



## The Effect of Dental Anxiety Levels of Medical Faculty Students on Oral Hygiene Behaviors<sup>#</sup>

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### Research Article

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### ABSTRACT

**Aims:** Aimed to evaluate the effect of dental anxiety levels of students at Sivas Cumhuriyet University Faculty of Medicine on oral hygiene behaviors.

**Materials and Methods:** It is descriptive, cross-sectional study and carried out between September-October 2021. It was applied online to 216 volunteers from class I-V students. Students were asked about their sociodemographic characteristics, oral hygiene behaviors and Corah Dental Anxiety Scale (C-DAS). The C-DAS questionnaire is in 5-point Likert type consisting of 4 questions (Min: 4-max: 20 points). Analyzes were made with the SPSS 25 program. Descriptive statistics, independent sample T-test were performed.

**Results:** 50% (n=108) of the students were women. 78.2% (n=169) had never smoked. 33.3% (n=72) of them started brushing regularly before age of six. 58.8% (n=127) were brushing their teeth at least twice a day. The rate of brushed their teeth correctly was 49.5% (n=107). Only 24.5% (n=53) of the students changed their toothbrush every three months. Students' use of additional dental hygiene tools other than toothbrushes respectively; toothpick (37.5%, n=81), dental floss (32.4%, n=70), mouthwash (26.9%, n=58), interface brush (6%, n=13), miswak (3.7%, n=8). The mean C-DAS score was 8.8±3.7 (min:4-max:20). The mean score was significantly higher for female students (9.5±3.7) than the males (8.0±3.5) and those who had a toothache (9.5±4.1) in the last year than the others (8.1±3.2). There was no significant difference between C-DAS score and brushing teeth twice a day or more. There was no significant difference between the use of additional dental hygiene tools and C-DAS score.

**Conclusion:** Dental anxiety was found to be higher in women and those who had toothache in the last year. It was determined that anxiety did not affect the dental hygiene behavior.

**Key Words:** Dental Anxiety, Medical Students, Oral Hygiene Behaviors.

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## Introduction and Aim

Anxiety about the dentist and treatment is considered to be one of the common anxieties that people have. Dental anxiety includes fears of different severity, such as not liking going to the dentist, worrying, excessive fear, showing symptomatic symptoms (excessive sweating or feeling unwell as if she has a physical illness).<sup>1</sup> Dental anxiety negatively affects the quality of life of individuals by creating physiological, intellectual and behavioral differences in the patient and creating negative effects on both oral health and general health. Fear of dentistry; Many factors such as age, gender, characteristics of the planned treatment procedure, and education level are related.<sup>2</sup> In general, it is seen that the anxiety levels of women and low-income individuals are higher than other segments of the society.<sup>3</sup> Different results have been obtained in studies examining the effects of dental fear and anxiety on oral hygiene behaviors of individuals.<sup>4</sup> While Ay et al. reported that dental anxiety had no effect on individuals' brushing habits and use of dental hygiene tools such as dental floss, toothpicks and miswak<sup>5,6</sup> in a different study, it was reported that these individuals brushed their teeth less frequently.<sup>7</sup> When we examined the

results of studies investigating whether dental fear and anxiety have an effect on oral health, it was found that individuals with high anxiety had fewer teeth, had more decayed teeth and missing teeth, and had more dental pathology in these patients.<sup>8,9</sup>

In our study, we aimed to evaluate the effect of dental anxiety levels of students studying at Sivas Cumhuriyet University Faculty of Medicine (SCUTF) on oral hygiene behaviors.

## Materials and Methods

It is a descriptive, cross-sectional study. Our research was applied to class 1-5 students who were studying at SCUTF in the 2020-2021 academic year and accepted to participate in the study. The research was conducted between September and October 2021. The research questionnaire was sent to the participants online from the student communication platform. First of all, information about the study was given from the platform. Informed consent of the participants was obtained from the page opened before the survey.

The data form used in the study consisted of 21 questions in total. The first 17 questions were about socio-demographic information and oral hygiene behaviors of students. The next 4 questions were the Corah Dental Anxiety Scale (C-DAS).<sup>10</sup> This scale measures how much anxiety people feel about dental treatment related interventions. Seydaoglu et al. A Turkish validity study was conducted by in 2006.<sup>11</sup> Chronbach's alpha value was found to be 0.81. It is a 5-point Likert type scale (Min:4-max:20 points). Those with 12 points and above were considered anxious, and those with 15 points and above were considered high anxiety. Analyzes were made with the SPSS 25 program. Frequencies for categorical variables and measures of central tendency (Mean ± Standard Deviation) for continuous variables were calculated. For data with normal distribution, the independent T test was used to compare two independent groups. A p-value of less than 0.05 was considered for statistical significance, with a 95% confidence interval.

### Ethical Approval

The ethics committee of the Sivas Cumhuriyet University Non-Interventional Clinical Research approved this protocol (Approval date/number: 17.11.2021/E2021-11/42).

### Results

216 students volunteered to participate in the study. 50% (n=108) of the students were women. 62.5% (n=135) of the participants were studying basic sciences and 37.5% (n=81) were studying clinical sciences. 81.9%

(n=177) lived in the city center and 18.1% (n=39) lived in the county. 78.2% (n=169) of the students had never smoked, 19.0% (n=41) were currently smoking, and 2.8% (n=6) had quit. The oral hygiene behaviors of the students are shown in Table 1.

80.1% (n=173) of the students pay attention to features when selecting a new toothbrush. Content (76.4%; n=165), brand (68.1%; n=147), price (38.9%; n=84), taste (18.5%; n=40) and odor (6.5%; n=14) are the features they look for, respectively.

70.4% (n=152) of the students ate 3 or more meals a day. 14.4% (n=31) always consumed sugary foods and acidic beverages between meals, 21.3% (n=46) occasionally, 64.4% (n=139) rarely.

47.7% (n=103) of the participants had experienced toothache within the last year. The mean C-DAS score of the participants was 8.8±3.7 (min:4-max:20). When categorized 79.2% (n=171) did not have dental anxiety, 20.8% (n=45) of them had dental anxiety and 8.3% (n=18) had a high level of dental anxiety. The mean score of female students (9.5±3.7) was significantly higher than that of males (8.0±3.5) (p=0.004). The mean score of those who had a toothache in the last year (9.5±4.1) was also significantly higher than the others (8.1±3.2) (p=0.007). There was no significant difference between the C-DAS score and brushing teeth twice or more a day (p=0.556). There was no significant difference between the use of additional dental hygiene tools and the C-DAS score (p=0.280).

The answers given by the students to the C-DAS scale are shown in Table 2.

Table 1. Oral hygiene Behaviors of Students

	n	%
Age to start brushing teeth		
6 years and older	72	33.3
After 6 years	144	66.7
Tooth brushing frequency		
Not everyday	15	6.9
Once a day	74	34.3
Two or more per day	127	58.8
Toothbrush change frequency		
Quarterly	53	24.5
Once in a six month	129	59.7
Once a year or less	34	15.7
The state of brushing the teeth correctly (from the gingiva to the tooth at a 45-degree angle)		
Brushing the right way	107	49.5
Brushing the wrong way	109	51.5
Toothpaste usage amount		
Chickpea size	133	61.6
Along the brush	51	23.6
Random	32	14.8
Use of additional dental hygiene tools		
Floss	70	32.4
Interfacial brush	13	6.0
Mouth rinse water	58	26.9
Miswak	8	3.7
Toothpick	81	37.5
Nothing	63	29.2

Table 2. Students' answers to the Corah Dental Anxiety Scale (C-DAS)

	Relaxed	A little uneasy	Tense	Anxious	So anxious**
If you had to go to the dentist tomorrow, how would you feel about it? *	21 (9.7%)	79 (36.6%)	75 (34.7%)	24 (11.1%)	17 (7.9%)
When you are waiting in the dentist's office for your turn in the chair, how do you feel?	88 (40.7%)	70 (32.4%)	31 (14.4%)	13 (6.0%)	14 (6.5%)
When you are in the dentist's chair waiting while he gets his drill ready to begin working on your teeth, how do you feel?	72 (33.3%)	81 (37.5%)	29 (13.4%)	24 (11.1%)	10 (4.6%)
You are in the dentist's chair to have your teeth cleaned. While you are waiting and the dentist is getting out the instruments which he will use to scrape your teeth around the gums, how do you feel?	96 (44.4%)	76 (35.2%)	22 (10.2%)	16 (7.4%)	6 (2.8%)

\*Options; 1. I would look forward it as a reasonably enjoyable experience, 2. I wouldn't care one way or the other, 3. I would be a little uneasy about it, 4. I would be afraid that it would be unpleasant and painful, 5. I would be very frightened of what the dentist might do. \*\* So anxious that I sometimes break out in a sweat or almost feel physically sick.

## Discussion

Our study is the first known study in the literature investigating the effect of dental anxiety levels on oral hygiene behaviors in medical students. Fear of dentistry; Many factors such as age, gender, and education level are related.<sup>2</sup> In different studies conducted on students in the literature, the level of dental anxiety in women was found to be higher than in men.<sup>12,13</sup> This situation is similar to our research.

In the study conducted by Bulut et al. on dentistry students, the mean C-DAS score of the participants (8.05±2.99) and the mean score of the students in our study (8.8±3.7) were similar (6). In our study, 20.8% of the students had dental anxiety. 8.3% had a high level of dental anxiety. In a study evaluating the dental anxiety level of university students in the USA, they found that 19% of the students had high dental anxiety at a rate similar to our study.<sup>14</sup>

In different studies in the literature, it has been determined that the level of dental anxiety in students is effective on the frequency of going to the dentist and tooth brushing habits.<sup>15,16</sup> In our study, we found that dental anxiety had no effect on students' oral hygiene behaviors.

## Conclusions

Dental anxiety was found to be higher in women and those who had a toothache in the past year. It was determined that anxiety did not affect the dental hygiene behavior.

## Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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