

Research Paper: Evaluation of Dental Anxiety and Related Factors in Patients Referred to Alborz University of Medical Sciences in 2021



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ABSTRACT

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Introduction: Anxiety about dentistry is one of the most important reasons for people to avoid dental care and in the long run reduces the level of oral health and quality of life. This study investigates the level of anxiety about dentistry and its related factors in adult patients referred to the School of Dentistry of Karaj University of Medical Sciences in 2021.

Materials and Methods: In this descriptive study, was performed on 200 patients referred to the School of Dentistry of Alborz University of Medical Sciences. For information Dental Anxiety Questionnaire (Corah (DAS)) and Question Individual Satisfaction Letter of Quality of Life (MC. Grath) have been used. Data were analyzed using SPSS software version 24.

Results: Out of 200 patients, 91 (45.5%) had no anxiety, 13 (6.5%) had mild anxiety, 62 (31%) had moderate anxiety and 34 (17%) had they were very anxious. In this study, women were more anxious than men. There was a relationship between anxiety and satisfaction with the quality of life so people who were satisfied with their quality of life had less anxiety.

Conclusion: The results showed a significant relationship between dental anxiety and related factors such as gender, age, education, life satisfaction and number of visits to the dentist.

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Introduction

Dental and oral health is an essential part of general health. However, visiting the dentist's office and being on the unit for examination and treatment is often not so easy and relaxing (1). Anxiety can be defined as an unpleasant emotional state in which a person is afraid without a clear reason and there is a feeling that something undesirable is going to happen. Dental anxiety is a reaction to an unknown danger, and many people experience some degree of dental anxiety, especially when experiencing something they have never experienced before (2). Dental anxiety may reach debilitating levels, and the feeling of imminent death may discourage the patients and their families from receiving any diagnostic or treatment measures from the dentist. Dental anxiety is a complex fear in which many causes are involved. Fear and anxiety are multidimensional emotions related to psychological, social and situational factors (3). Dental anxiety is one of the important reasons why people avoid dental care, and it worsens the condition of oral and dental health and increases the prevalence of dental diseases (4). People with dental anxiety have more missing and damaged teeth and treat their teeth less often, and basically have a worse oral health condition than normal patients. Patients with dental anxiety may have longer treatments and are often less satisfied with the care they receive (5). Dental anxiety either partially limits the use of oral health care services or completely prevents these services (6). Sometimes, this anxiety is combined with fear and panic, and the emergence of confrontational behaviors in patients prevents the dentist from providing any kind of service (7). On the other hand, the occurrence of anxiety in clients and its repetition while examining patients can affect dentists' efficiency and decrease their self-confidence, which in turn reduces the probability and rate of success of the treatment (8). Dental treatments are painful and uncomfortable procedures, so many patients worry about pain during and after the treatment. People who have severe fear and anxiety about

dental treatments need to use different anxiety control methods. The feeling of pain in the dentist's office is not only due to the damage of dental tissues and periodontium and the transmission of pain to the brain but is also caused by many factors, including the mental state of the person, previous experiences of dental work and the use of painkillers. Pain and anxiety are interconnected; pain can make the patient anxious and the anxious person feels more pain. People who have a negative attitude toward dental work feel more anxious (7). Dental anxiety reduces the level of oral health and the quality of life of people in the long term, and they may suffer a high amount of social damage. It eventually causes untreated infections of the oral cavity (9). One way to improve the level of oral health and the quality of life is to investigate dental anxiety and its related factors (10, 11) One of the important benefits of measuring patients' anxiety is that the dentist would be able to diagnose factors that cause anxiety for the patient's before starting the treatment and eliminate them as much as possible or avoid putting the patient in that situation. Various studies have suggested several treatment methods to overcome dental anxiety, including identifying the causing factor and examining psychological factors (4). The present study aims to investigate the level of dental anxiety and its related factors in patients visiting the dental school of Alborz University of Medical Sciences in 2021.

Materials and Methods

The present study is a cross-sectional descriptive-analytical research. The statistical population included people over 18 years of age who visited the dental school of Alborz University of Medical Sciences in 2021. Data collection was done in the form of a census. Inclusion criteria included: age of more than 18 years, willingness to participate in the study, and completing the consent form. Exclusion criteria included: age less than 18 years, dissatisfaction with participation in the study, and incomplete or distorted questionnaire. The title and

purpose of the research project were first explained to the visiting patients. The patients were then asked to sign the informed consent form. Then, the patient's personal information form was completed, and the Standard Dental Anxiety Scale Questionnaire and the patient's satisfaction questionnaire on the quality of life were responded to by the patients. The questionnaires had four sections: informed consent, demographic information, dental anxiety scale (DAS), and satisfaction with the quality of life (McGrath). The dental anxiety form contains four questions on dental anxiety, and each question is assigned a score between 1 (the lowest anxiety) and 5 (the highest anxiety), and therefore the range of anxiety scores that can be obtained according to this form is between 4 and 20. According to the questionnaire, people who get anxiety scores less than 9 are people without anxiety, anxiety scores between 9 and 10 are mild anxiety, anxiety scores between 10 and 12 are moderate anxiety, and people with anxiety scores above 12 are known as people with severe anxiety (12, 13). The form related to satisfaction with the quality of life contains 16 questions, and each question was assigned a score of 1 (very bad), 2 (bad), 3 (none), 4 (good), and 5 (very good), the therefore the obtained scores ranged between 16 and 80. On average, scores above 48 indicate a person's satisfaction and scores below 48 indicate a person's dissatisfaction with the quality of life (14, 15).

Validity and reliability of the questionnaires

The validity and reliability of dental anxiety questionnaires and satisfaction with the quality of life in the present study were consistent with other studies and were estimated to be 0.78 and 0.92, respectively (12, 14).

Procedure

In the first stage, the validity and reliability of the questionnaires were checked and confirmed. To collect information, the questionnaires were directly completed by the patients visiting Alborz School of Dentistry and then collected.

Statistical analysis

After coding the data, they were analyzed using version 24 of the SPSS software. The collected data were analyzed using t-tests, analysis of variance, and Pearson's correlation (16). A p-value less than 0.05 was considered to be statistically significant.

Ethical considerations

The present study was presented in approved by the Research Ethics Committee of Alborz University of Medical Sciences under IR.ABZUMS.REC.1400.102.

Results

In the present study, 200 patients who visited the different departments of Alborz Dental School were examined, of whom 68.5% were female and 31.5% were male. In terms of age, 64.5% were under 40, and 35.5% were over 40 years of age. In terms of education, 25% had elementary school or lower levels of education, 34.5% had secondary school education, and 40.5% had a university education. The results showed that 78% of the people in the present study were satisfied with their quality of life and 22% were unsatisfied. Also, 45.5% had no anxiety, 6.5% had mild anxiety, 31% moderate anxiety and 17% had severe dental anxiety. The results showed that there is a significant relationship between satisfaction with quality of life and dental anxiety ($P < 0.05$) (Table 2). The level of anxiety was higher in those patients who considered their quality of life to be unfavorable. There was a significant relationship between gender and dental anxiety, and dental anxiety was reported to be higher in women ($P < 0.05$). There was a significant relationship between age and dental anxiety, and the level of anxiety was less reported at older ages ($P < 0.05$). There was a significant relationship between the patient's education level and anxiety about going to the dentist's office, and dental anxiety was higher in people with lower education ($P < 0.05$). Also, there is a significant negative relationship between dental anxiety and the number of visits to the dentist's office, in a way that with the

increase in the number of visits to the dentist's office, people's dental anxiety score decreases ($P<0.05$). There was also a significant relationship between the level of dental anxiety and the patient's type of residential unit (renter vs. homeowner), and dental anxiety was higher in renters ($P<0.05$).

It was also found that there was a significant relationship between the number of remaining teeth and dental anxiety, and anxiety about dentistry was higher in people with unfavorable oral health status ($P<0.05$).

Table 1. Relative frequency of participants according to variables of age, gender, education

Variable	Component	Number	Percent
Gender	Female	137	68.5
	Male	63	31.5
Age	Under 40 years	129	64.5
	Over 40 years	71	35.5
Education	Elementary and less	50	25
	High school	69	34.5
	University	81	40.5
Total		200	100

Table 2. Level of dental anxiety in the investigated patients according to satisfaction with the quality of life

Anxiety \ Quality of life	Lack of anxiety		Mild		Moderate		Severe	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Unsatisfied	0	0	0	0	32	72.7	12	27.3
Satisfied	91	58.4	13	8.3	30	19.2	22	14.1

p-value=0.00

Discussion

Despite the modern advances in dentistry, dental anxiety remains one of the main concerns for dentists and patients. This anxiety will gradually reduce the quality of life of the patients and will have consequences such as a decrease in the level of oral hygiene and the prevalence of caries. Therefore, the present study aimed to investigate the level of dental anxiety and its related factors in patients who visited the dental school of Alborz University of Medical Sciences in 2021. The results of the present study showed that 45.5% of patients had no anxiety, 6.5% had mild anxiety, 31% had moderate anxiety, and 17% had severe anxiety. Regarding the level of severe anxiety, which was reported to be 17% in the present study, the results are consistent with other studies (12, 17 and 18), but it differs from the study by Morovatti et al. in 2012, which reported severe anxiety to be 24.8%.¹⁹ In the present study, a significant relationship was found between anxiety and satisfaction with the quality of life, in a way that 100% of those who considered their quality of life to be unfavorable had experienced moderate or higher anxiety levels, while only 33.3% of those who were satisfied with their lives had dental anxiety, a finding which is in line with the results of other studies (14, 15 and 19). This indicates the effective role of satisfaction with the quality of life in reducing the level of dental anxiety. In the present study, there was a significant relationship between dental anxiety and gender, and anxiety was observed more in female clients than male clients, which is consistent with the results of other studies (12, 20 and 21). In the study by Qasempour et al. in 2004, there was no difference between girls and boys in terms of the level of dental anxiety, which may be because the group of people examined was children aged 6-12 years and that the number of acceptable samples was limited (18). Nevertheless, it was reported in the study by Bhardwaj et al. in 2021 that gender has the strong effect on dental anxiety scores (22). It seems to be due to the fact that the prevalence of anxiety disorders is generally higher in women than in men. In

the present study, there was a significant negative correlation between dental anxiety and age, in a way that 21.7% of people with an average age of less than 40 years had severe dental anxiety, while in the age group of over 40 years, the rate decreased to 8.5%, which is consistent with other studies (12, 21). It seems that the level of dental anxiety decreases with age, and the younger people are the more anxiety they have. In fact, with an increase in age, people's tolerance increases and they probably manage discomforts and pain better due to increased experience as a result of facing various adversities and incidents in life (23). In the present study, there was a significant relationship between the level of dental anxiety and the number of visits to the dentist's office, and those patients who had visited the dentist less often had more anxiety than those who had visited the dentist more often, in a way that 33.3% of people who had visited the dentist for the first time had severe anxiety, while only 10% of the people who had visited the dentist more than six times had severe anxiety about going to the dentist's, which is consistent with other studies (24). It seems that the lack of familiarity with the treatment environment, the type of treatment, the duration of the treatment, the interaction between the dentist and the treatment staff, and the main complaint of the patient can be effective factors in the occurrence of anxiety in the first visit. The results of the present study showed that there is a significant relationship between the number of remaining teeth and the level of dental anxiety, and patients with less than 20 remaining teeth experienced moderate and high anxiety levels, which is consistent with the results of other studies (21). The findings of the present study indicate a significant negative relationship between the level of education and the level of dental anxiety, and as the level of education increases, the average score for dental anxiety decreases, which is consistent with the results of other studies (25). However, there was no significant relationship between occupation and the level of dental anxiety, which is consistent with other studies (26). There was a significant relationship between the occupancy type of the residential unit and the level of dental anxiety, and severe anxiety was observed more in renters than homeowners,

which is in line with other studies (21).

Conclusion

The results of the present study showed that the level of anxiety is higher in patients who are not satisfied with their quality of life, women, patients aged less than 40 years, patients with secondary education and lower levels of education, patients with a low number of visits to the dentist's, patients who were renters, and patients with the number of remaining teeth less than 20. Considering the relatively high percentage of anxious people in society and also because dental anxiety often starts in childhood, it is suggested that young patients be considered as the target group in preventing dental anxiety.

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None.

Authors' contributions

Abouzar Moradi: Conceptualization, Methodology, Writing - Review & Editing **Iman Shirinbak:** Resources, Investigation, Visualization **Farnaz Asadi:** Methodology, Visualization **Keyvan Shahrizad:** Writing - Original Draft, Data Curation **Mohammadreza Havasian:** Funding acquisition, Project administration, Supervision

Conflict of Interests

The authors declare no conflict of interest.

Ethical declarations

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Availability of data and material

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

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