's character features, direct conditioning (previous dental experiences), indirect conditioning (acquired from the environment) and other unclassifiable factors.(37). While some studies suggest that dental anxiety is higher in patients who have not had dental treatment before, others conclude that previous surgery and painful procedures cause dental anxiety. (3,38,39.)
So becouse of this multifactorial effects, it is not appropriate to conclude that a single factor causes dental anxiety. Also, in general anxiety disorders are not a single disorder, but consist of many interrelated conditions, and their symptoms may show different symptoms in each person (40-42).

5. Conclusion

Dental anxiety, which often poses an obstacle to dental treatments, is a huge problem for both patients and physicians. Along with the necessary dental procedures, physicians also need to deal with obstacles to treatments, possible behaviors, and concerns. In our study, it can be concluded that it was easy for dentistry students to overcome their dental anxiety because they saw themselves as both patients and physicians, with the awareness of being the person who will give this treatment in the future, and because they learned about the treatment to be performed. In addition, it will be easier for dental students who have previous dentistry experience to empathize with the patient when they become the dentist who will perform the treatment in the future, understanding their dental anxiety and displaying appropriate behavioral models. This can make it easier to deal with dental anxiety.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Ethical Approval

Ethics committee approval, numbered GO2023-433 was received from the non-invasive clinical research Ethics committee of Mehmet Akif Ersoy University.

Consent to Participate and Publish

Written informed consent to participate and publish was obtained from all individual participants included in the study.

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Availability of Data and Materials

Data sharing not applicable

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Kaynakça / References

1. Şimşek N, İspir S. Diş Hekimliğinde Anksiyete. Akd Tıp D / Akd Med J / 2019; 1: 15-20.
2. Locker D, Poulton R, Thompson WM. Psychological disorders and dental anxiety in a young adult population. Community Dent Oral Epidemiol 2001; 29(6): 456-63.
3. Marakoğlu İ, Demirer S, Özdemir D, Sezer H. Periodontal tedavi öncesi durumluk ve süreklik kaygı düzeyi. CÜ Diş Hek Fak Derg 2003; 6(2): 73-79.
4. Nicolas E, Collado V, Faulks D, Bullier B, Hennequin M. A nationalcross-sectional survey of dental anxiety in the French adult population. BMC Oral Health 2007; 7:12.
5. Al-Omari WM, Al-Omiri MK. Dental anxiety among university students and its correlation with their field of study. J Appl Oral Sci 2009; 17: 199- 203.
6. Elter JR, Strauss RP, Beck JD. Assessing dental anxiety, dental care use and oral status in older adults. J Am Dent Assoc 1997; 128: 591-597.
7. Vassend O. Anxiety, pain and discomfort associated with dental treatment. Behav Res Ther 1993; 31: 659-666.
8. Kanegane K, Penha SS, Munhoz CD, Rocha RG. Dental anxiety and salivary cortisol levels before urgent dental care. J Oral Sci 2009; 51(4): 515- 520)
9. Cohen SM, Fiske J, Newton JT. The impact of dental anxiety on daily living. Br Dent J 2000;189:385-90.
10. Kumar S, Bhargav P, Patel A, Bhati M, Balasubramanyam G, Duraiswamy P, et al. Does dental anxiety influence oral health-related quality of life? Observations from a cross-sectional study among adults in Udaipur district, India. J Oral Sci 2009; 51(2):245-54.)
11. Kanaffa-Kilijanska U, Kaczmarek U, Kilijanska B, Frydecka D. Oral Health Condition and Hygiene Habits Among Adult Patients with Respect to Their Level of Dental Anxiety. Oral Health Prev Dent 2014;12:233-239.
12. Corah N. Development of A Dental Anxiety Scale. J Dent Res 1969;48:596.
13. Humphris GM, Morrison T, Lindsay SJ. The Modified Dental Anxiety Scale: validation and United Kingdom norms. Community Dent Health 1995;12:143-150.
14. Gordon D, Heimberg RG, Tellez M, Ismail AI. A critical review of approaches to the treatment of dental anxiety in adults. J Anxiety Disord 2013;27:365-378.
15. Corah NL, O'Shea RM, Ayer WA. Dentists' management of patients' fear and anxiety. J Am Dent Assoc (1939) 1985; 110(5):734-6.
16. Jongh Ad, Adair P, Meijerink-Anderson M. Clinical management of dental anxiety: What works for whom? Int Dent J 2005; 55(2):73-80.
17. Firestein SK. Patient anxiety and dental practice. J Am Dent Assoc 1976;93(6):1180-7.
18. Berggren U. Reduction of fear and anxiety in adult fearful patients. Int Dent J 1987; 37(2):127-36.
19. Ilgüy D, Ilgüy M, Dinçer S, Bayirli G. Reliability and validity of the Modified Dental Anxiety Scale in Turkish patients. J IntMedRes 2005; 33: 252-9.
20. Newton JT, Buck DJ. Anxiety and pain measures in dentistry: A guide to their quality and application. JADA 2000; 131: 1449-57.
21. Humphris G, Crawford JR, Hill K, Gilbert A, Freeman R. UK population norms for the modified dental anxiety scale with percentile calculator: adult dental health survey 2009 results. BMC Oral Health. 2013 Jun 24;13:29. doi: 10.1186/1472-6831-13-29.
22. Gupta G, Shanbhag N, Puranik MP. Cross-Cultural Adaptation of Kannada Version of Modified Dental Anxiety Scale Among an Adult Indian Population. J Clin Diagn Res 2015;9;ZC34-38.
23. Facco E, Gumirato E, Humphris G, Stellini E et al. Modified dental anxiety scale: validation of the italian version. Minerva Stomatol 2015;64:295-307.
24. Said H, Finkelman M, Rosenberg M. Salivary Cortisol, Salivary Alpha Amylase, and the Dental Anxiety Scale. Anesth Prog 2013;60:46-53.)
25. Tunc EP, Firat D, Onur OD, Sar V. Reliability and validity of the Modified Dental Anxiety Scale (MDAS) in a Turkish population. Community Dent Oral Epidemiol 2005; 33: 357-62.

26. Economou.G.C. Dental anxiety and personality: investigating the relationship between dental anxiety and self consciousness. J Dent Edu2003; 67(9): 970–80.
27. G. Donka. Kirov dental anxiety among dental student. J Int Med Assoc Bulg. 2011; 17(2): 137–9.
28. Peretz B, Moshonov J. Dental anxiety among patients undergoing endodontic treatment. J Endod 1998 Jun; 24(6): 435-7.
29. Peretz B, Efrat J. Dental anxiety among young adolescent patients in Israel. Int J Paediatr Dent 2000; 10: 126-32.
30. Skaret E, Soevdsnes EK. Behavioural science in dentistry. The role of the dental hygienist in prevention and treatment of the fearful dental patient. Int J Dent Hyg 2005; 3: 2-6.
31. Yuzugullu B, Gulşahı A, Celik C, BulutŞ. Klinik öncesi diş hekimliği öğrencilerinin dental anksiyete düzeylerinin belirlenmesi. Ondokıız Mayıs Univ Pis Hekim Fak Derg 2010; 10(3): 106-10.
32. Sghaireen MG, Zwiri AM, Alzoubi IA, Qodceih SM, AL-Omiri MK. Anxiety due to Dental Treatment and Procedures among University Students and Its Correlation withTheir Gender and Field of Study. Int J Dent 2013; 2013: 647436.
33. Acharyaand S, Sangam DK. Dental anxiety and its relationship with self-perceived health locus of control among Indian dental students. Oral Health&Preventive Dentistry, 2010; 8 (1): 9– 14.
34. Ergüven SS, Işık B, Kılınç Y. Diş hekimliği fakültesi birinci sınıf öğrencileri ile son sınıf öğrencilerinin dental kaygı-korku düzeylerinin karşılaştırmalı olarak değerlendirilmesi. Acta Odontol Turc 2013; 30(2): 70- 6.

35. Peretz B, Mann J. Dental anxiety among Israeli dental students: a 4-year longitudinal study. Eur J Dent Educ 2000 ; 4 : 133-7.
36. Blumer S, Peretz B, Yukler N, Nissan S. Dental Anxiety, Fear and Anxiety of Performing Dental Treatments among Dental Students during Clinical Studies. J Clin Pediatr Dent. 2020 Dec 1;44(6):407-411. doi: 10.17796/1053-4625-44.6.3.
37. Öcek ZA, Karababa AO, Türk M, Çiçeklioğlu M. Ege Üniversitesi Dişhekimliği Fakültesi'ne başvuran hastalarda dental anksiyete etiyolojisinin değerlendirilmesi. EÜ Diş Hek Fak Derg 2001; 22: 121-129
38. Doerr PA, Lang WP, Nyquist LV, Ronis DL. Factors associated with dental anxiety. J Am Dent Assoc 1998; 129(8):1111-1119.
39. Muğlalı M, Kömerik N. Ağız cerrahisi ve anksiyete. CÜ Diş Hek Fak Derg 2005; 8(2):83-88.)
40. Tillfors M, Bassam EK, Stein MB, Trost K. Relationships between social anxiety, depressive symptoms, and antisocial behaviors: Evidence from a prospective study of adolescent boys. J Anxiety Disord 2009; 23(5):718-24.
41. Dugas MJ. Generalized anxiety disorder publications: so where do we stand? J Anxiety Disord 2000; 14(1):31-40.
42. Ruscio AM, Chiu WT, Roy-Byrne P, Stang PE, Stein DJ, Wittchen HU, et al. Broadening the definition of generalized anxiety disorder: effects on prevalence and associations with other disorders in the National Comorbidity Survey Replication. J Anxiety Disord 2007; 21(5):662-76.