# Evaluation of the Systemic and Dental Conditions of Patients Applying to the Periodontology Clinic: A Retrospective Study

Kübra Ceran Deveci [1*], Yasin Cicek [1], Abdulsamet Tanik [1]

1.Adıyaman University, Faculty of Dentistry, Department of Periodontology, Adıyaman, Türkiye.

***Corresponding author:** Deveci KC, MSc. PhD, Department of Periodontology, Faculty of Dentistry, Adıyaman University, Adıyaman, Turkey.
**E-mail :** k_crn@hotmail.com

## Abstract

**Background:** This study aimed to evaluate the demographic characteristics, dental and medical information and habits of the patients who applied to the periodontology clinic in the written anamnesis forms routinely filled.
**Materials and Methods:** 1499 individuals aged between 13 and 75 who applied to Adıyaman University Faculty of Dentistry Department of Periodontology between 1 January 2018 and 3 March 2021 were included in the study. The patients' demographic data and systemic and dental conditions were obtained from anamnesis forms routinely filled in the clinic. Data were evaluated statistically.
**Results:** Systemic disease was determined in 351 (23.4%) of 1499 patients. It was identified that 37.6% of the individuals with the systemic disease were men and 62.4% were women (p=0.037). The most common systemic disease is cardiovascular system disease (men: 58.5%, women: 41.5%). Regular brushing habits were found to be higher in women than in men (p<0.001). There was no significant difference between the genders regarding flossing use (p>0.05).
**Conclusion:** The systemic and dental conditions in dentistry can directly or indirectly affect the treatment procedure to be administered. Therefore, it is important to learn about the systemic and dental needs of the patients.

**Research Article (HRU Int J Dent Oral Res 2023; 3(1): 46-54)**

**Keywords:** Anamnesis, dental condition, systemic disease.

## Introductıon

Today, medical science and technology developments and improving socioeconomic conditions contributed to prolonging life expectancy. Concordantly, the frequency of encountering individuals with systemic diseases is increasing daily (1,2). Since some systemic diseases show oral symptoms, they can cause deterioration of oral and dental health over time. It is necessary to modify and take special precautions in treating individuals with systemic diseases. In the patient whom dentists will treat, it is essential to learn about the current systemic diseases to avoid complications and carry out a safe treatment process. Since oral and dental health is closely related to general health, dentists have an important role in the evaluation of oral hygiene habits and in providing effective oral hygiene of individuals. For this reason, taking detailed systemic and dental anamnesis in a patient who needs dental treatment and asking for medical consultation when necessary should be the first step in planning the treatment (3).

Anamnesis is to learn about the individual's current or possible systemic diseases, the drugs used, and the reasons for presenting to the clinic to reach the diagnosis and administer the proper treatment. It can be obtained using written, oral, or these two methods together (4, 5). Filling the pre-prepared forms by the patient provides convenience to the physician and allows archiving of anamnesis information. In anamnesis forms, the patient's personal information, presenting complaint, history of the criticism, medical history, and current health status should be information. In general, in the medical history

of the individual, their health, current or previousdiseases, drugs used, allergies, and habits such as smoking and alcohol are questioned (6).

This retrospective study aims to evaluate the demographic characteristics, dental and medical information, and habits of the patients who applied to the periodontology clinic in the written anamnesis forms they filled out routinely before the treatment.

## Materıals and Methods

Ethics committee approval was obtained for the study from Adıyaman University, Faculty of Dentistry, Non-Interventional Clinical Research Ethics Committee with the decision numbered 2021/08-27. In the study, anamnesis forms of 1499 people (863 women, 636 men) aged 13-75 years, applied to Adıyaman University Faculty of Dentistry Department of Periodontology between January 1, 2018 and March 3, 2021, were evaluated retrospectively. Written forms, routinely used in the periodontology clinic and filled by the patients before the treatment, were used in the study. Standard anamnesis forms contain patients' age, gender, body mass index (BMI), education status, reasons for presenting to the clinic, systemic disease, drugs used, allergies, smoking and alcohol consumption, and dental situation. Existing systemic diseases were classified as follows: cardio-vascular system diseases (hypertension, cardiovascular diseases and other diseases), endocrine system diseases (diabetes, thyroid gland diseases, other diseases), gastro-intestinal system diseases (ulcer, viral hepatitis, liver diseases and other diseases), respiratory system diseases (asthma, COPD and other diseases), blood diseases (anemia, leukemia and other diseases), rheumatological diseases (rheumatoid arthritis and other diseases), neurological diseases (epilepsy and other diseases), psychiatric diseases (panic attacks and other psychiatric diseases), malignancies (colon cancer, lung cancer, breast cancer and lymphoma). Those who have more than one disease. We evaluated the dental conditions with the answers as 'Yes/No' to the questions in Table 1.

## Statistical Analysis

The conformity of the variables to the normal distribution was examined with the Shapiro-Wilk test. Continuous variables were expressed as mean ± standard deviation, median (min:max) values, and categorical variables were defined as n (%).The Mann-Whitney U test was used to compare the two groups according to the normality test results. Pearson Chi-Square test and Fisher-Freeman-Halton test were used to compare categorical variables. The SPS 21.0 program (IBM Corp., Armonk, NY, USA) was used for statistical analysis, and $p<0.05$ was considered statistically significant.

## Results

Anamnesis form of 1499 patients who applied to our periodontology clinic between January 1, 2018 and March 3, 2021, were evaluated retrospectively. It was determined that 57.6% (n=863) were women and 42.4% (n=636) were men of patients aged between 13-75 years. The BMI values of the individuals were determined as 25.11±4.89 in women and 25.59±4.11 in men. BMI in men was found to be statistically significantly higher than in women ($p<0.001$). When the educational status, smoking and alcohol use were evaluated, educational level, smoking and alcohol use were found to be higher in the men group ($p<0.001$).Allergy and drug use rates were similar in both groups.78.7% (n=1180) of the individuals stated their complaints in writing. The patient's distribution of application reasons was similar in the two groups. The systemic disease was determined in 351 (23.4%) of 1499 participants. It was identified that 37.6% of the individuals with the systemic disease were men and 62.4% were women. Systemic disease in women was statistically higher than in men ($p=0.037$). When the distribution of systemic diseases was examined, there was no statistically significant difference between the genders ($p=0.060$).The most common systemic diseases were cardiovascular and endocrine diseases (Table 2).

The dental anamnesis information of the patients was evaluated based on the answers to the questions in Table 1. The regular brushing habits in women are higher than in men ($p<0.001$). There was no significant difference between the genders regarding flossing use ($p>0.05$). 62.9% of the individuals who answered yes to the question "Do you have any bleeding problems when brushing or flossing your teeth?'' were women and 37.1% were men. This difference was statistically significant ($p<0.001$). 61.8% of the 842 individuals who answered yes to the question "Do you feel pain on cold, hot, sweet ingestion or pressure on your teeth?" were

women and 38.2% were men. This difference was statistically significant (p<0.001). The rate of dry mouth complaints in women was statistically higher than in men (respectively; 63.3%, 36.7%, p=0.010). The rate of toothache in women was higher than in men (respectively; 55.3%, 44.7%,p=0.019). Of the 149 women and 74 men stated that they made a clicking sound from their jaws when they bit. This rate which was higher in women, was statistically significant (p=0.002). Of the 532 individuals who reported having complaints about their gingiva, 325 were women and 207 were men (p=0.041) (Table 3).

Individuals were divided into three classes according to age and four classes according to their educational status. Further analyzes were performed for the relationship of dental status with age and education level. 49.8% of 962 individuals who answered yes to the question "Do you brush your teeth regularly?" are between the ages of 26-45.Regular brushing habits were found to be significantly higher in the middle age group (p<0.001). Moreover, it was determined that regular brushing habits increased as long as the educational status (p<0.001).There was no significant difference in the distribution of individuals' floss use according to age groups (p=0.782).However, floss use was found to be statistically significantly higher in individuals with a high level of education (p<0.001). It was found that the highest rate of bleeding in the gingiva while brushing or flossing is in the 26-45 age range (p<0.001).The answers given to the question “Do you have mouth dryness?” were evaluated according to age distribution and educational status, and statistically significant differences were found between the groups (p<0.05).Data on systemic disease status and smoking were analyzed in Table 5. There was no statistically significant difference between the groups (p=0.522).

**Table 1.** Dental questions in the anamnesis form.

| |
|---|
| Question 1. Do you brush your teeth regularly? |
| Question 2. Do you use dental floss? |
| Question 3.Do you bleed when you brush or floss your teeth? |
| Question 4. Do you have pain in your teeth from cold, hot, sweet or pressure? |
| Question 5. Have you ever been treated for your gingiva? |
| Question 6. Do you have dry mouth? |
| Question 7.Does food constantly get stuck between two teeth? |
| Question 8.Have you ever had wire treatment (orthodontic)? |
| Question 9. Do you currently have any pain in your teeth? |
| Question 10.Do you have ear or neck pain? |
| Question 11. Do you make a clicking sound from your jaws when you bite? |
| Question 12. Is teeth grinding or bruxism present? |
| Question 13. Do you often haves ores (ulcers) in your mouth? |
| Question 14. Do you have trouble with halitosis? |
| Question 15. Have you taken an active blow to the head, teeth or jaw? |
| Question 16.Do you have any complaints about your gingiva? |
| Question 17. Do you have prostheses and implants in your mouth? |

**Table 2.** Distribution of data to anamnesis questions by gender.

| **Anamnesisquestions** | | **Women n=863** | **Men n=636** | **p** |
|---|---|---|---|---|
| **BMI** Mean ± Standard Deviation and median (min:max) | | 24.6(13.8:46,9) 25.11±4,89 | 25.6(13.5:38.8) 25.59±4,11 | **0.001**[a] |
| **Educational Status** n (%) | No | 127(69.4) | 56(30.6) | **<0.001**[b] |
| | Primary education | 282(61.2) | 179(38.8) | |
| | High school | 242(56.4) | 187(43.6) | |
| | University | 212(49.8) | 214(50.2) | |
| **Reasonfor Application** n (%) | Caries | 53(64.6) | 29(35.4) | 0.141[b] |
| | Gingiva | 392(57.9) | 285(42.1) | |
| | Pain | 106(63.5) | 61(36.5) | |
| | Other | 134(52.8) | 120(47.2) | |
| | Unspecified | 178(55.8) | 141(44.2) | |
| **DrugUsed** n (%) | Yes | 150(59.1) | 104(40.9) | 0.600[b] |
| | No | 713(57.3) | 532(42.7) | |
| **Allergy** n (%) | No | 819(57.2) | 612(42.8) | 0.135[c] |
| | Dust | 10(50) | 10(50) | |
| | Food | 3(50) | 3(50) | |
| | Medicine | 31(73.8) | 11(26.2) | |
| **Smoke** n (%) | Yes | 99(30.4) | 227(69.6) | **<0.001**[b] |
| | No | 764(65.1) | 409(34.9) | |
| **Alcohol** n (%) | Yes | 7(14.9) | 40(85.1) | **<0.001**[b] |
| | No | 856(59) | 596(41.0) | |
| **SystemicDisease** n (%) | Cardiovascular diseases | 38(58.5) | 27(41.5) | 0.060[c] |
| | Endocrinesystem diseases | 33(53.2) | 29(46.8) | |
| | Gastro-intestinal diseases | 34(58.6) | 24(41.4) | |
| | Respiratorysystem diseases | 29(54.7) | 24(41.4) | |
| | Blood diseases | 20(87) | 3(13) | |
| | Rheumatological diseases | 2(66.7) | 1(33.3) | |
| | Neurological diseases | 3(42.9) | 4(57.1) | |
| | Psychological diseases | 11(84.6) | 2(15.4) | |
| | Malignancies | 1(50) | 1(50) | |

| | | | | |
|---|---|---|---|---|
| | No Disease*<br>Multiple diseases | 644(56.1)<br>48(73.8) | 504(43.9)<br>17(26.2) | |
| **SystemicDisease**<br>n (%) | Yes<br>No | 219(62.4)<br>644(56.1) | 132(37.6)<br>504(43.9) | **0.037**[b] |

BMI:Body mass index; Median (min:max); mean ± standard deviation and n(%) were used to define the variables; a: Mann-Whitney U test; b: Pearson Chi-Squaretest; c: Fisher-Freeman-Halton test. The variable indicated as * is not included in the comparison.

**Table 3.** Distribution of answers to dental questions by gender.

| **Questions** | | **n** | **Women n (%)** | **Men n (%)** | **p** |
|---|---|---|---|---|---|
| **Question1** | Yes<br>No | 962<br>537 | 607(63.1)<br>256(47.7) | 355(36.9)<br>281(52.3) | **<0.001** |
| **Question2** | *Yes*<br>*No* | 171<br>1328 | 107(62.6)<br>756(56.9) | 64(37.4)<br>572(43.1) | 0.160 |
| **Question 3** | *Yes*<br>*No* | 847<br>652 | 533(62.9)<br>330(50.6) | 314(37.1)<br>322(49.4) | **<0.001** |
| **Question 4** | *Yes*<br>*No* | 842<br>657 | 520(61.8)<br>343(52.2) | 322(38.2)<br>314(47.8) | **<0.001** |
| **Question 5** | *Yes*<br>*No* | 300<br>1199 | 187(62.3)<br>676(56.4) | 113(37.7)<br>523(43.6) | 0.062 |
| **Question 6** | *Yes*<br>*No* | 371<br>1128 | 235(63.3)<br>628(55.7) | 136(36.7)<br>500(44.3) | **0.010** |
| **Question 7** | *Yes*<br>*No* | 811<br>688 | 454(56)<br>409(59.4) | 357(44)<br>279(40.6) | 0.176 |
| **Question8** | *Yes*<br>*No* | 105<br>1394 | 70(66.7)<br>793(56.9) | 35(33.3)<br>601(43.1) | 0.051 |
| **Question 9** | *Yes*<br>*No* | 553<br>946 | 340(61.5)<br>523(55.3) | 213(38.5)<br>423(44.7) | **0.019** |
| **Question 10** | *Yes*<br>*No* | 266<br>1233 | 185(69.5)<br>678(55) | 81(30.5)<br>555(45) | **<0.001** |
| **Question 11** | *Yes* | 223 | 149(66.8) | 74(33.2) | **0.002** |

| | | | | | |
|---|---|---|---|---|---|
| | *No* | 1276 | 714(56) | 562(44) | |
| **Question 12** | *Yes*<br>*No* | 335<br>1164 | 204(60.9)<br>659(56.6) | 131(39.1)<br>505(43.4) | 0.162 |
| **Question 13** | *Yes*<br>*No* | 209<br>1290 | 135(64.6)<br>728(56.4) | 74(35.4)<br>562(43.6) | **0.027** |
| **Question 14** | *Yes*<br>*No* | 500<br>999 | 303(60.6)<br>560(56.1) | 197(39.4)<br>439(43.9) | 0.093 |
| **Question 15** | *Yes*<br>*No* | 171<br>1328 | 105(61.4)<br>758(57.1) | 66(38.6)<br>570(42.9) | 0.281 |
| **Question 16** | *Yes*<br>*No* | 532<br>967 | 325(61.1)<br>538(55.6) | 207(38.9)<br>429(44.4) | **0.041** |
| **Question 17** | *Yes*<br>*No* | 234<br>1265 | 125(53.4)<br>738(58.3) | 109(46.6)<br>527(41.7) | 0.162 |

Median (min:max), mean ± standard deviation and n(%) were used to define the variables;a: Mann-Whitney U test; b: Pearson Chi-Square; c:Fisher-Freeman-Haltontest.The variable indicated as * is not included in the comparison.

**Table 4.** Relationships between dental questions and age and educational status.

| **Age and educational status** | | **Question 1 n (%)** | | **Question 2 n (%)** | | **Question 3 n (%)** | | **Question 6 n (%)** | |
|---|---|---|---|---|---|---|---|---|---|
| | | Yes | No | Yes | No | Yes | No | Yes | No |
| **Age** | 13-25 | 279 (28.0) | 115 (21.4) | 48 (28.1) | 346 (26.1) | 228 (26.9) | 166 (25.5) | 83 (22.4) | 311 (27.6) |
| | 26-45 | 479 (49.8) | 257 (47.9) | 84 (49.1) | 652 (49.1) | 447 (52.8) | 289 (44.3) | 174 (46.9) | 562 (49.8) |
| | 46-75 | 204 (21.2) | 165 (30.7) | 39 (22.8) | 330 (24.8) | 172 (20.3) | 197 (30.2) | 114 (30.7) | 255 (22.6) |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | p* | **0.001** | | 0.782 | | **0.001** | | **0.004** | |
| **Educational Status** | No | 98(10.2) | 85(15.8) | 16(9.4) | 167(12.6) | 107(12.6) | 76(11.7) | 44(11.9) | 139(12.3) |
| | Primary education | 254 (26.4) | 207 (38.5) | 35 (20.4) | 426 (32.1) | 246 (29) | 215 (33) | 137 (36.9) | 324 (28.7) |
| | High school | 284 (29.5) | 145 (27) | 40 (23.4) | 389 (29.2) | 245 (28.9) | 184 (28.2) | 101 (27.2) | 328 (29.1) |
| | University | 326 (33.9) | 100 (18.7) | 80 (46.8) | 346 (26.1) | 249 (29.5) | 177 (27.1) | 89 (24) | 337 (29.9) |
| | p* | **<0.001** | | **<0.001** | | 0.414 | | **0.019** | |

n (%) was used to define the variables and the Pearson Chi-square test (p*) was used for comparisons

**Table 5.** The relationship between smoking and the presence of systemic disease.

| | | **Smoking** n (%) | | **p*** |
|---|---|---|---|---|
| | | **Yes** | **No** | |
| **Systemic Disease** | Yes | 72(20.5) | 279(79.5) | 0.522 |
| | No | 254(22.1) | 894(77.9) | |

n(%) was used to define the variables and the Pearson Chi-square test (p*) was used for comparisons.

## DISCUSSION

Taking anamnesis in dentistry or evaluating the patient's general health before any dental procedures is important to minimize or prevent possible complications and risks (4). In this study, anamnesis forms of patients who applied to Adıyaman University Faculty of Dentistry, Department of Periodontology for treatment were retrospectively analyzed. In studies conducted in different populations, the prevalence of systemic disease in patients applying to dentistry was examined. It was determined that the rate of individuals with systemic disease ranged from 12.2% to 51.2% (1,7,8). In our country, it was found to be 13.18% in the study of Gülsün et al.(9) 24.1% in the study of Altan et al.(10) and 24% in the study of Şener et al.(11) We found the presence of systemic disease as 23.4%in our study. We think that factors such as study design, number of individuals included in the study, disease categories, age, gender and socio-economic status may be the reason for the different rates in the results of the studies.In some studies, the prevalence of systemic disease was found to be higher in women than in men (2,9,12).The incidence rate of systemic disease was found to be higher in women than in men in our study, asin the literature.It is suggested that the higher incidence of systemic disease in women may be related to the fact that women have more regular health check-ups and therefore have more medical data recorded.In addition, the increase in smoking and obesity rates in women may have caused an

increase in systemic problems (9). The most common diseases are cardiovascular, endocrine and gastrointestinal system diseases, respectively (13).

Smoking and alcohol use are associated with many systemic diseases and cancers, it is also known to be a major risk factor for periodontal disease (14). According to the 2019 data of the "Health Research in Turkey" announced by the Turkish Statistical Institute (TUIK), the rate of smoking;are 41.3% in men and 14.9% in women.The rate of alcohol use was reported as 23.3% in men and 6.6% in women (15). In our study, the smoking rate was found to be 35.6% in men and 11.5% in women, and alcohol use was 6.2% in men and 0.8% in women.

Determination of oral-dental health status and habits is necessary both for the prevention, control and treatment of oral health and dental problems and for good general health. In this study, individuals' oral-dental health status and habits were evaluated according to their Yes/No answers to the questions in the anamnesis form. According to the results of our study, 63.1% of the individuals who brush their teeth regularly are women and 36.9% are men. Similarly, Hamashaet al. (16) found in a study that the percentage of regular brushing of women was higher than that of men. When the regular brushing rates were examined according to age group and education level, we found the highest rate (49.8%) in the 26-45 age group and (33.9%) among the university graduates according to education status. Olusile et al. (17) reported that the highest rate of regular brushing (26.6%) was in the 30-39 age groups and that regular brushing rates increased as the educational level increased. Meloet al.(18) in their survey study with 1102 individuals, it was reported that floss use was higher in women (29.3%) than in men (17.6%). In our study, there was no significant difference statistically, but floss use is higher in women. In a study conducted in Iran, floss use was reported higher in the 35-44 age group and in individuals with a high level of education (19). We found higher that floss use is more common in the 26-45 age group and university graduates in our study, like the literature. In a study conducted with 519 individuals in Riyadh, 124 (49.8%) men and 115 (43.4%) women reported bleeding problems while brushing their teeth (16). In our study, "Do you have any bleeding problems when brushing or flossing your teeth? was answered the question as yes by 533 (62.9%) women and 314 (37.1 %) men. Ina survey study, 67.4% of men and 72.3% of women reported that they felt pain in their teeth and gingiva (18). In another study, there was no significant difference between genders regarding gingival complaints (20). In our study, 61.5% of those who reported pain in their teeth/gingiva were women and 38.5% were men. Melo et al.(18) found that women had more gingival problems. Studies have reported that smoking is associated with systemic diseases such as lung cancer, cardiovascular diseases, other cancers, chronic obstructive pulmonary disease, and osteoporosis (21,22). There was no relation between smoking and systemic disease in our study, contrary to studies in the literature. We consider that the reason for this stem from the sample size of our study being insufficient or the limited population cross-section.

## Conclusıon

Our study results showed that the incidence of systemic disease was higher in women in the population studied. It has been determined that the habit of brushing teeth is more regular in women than in men. But, the limitations of our study are that the information given by our patients is self-reported and the study was conducted in a single center. Therefore, studies with a similar design, multicenter and larger population are needed.

**Conflict of Interest**: No conflict of interest was declared by the authors.

## References


**1.** Dhanuthai K, Sappayatosok K, Bijaphala P, Kulvitit S, Sereerat T. Prevalence of medically compromised conditions in dental patients. Med Oral Patol Oral Cir Bucal. 2009;14(6):E287-291.

**2.** Maryam A, Atessa P, Pegah MM, et al. Medical risk assessment in patients referred to dental clinics, Mashhad, Iran(2011-2012).Ope Dent J.2015;23(9):420-425.

**3.** Veltrini VC, Capelozza ALA, Damante JH. Evaluation of health questionnaires used in dentistry.Spec Care Dentist.2002;22(6):221-225.

**4.** Inceoğlu B, Yakar EN, Cura N, Eren H, Gorgun S. Importance of taking anamnesis in dentistry and assessment of knowledge and attitudes of dental students.J Contemp Dent.2014;4(2):87-91.

**5.** Peacock ME, Carson RE. Frequency of self-reported medical conditions in periodontal patients. J Periodontol.1995;66(11):1004-1007.
**6.** Radfar L, Suresh L. Medical profile of a dental school patient population. J Dent Educ. 2007;71(5):682–686.
**7.** Fernández-Feijoo J, Garea-Gorís R, Fernández-Varela M, Tomás-Carmona I, Diniz-Freitas M, Limeres-Posse J.Prevalence of systemic diseases among patients requesting dental consultation in the public and private systems. Med Oral Patol Oral Cir Bucal.2012;17(1):e89-93.
**8.** Ciğerim L. Diş hekimliği fakültesine başvuran bireylerin medikal profili. Van Tıp Dergisi.2019;26(1):1-5.
**9.** Gülsün A, Güngör K.Bir Diş hekimliği fakültesine başvuran hastaların sistemik hastalıklarının incelenmesi. Selcuk Dent J.2022;9(2):547-551.
**10.** Altan G, Köse TE, Çene E, Özcan I. Bir üniversite hastanesi diş hekimliği birimine başvuran hastaların anamnez kayıtlarının değerlendirilmesi. Turkiye Klinikleri J Dent Sci.2017;23(2):69-47.
**11.** Şener E, Gürhan C, Coşgun E, Mert A, Baskı BG. Sistemik hastalık varlığının dental tedavi gereksinimi ile yaşam kalitesine etkisinin değerlendirilmesi. EÜ Dişhek Fak Derg. 2017; 38(1): 54-61.
**12.** Oktay EA, Karaoglanoglu S, Aydın N, Duymuş ZY, Mersin TÖ, Tort H. The distribution of systemic diseases according to age and gender in patients admitted to an oral and dental health care hospital. Ankara Med J.2019;19(1);357-365.
**13.** Taghibakhsh M, Moezzighadim N, Rayatzadeh M. Evaluation of the prevalence of systemic diseases in patients referring to the oral and maxillofacial medicine department of the dental branch of Islamic Azad University of Tehran during 2016-17.J Res Dentomaxillofac Sci. 2018;3(3):9-18.
**14.** Zhang Y, He J, He B, Huang R, Li M. Effect of tobacco on periodontal disease and oral cancer. Tob. Induc. Dis. 2019;17(5):40.
**15.** Türkiye İstatistik Kurumu 2020. Türkiye Sağlık Araştırması 2010, 2012, 2014, 2016. http://www.tuik.gov.tr. Erişim tarihi:18.02.2022.
**16.** Hamasha AA, Alshehri A, Alshubaiki A, Alssafi F, Alamam H,Alshunaiber R. Gender-specific oral health beliefs and behaviors among adult patients attending King Abdulaziz Medical City in Riyadh. Saudi Dent J.2018;30(3):226-231.
**17.** Olusile AO, Adeniyi AA, Orebanjo O. Self-rated oral health status, oral health service utilization, and oral hygiene practices among adult Nigerians. BMC Oral Health.2014;14(1):1-9.
**18.** Melo P, Marques S, Silva OM. Portuguese self-reported oral-hygiene habits and oral status. Int Dent J.2017;67(3):139-147.
**19.** Soofi M,Karami-Matin B, Pasdar Y, et al. What explains socioeconomic inequalities in dental flossing?Cross-sectional results from the RaNCD cohort study. J Prev Med Hyg.2020;61(2): E215.
**20.** Azodo CC, Agbor AM. Gingival health and oral hygiene practices of school children in the North West Region of Cameroon. BMC ResNotes. 2015;8(1):1-6.
**21.** Munıandy S. Knowledge on smoking and periodontal disease: A cross-sectional survey among targeted respondents. J Indian Soc Periodontol. 2019;23(3):275-280.
**22.** More AB, Rodrigues A, Sadhu BJ. Effects of smoking on oral health: Awareness among dental patients and their attitude towards its cessation. Indian J Dent Res.2021;32(1):23-26.