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EVALUATION OF AWARENESS AND CONCERN LEVELS ABOUT COVID-19 PANDEMIC OF PATIENTS WHO ADMIT TO THE FACULTY OF DENTISTRY

Diş Hekimliği Fakültesine Başvuran Hastaların COVID-19 Pandemisi Hakkında Farkındalık ve Endişe Düzeylerinin Değerlendirilmesi

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ABSTRACT

In this research, it was aimed to evaluate the awareness and concerns of patients applying to the faculty of dentistry about the COVID-19 pandemic and to determine their thoughts and concerns about dental treatment during the pandemic period. The questionnaire included questions about personal demographic characteristics, concern, awareness and knowledge level related to COVID-19 disease, and also questioned their need for oral and dental health services and to what extent these needs were met. This cross-sectional survey was conducted on 517 patients. Of the patients, 44.9% knew both the symptoms of COVID-19 and prevention methods of COVID-19. The level of knowledge was higher in; females (64.7%) than males (35.3%), university graduates (57.3%) than middle and high school graduates. Those who were concerned about getting coronavirus had a significantly higher rate of hesitation about coming to dental treatment during this period compared to those who were not concerned (p<0.05). The majority of patients believed that the healthcare facility could prevent coronavirus transmission and 80.5% thought they could be infected from other patients in the waiting room. This study provides us important information about access to safe oral dental health services and the awareness and concern of dental patients.

Keywords: Concern, COVID-19, Dental treatment, Knowledge.

ÖZ

Bu araştırmada diş hekimliği fakültesine başvuran hastaların COVID-19 pandemisi ile ilgili farkındalık ve endişelerinin değerlendirilmesi ve pandemi döneminde diş tedavisi ile ilgili düşünce ve endişelerinin belirlenmesi amaçlandı. Anket; kişisel demografik veriler, COVID-19 hastalığı ile ilgili endişe, farkındalık, ve bilgi düzeyleri ile ilgili sorular içermekte ve ayrıca ağız ve diş sağlığı hizmetlerine olan ihtiyaçlarını ve bu ihtiyaçların ne ölçüde karşılandığını sorgulamaktadır. Bu kesitsel anket 517 hasta ile yapılmıştır. Hastaların %44.9'u hem COVID-19 semptomlarını hem de COVID-19'dan korunma yöntemlerini biliyordu. Bilgi düzeyi; kadınlarda (64.7%) erkeklere (35.3%) göre, üniversite mezunlarında (57.3%) da ortaokul ve lise mezunlarına göre daha yüksekti. Koronavirüse yakalanmaktan endişeli olanlar endişeli olmayanlara göre diş tedavisine gelme konusunda daha çok oranda tereddüt yaşamaktaydı (p<0.05). Hastaların çoğunluğu sağlık kuruluşunun koronavirüs bulaşmasını önleyebileceğine inanıyordu ve % 80,5'i bekleme salonundaki diğer hastalardan enfekte olabileceğini düşünüyordu. Bu çalışma bize güvenli ağız diş sağlığı hizmetlerine erişim konusunda ve hastaların bilinci ve endişesi konusunda önemli bilgiler vermektedir.

Anahtar kelimeler: Bilgi, COVID-19, Diş tedavisi, Endişe.

INTRODUCTION

Coronavirus disease 2019 (COVID-19) caused by the SARS-CoV-2 virus, which was first identified in Wuhan, China in December 2019, has rapidly increased and spread across the world and was declared as a pandemic by the World Health Organization (WHO) on March 11, 2020 (World Health Organization [WHO], 2020a). Although COVID-19 was encountered much later in our country than in European countries, the first case was seen on March 10, 2020, and then the number of cases increased gradually. Globally, by 26 April 2021, there have been 146.841.882 confirmed cases of COVID-19, including 3.104.743 deaths, reported to WHO (WHO, 2020b). Since COVID-19 is an extremely infectious disease with high mortality rates, this sudden outbreak required hard measures. A series of measures have been taken within the scope of combating the virus in our country, as all around the world. Collective activities were suspended or canceled in order to ensure social isolation and distance education started. Ministry of Health of Republic of Turkey published a circular with the principal declarations regarding dental practice during the pandemic and suggested dentists to perform only urgent treatments and postpone non-essential, elective dental procedures in order to decrease infections.

COVID-19 commonly progresses with clinical symptoms as fever, dry cough and myalgia / weakness. While most cases spontaneously recover, some developdeath-causing complications such as organ failure, pulmonary edema, severe pneumonia, and acute respiratory distress syndrome (ARDS) (Chen et al., 2020; Sohrabi et al., 2020). Studies have shown that approximately half of the cases were of individuals with chronic systemic diseases, primarily cardiovascular disease, cerebrovascular disease and diabetes. It has also been concluded that elderly male individuals with weak immune system and chronic systemic disease are more likely to be infected with SARS-CoV-2 (Chen et al., 2020).

Many patients with COVID-19 have mild symptoms or no symptoms, especially in the early stages of the disease. Although symptoms are usually mild in the first week of the disease, the viral load has been shown to be highest during the same period (To K K et al., 2020). The primary source of transmission is symptomatic COVID-19 patients, but it has been shown that asymptomatic patients and patients in the incubation period are SARS-CoV-2 carriers too (Meng & Hua, 2020; Rothe et al., 2020). So asymptomatic and presymptomatic patients are the main cause of the rapid spread of the infection. An epidemiological study has reported that approximately 17% of patients with COVID-19 are asymptomatic and that the

transmission rate from asymptomatic patients (4.1%) was statistically similar to that from symptomatic patients (6.3%) (Ren, Rasubala, Malmstrom, & Eliav, 2020).

After entering the human body, SARS-CoV-2 is abundantly found in the saliva and nasopharyngeal secretions of affected patients. When considered that the transmission routes of SARS-CoV-2 are direct contact, droplet and aerosol transmission; dentists, patients and assistant staff are at high risk for COVID-19 due to the aerosols formed during dental procedures (Ather, Patel, Ruparel, Diogenes, & Hargreaves, 2020). In line with the "Working Guide in Health Institutions in the Normalization Period During the COVID-19 Pandemic" (TR Mınıstry of Health, 2020) published by the Ministry of Health on 01.06.2020, elective procedures have been initiated in our faculty in a controlled manner. Since the pandemic is not over and even accelarates with autumn, the risk continues until an effective virus-specific treatment and / or vaccine is found. During the period when the pandemic was tried to be controlled, the need for oral and dental health services increased. It is very important to protect patients and personnel in dental clinics because of asymptomatic or presymptomatic patients, especially those who are in the incubation period and unaware of their infection. Therefore, dentists should assume every patient as a potential COVID-19 patient and should take the necessary precautions to protect and prevent the spread.

In addition to infection control strategies and additional precautions for safe dentistry practices, the awareness and consciousness of the patients about the subject are also very important. The aim of this study was to determine the awareness, knowledge and attitudes of patients who applied to Inonu University Faculty of Dentistry, during the COVID-19 pandemic and to evaluate their need for oral and dental health services and to obtain to what extent these needs were met.

MATERIAL AND METHOD

Ethical aspect of the study

This study was approved by Inonu University Non-Interventional Clinical Research Ethics Committee of Health Sciences (2020/923) and was performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its' later amendments.

Study design and samples

A new survey about COVID -19 was conducted as a cross-sectional study. The data was collected during a one month period, between September 1 And September 30. The simple random sampling method was used in calculating the sample size, and when the total sample

size of 6000 people who applied to the dental faculty in a month is considered as the study population, the minimum number of questionnaires to be collected was calculated as 361. Since 517 individuals answered the questionnaire during the survey period, number of participants of this survey was higher than the minimum number required.

Data collection tool and reliability of the study tool

The self-reported questionnaire was developed primarily through a comprehensive literature review. The questionnaire was created by the researchers in line with similar studies in the literature. A questionnaire consisting of 24 questions adapted from the current Interim Infection Prevention and Control Guidance for Dental Settings During the COVID-19 Response published by the CDC (Centers for Disease Control and Prevention, 2020), updated on August 25, 2020 was compiled. The existing literature was synchronized in a conceptual framework and various questions including knowledge, anxiety, attitudes, practices were grouped under different themes (Zhong et al., 2020).

Before starting the study, the adequacy of the content of the questionnaire and the clarity of the questions were evaluated by five experts (two periodontologists, one pediatric dentist, one general dentist and one biostatistician). Items that should not be excluded were highlighted, items that should not be repeated were corrected, double-barreled questions were removed, inconsistencies were eliminated, and long expressions were rearranged to be clear. A pilot study was conducted and applied to 20 patients to check understanding and reliability.

Data collection

The distribution of questionnaires to the patients, who admitted to the Inonu University Faculty of Dentistry, to participate in the study, was carried out by the secretary of the participating practices. A brief description of the study, purpose of the study, and instructions for filling out the questionnaire were given before the questionnaire was filled out. Verbal informed consent was obtained from all participants. A total of 517 patients who agreed to participate in the study filled the questionnaire. After data collection, incomplete questionnaires were excluded.

Study questionnaire scoring system

The questionnaire included questions about; personal demographic characteristics (age, gender, marital status, education level and presence of chronic disease), concern and awareness level, knowledge level, attitude and behaviors related to COVID-19 disease. It also

included patients' thoughts and problems regarding dental treatment during the pandemic period. These topics in the survey content were evaluated with multiple choice questions.

COVID-19 concern

The main question asked to determine the concern level of the patients: 'How concerned are you about getting the coronavirus. Responses were coded from 0 for 'none' to 3 for 'very' (3: very concerned, 2: somewhat, 1: a little, 0: not at all). COVID-19 concern was also measured by other questions following: Do you think COVID-19 is a serious public health threat?', Do you think that you are in a high-risk population for COVID-19?

COVID-19 knowledge

To assess the level of knowledge related to COVID-19, coronavirus symptoms, transmission routes, and measures to avoid being infected with the virus were asked. Those who marked all the correct options in multiple choice questions were evaluated as knowledgeable.

Thoughts and problems regarding dental treatment

In this context, the opinions and problems of the participants about receiving health services during this period, about the faculty's prevention of corona virus transmission risk, about the risk of virus transmission during dental treatment, and changes in patient admission and treatment services were evaluated.

Statistical analysis

For statistical analysis, IBM SPSS Statistics 22 package program (SPSS IBM, Turkey) was used to analyse the obtained data. While evaluating the study data, whether the parameters showed normal distribution was evaluated by Shapiro Wilks test. In addition to descriptive statistical methods (mean, standard deviation, frequency), Student's t-test was used for comparing normally distributed parameters between two groups, and Mann Whitney U test was used for comparisons of parameters not showing a normal distribution between two groups. Chi-square test, Fisher's Exact test, Fisher Freeman Halton test and Continuity (Yates) Correction were used for comparison of qualitative data. Logistic regression analysis was used for multivariate analysis. Significance was evaluated at the $p < 0.05$ level.

RESULTS

This study was conducted from September 1 to September 30, 2020 with a total of 517 patients, 223 males (43.1%) and 294 females (56.9%), aged between 18 and 69 years (mean

32.16±11.52). 262 (50.7%) of the participants were married, 225 (49.3%) were single. 111 of them (21.5%) were graduated from middle school, 162 (31.3%) from high school and 244 (47.2%) were from university. While 442 (85.5%) did not have any chronic diseases, 75 (14.5%) had.

Answers given to survey questions

While 5.4% of the patients thought it was impossible for coronavirus to be a serious public health threat, 81.2% thought it was definitely a threat. Most of them were concerned about getting coronavirus (37.5% were somewhat and 43.5% were very concerned). While 43.3% did not know any of the 3 most evident signs of the coronavirus, 56.7% did. Although 26.5% did not know any of the prevention methods used in daily life, 73.5% knew, and 285 of the patients (55.1%) did not know any of the symptoms and prevention methods of COVID-19, 232 (44.9%) did (Table 1).

Patients mostly admitted to the faculty because of unfinished treatments or in case of emergency, 21.2% of them had just applied. In this period, 34.8% of the patients had dental problems and suffered from getting health care. Even though, of the patients; 80.5% thought that they could be infected from other patients in the waiting room, 46.8% thought that they could be infected from the instruments used during the treatment, 32.5% thought that they could be infected from the dentist, 35.6% thought that they could be infected from the assistant staff, and 58.6% thought that they could be infected from the air flow, most of them believed that the healthcare facility could prevent coronavirus transmission (52% somewhat, 30% a lot). The majority of patients (80.7%) had increased their oral hygiene and tooth brushing habits during the pandemic, and 86.2% of them found the changes made in patient recruitment policy due to COVID-19 necessary (Table1).

Table 1: The participants' Responses to Questionnaire Questions

		n	%
Q6-Do you think Covid-19 is a serious public health threat? (n=515)	Impossible	28	5.4
	Possible	21	4.1
	Probably	48	9.3
	Definitely	418	81.2
Q7- How concerned are you about getting the coronavirus? (n=515)	Not at all	38	7.4
	A little	60	11.7
	Somewhat	193	37.5
	Very	224	43.5
Q8- Have you or your relatives been infected with coronavirus during the pandemic? (n=513)	No	478	93.2
	Yes	35	6.8
Q9- Do you think you are in a high-risk population for Covid-19? (n=513)	No	308	60
	Yes	205	40
Q10- What is your level of knowledge about Covid-19? (n=516)	Not at all	11	2.1
	Inadequate	24	4.7

	Sufficient	269	52.1
	Comprehensive	212	41.1
Q11- What are the 3 most evident symptoms of coronavirus?	Fever	472	91.3
	Cough	375	72.5
	Myalgia	100	19.3
	Dyspnea	369	71.4
	Runny nose	17	3.3
	Diarrhea	34	6.6
Correctly identified 3 symptoms of coronavirus	False	224	43.3
	True	293	56.7
Q12- Do you know how the coronavirus is transmitted?	Direct contact with body fluids (serum. blood and saliva) of infected people	359	69.4
	Breathing the same air with an infected person	372	72
	Touching public door handles. shopping cart handles. or public toilet seats	338	65.4
	Sharing bathroom/ toilet with an infected person	281	54.4
	I don't know	11	2.1
Q13- Howmuch has coronavirus changed your daily routine (n=510)	Not at all	8	1.6
	A little	31	6.1
	Somewhat	168	32.9
	Very	303	59.4
Q14- What are the most important measures to protect against coronavirus?	Glove	174	33.7
	Mask	483	93.4
	Hand hygiene	436	84.3
	Face shield	39	7.5
	Social distancing	435	84.1
	None of them	3	0.6
Correctly identified 3 prevention methods of coronavirus	False	137	26.5
	True	380	73.5
Q15- Have you changed your plans because of coronavirus? (n=506)	No	43	8.5
	Yes	463	91.5
Q16- Why did you apply to dental faculty? (n=515)	Unfinished treatment or control	211	41
	Emergency treatment	195	37.9
	New application	109	21.2
Q17- Do you think there is a risk of transmission during your treatment? (n=514)	Not at all	55	10.7
	A little	118	23
	Somewhat	247	48.1
	Very	94	18.3
Q18- How confident are you that the faculty can prevent coronavirus transmission (n=513)	Not at all	33	6.4
	A little	59	11.5
	Somewhat	267	52
	Very	154	30
Q19- By which ways do you think transmission can occur at the faculty?	From other patients in the waiting room	416	80.5
	From the instruments used during treatment	242	46.8
	From the dentist	168	32.5
	From assistant staff	184	35.6
	From air flow	303	58.6
	None of them	25	4.8
Q20- During this period. did you have any concerns about coming to dental treatment? (n=514)	Not at all	57	11.1
	A little	103	20
	Somewhat	221	43
	Very	133	25.9
Q21- Did your oral hygiene and brushing habit increase during this period? (n=508)	No	98	19.3
	Yes	410	80.7
Q22- During the pandemic period, did you	No	335	65.2

experience a dental problem and suffer from getting dental health services? (n=514)	Yes	179	34.8
Q23- If you had dental problems during this period, did you use any medication (analgesic or antibiotics) ? (n=513)	I did not have any dental problems	144	28.1
	I had but did not use any medication	160	31.2
	I had and used medication without going to the dentist	60	11.7
	I had and applied to the dentist	149	29
Q24- Do you think the changes in patient admission policy are necessary? (n=515)	No	71	13.8
	Yes	444	86.2

Findings related to concern levels

Percentage distributions of the responses of those who were whether or not concerned about getting coronavirus are shown in Table 2.

Table 2: Findings Related to Concern Levels About Covid-19

		Whether or not concerned about getting coronavirus		p
		Not Concerned (n=98)	Concerned (n=417)	
		Mean±SD	Mean±SD	
Age		32±12.06	32.17±11.43	[1]0.896
		n (%)	n (%)	
Gender	Male	49 (%50)	173 (%41.5)	[2]0.126
	Female	49 (%50)	244 (%58.5)	
Marital status	Married	47 (%48)	213 (%51.1)	[2]0.578
	Single	51 (%52)	204 (%48.9)	
Education Level	Middle School	21 (%21.4)	89 (%21.3)	[2]0.405
	High school	36 (%36.7)	126 (%30.2)	
	University	41 (%41.8)	202 (%48.4)	
Presence of chronic disease	No	89 (%90.8)	351 (%84.2)	[3]0.129
	Yes	9 (%9.2)	66 (%15.8)	
Chronic diseases	Cardiovascular disease	2 (%22.2)	16 (%24.2)	[4]0.631
	Hypertension	5 (%55.6)	21 (%31.8)	[4]0.152
	Diabetes Mellitus (Type 1 or 2)	3 (%33.3)	16 (%24.2)	[4]0.409
	Other chronic diseases	0 (%0)	18 (%27.3)	[4]0.072
Do you think Covid-19 to be a serious public health threat ?	Impossible	21 (%21.4)	7 (%1.7)	[1]0.000*
	Possible	8 (%8.2)	13 (%3.1)	
	Probably	21 (%21.4)	27 (%6.5)	
	Definitely	48 (%49)	369 (%88.7)	
Have you or your relatives been infected with coronavirus during the pandemic?	No	88 (%91.7)	388 (%93.5)	[2]0.678
	Yes	8 (%8.3)	27 (%6.5)	
What is your level of knowledge about Covid-19?	Not at all	7 (%7.1)	4 (%1)	[3]0.002*
	Inadequate	7 (%7.1)	17 (%4.1)	
	Sufficient	50 (%51)	218 (%52.3)	
	Comprehensive	34 (%34.7)	178 (%42.7)	
Howmuch has coronavirus changed your daily routine?	Not at all	5 (%5.2)	3 (%0.7)	[1]0.000*
	A little	16 (%16.7)	15 (%3.6)	
	Somewhat	37 (%38.5)	130 (%31.5)	
	Very	38 (%39.6)	265 (%64.2)	
Have you changed your plans because of coronavirus?	No	16 (%16.3)	27 (%6.6)	[2]0.004*
	Yes	82 (%83.7)	380 (%93.4)	

Do you think that there is a risk of transmission of the virus during your treatment?	Not at all	23 (%23.5)	32 (%7.7)	[1]0.000*
	A little	33 (%33.7)	85 (%20.5)	
	Somewhat	32 (%32.7)	214 (%51.6)	
	Very	10 (%10.2)	84 (%20.2)	
How confident are you that the faculty can prevent coronavirus transmission?	Not at all	10 (%10.2)	23 (%5.6)	[1]0.318
	A little	9 (%9.2)	50 (%12.1)	
	Somewhat	52 (%53.1)	214 (%51.7)	
	Very	27 (%27.6)	127 (%30.7)	
By which ways do you think transmission can occur at the faculty?	From other patients in the waiting room	64 (%65.3)	351 (%84.2)	[1]0.000*
	From the instruments used during treatment	35 (%35.7)	205 (%49.2)	[1]0.016*
	From the dentist	16 (%16.3)	151 (%36.2)	[2]0.000*
	From assistant staff	26 (%26.5)	157 (%37.6)	[1]0.038*
	From air flow	47 (%48)	254 (%60.9)	[1]0.019*
	None of them	13 (%13.3)	12 (%2.9)	[4]0.000*
Did you have any concern about applying for dental treatment during this period?	Not at all	24 (%24.5)	33 (%8)	[1]0.000*
	A little	28 (%28.6)	75 (%18.1)	
	Somewhat	32 (%32.7)	189 (%45.5)	
	Very	14 (%14.3)	118 (%28.4)	
Did your oral hygiene and brushing habit increase during this period?	No	23 (%23.7)	75 (%18.3)	[1]0.229
	Yes	74 (%76.3)	334 (%81.7)	
Do you think the changes in patient admission policy are necessary	No	23 (%23.7)	48 (%11.5)	[1]0.002*
	Yes	74 (%76.3)	368 (%88.5)	

[1]Ki-Kare Test   [2]Continuity (Yates) Correction   [3]Fisher Freeman Halton Test [4]Fisher's Exact Test
*p<0.05

Findings related to knowledge levels

Percentage distributions of the answers of those who whether knew or did not know Covid-19 symptoms and prevention methods are shown in Table 3.

Table 3: Findings Related to Knowledge Levels About Covid-19

		Whether knew or did not know Covid-19 symptoms and prevention methods		p
		Not know	Know	
		Mean±SD	Mean±SD	
Age		33.05±11.66	31.06±11.28	[1]0.055
		n (%)	n (%)	
Gender	Male	141 (%49.5)	82 (%35.3)	[2]0.001*
	Female	144 (%50.5)	150 (%64.7)	
Marital status	Married	152 (%53.3)	110 (%47.4)	[2]0.181
	Single	133 (%46.7)	122 (%52.6)	
Education Level	Middle School	84 (%29.5)	27 (%11.6)	[2]0.000*
	High School	90 (%31.6)	72 (%31.0)	
	University	111 (%38.9)	133 (%57.3)	
Presence of chronic disease	No	246 (%86.3)	196 (%84.5)	[2]0.556
	Yes	39 (%13.7)	36 (%15.5)	
Chronic diseases	Cardiovascular diseases	6 (%15.4)	12 (%33.3)	[3]0.122
	Hypertension	10 (%25.6)	16 (%44.4)	[3]0.142
	Diabetes Mellitus (Type 1 or 2)	11 (%28.2)	8 (%22.2)	[3]0.742

	Other Chronic diseases	12 (%30.8)	6 (%16.7)	[3]0.247
Do you think that Covid-19 is a serious public health threat?	Impossible	20 (%7.1)	8 (%3.4)	[1]0.094
	Possible	13 (%4.6)	8 (%3.4)	
	Probably	31 (%11)	17 (%7.3)	
	Definitely	219 (%77.4)	199 (%85.8)	
Have you or your relatives been infected with coronavirus during the pandemic?	No	263 (%93.6)	215 (%92.7)	[2]0.813
	Yes	18 (%6.4)	17 (%7.3)	
What is your level of knowledge about Covid-19?	Not at all	10 (%3.5)	1 (%0.4)	[1]0.007*
	Inadequate	17 (%6)	7 (%3)	
	Sufficient	154 (%54.2)	115 (%49.6)	
	Comprehensive	103 (%36.3)	109 (%47)	
Howmuch has coronavirus changed your daily routine	Not at all	8 (%2.8)	0 (%0)	[3]0.048*
	A little	19 (%6.8)	12 (%5.2)	
	Somewhat	90 (%32)	78 (%34.1)	
	Very	164 (%58.4)	139 (%60.7)	
Have you changed your plans because of coronavirus?	No	30 (%10.8)	13 (%5.7)	[2]0.060
	Yes	248 (%89.2)	215 (%94.3)	
Do you think there is a risk of transmission during your treatment?	Not at all	36 (%12.8)	19 (%8.2)	[1]0.021*
	A little	75 (%26.6)	43 (%18.5)	
	Somewhat	127 (%45)	120 (%51.7)	
	Very	44 (%15.6)	50 (%21.6)	
How confident are you that the faculty can prevent coronavirus transmission?	Not at all	20 (%7.1)	13 (%5.6)	[1]0.358
	A little	38 (%13.5)	21 (%9.1)	
	Somewhat	141 (%50.2)	126 (%54.3)	
	Very	82 (%29.2)	72 (%31)	
By which ways do you think transmission can occur at the faculty?	From other patients in the waiting room	216 (%75.8)	200 (%86.2)	[1]0.003*
	From the instruments used during treatment	127 (%44.6)	115 (%49.6)	[1]0.256
	From the dentist	81 (%28.4)	87 (%37.5)	[1]0.028*
	From assistant staff	85 (%29.8)	99 (%42.7)	[1]0.002*
	From air flow	147 (%51.6)	156 (%67.2)	[1]0.000*
	None of them	17 (%6)	8 (%3.4)	[2]0.262
Did you have any concern about admitting for dental treatment during this period?	Not at all	37 (%13.1)	20 (%8.6)	[1]0.010*
	A little	64 (%22.7)	39 (%16.8)	
	Somewhat	123 (%43.6)	98 (%42.2)	
	Very	58 (%20.6)	75 (%32.3)	
Did your oral hygiene and brushing habit increase during this period?	No	64 (%22.8)	34 (%15)	[1]0.027*
	Yes	217 (%77.2)	193 (%85)	
Do you think that the changes in patient admission policy are necessary?	No	46 (%16.2)	25 (%10.8)	[1]0.078
	Yes	238 (%83.8)	206 (%89.2)	

[1]*Ki-Kare Test*   [2]*Continuity (Yates) Correction*   [3]*Fisher Freeman Halton Test*   *p<0.05*

Regression analysis

When the factors affecting concerns about getting coronavirus were evaluated by logistic regression analysis, the model was found to be significant (p: 0.000; p <0.05), the Nagelkerke R square value was determined as 0.303, explanatory coefficient of the model (83.8%) was found to be high, and the parameters whose effects are found to be statistically

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significant in the model are shown in Table 4. Thinking that the coronavirus is a serious public health threat, the level of the coronavirus changing daily habits, thinking that there is a risk of transmission from other patients, from dentist and during treatment, affected the possibility of concerned about getting coronavirus (p<0.05) (Table 4).

Table 4: Logistic Regression Analysis of Factors Affecting Concerns About Getting Coronavirus

	OR	%95 CI	p
Thinking coronavirus is a serious public health threat	2.371	1.782-3.156	**0.000***
The level of changing daily habits of coronavirus	1.732	1.2-2.498	**0.003***
Thinking there is a risk of transmission during treatment	1.484	1.092-2.016	**0.012***
From other patients in the waiting room	0.484	0.268-0.874	**0.016***
From dentist	0.487	0.255-0.928	**0.029***
Constant	0.139		**0.002***

$p<0.05$ OR, odds ratios

When the factors affecting knowledge levels about COVID-19 symptoms and prevention methods were evaluated by logistic regression analysis, the model was found to be significant (p: 0.000; p <0.05), the Nagelkerke R square value was determined as 0.137, explanatory coefficient of the model (62.8%) was found to be high and the parameters whose effects are found to be statistically significant in the model are shown in Table 5. Gender, educational status-university, educational status-high school, thinking that there is a risk of contamination from the air flow in the health institution where the patient came for treatment, the increase in oral hygiene and brushing habit during this period showed an increasing effect on the possibility of knowing the Covid-19 symptoms and ways of protection (p<0.05) (Table 5).

Table 5: Logistic Regression Analysis of Factors Affecting Knowledge Levels About Coronavirus

	OR	%95 CI	p
Gender	0.522	0.356-0.768	**0.001***
Education Level - University	4.143	2.439-7.038	**0.000***
Education Level - High School	2.728	1.564-4.758	**0.000***
From air flow	0.575	0.391-0.845	**0.005***
Increase in oral hygiene and brushing habits during this period	0.597	0.364-0.98	**0.041***
Constant	0.544		**0.013***

$p<0.05$ OR, odds ratios

DISCUSSION

This survey study provides information about the awareness, knowledge, and attitudes of patients who applied to Inonu University Faculty of Dentistry during the COVID-19 pandemic, and sheds light on making the necessary arrangements as soon as possible for patients to safely access oral and dental health services.

The pandemic process created anxiety and unrest in many countries. In a study conducted in China, 66.38% of the patients were observed to describe the disease as "very serious", and the vast majority were concerned about the risk of infection (Xiong et al., 2020). In our study, it was observed that the vast majority of patients took the disease seriously, feared being infected, and changed their habits and plans due to the coronavirus. There was no difference between the individuals, who were worried about coronavirus and those who were not, in terms of age, gender, marital status, educational status, and the presence of chronic disease. This indicated that there was a general concern in all segments of our society. However, some researchers report that female patients are more anxious about and abstain from going to dentist appointments compared to male patients (Peloso & Pini, 2020; Xiong et al., 2020). Additionally, age and income levels have been demonstrated as important determinants of vulnerability to COVID-19 in a dental environment (Peloso & Pini, 2020). This has been attributed to the fact that morbidity and mortality increase as the age gets older, and individuals with low incomes consider themselves more likely to get COVID-19. It has been stated that individuals with high incomes are more likely to be healthier compared to individuals with poor socioeconomic status (Moffat, Yentes, Crookston, & West, 2020).

According to the findings of this study, the individuals, who were worried about getting coronavirus, took this epidemic more seriously, changed their habits and plans more compared to the individuals who were not worried. Nonetheless, no statistically significant difference was found between more or less anxious individuals and the rates of having coronavirus infection in their close environment. This finding shows that worrying about and avoiding being infected does not decrease the likelihood of getting the disease. We believe that this may be due to the inability of the patients to implement measures such as correct use of masks and maintaining sufficient hand hygiene, even if they are afraid of getting COVID-19 and try to protect themselves.

In our study, it was observed that the vast majority of the participants believed that they had sufficient and comprehensive knowledge about the coronavirus; however, more than half of the patients did not know all of the symptoms and prevention methods of COVID-19. It is essential to determine the frequently used sources of information and acknowledge society correctly and sufficiently. The effectiveness of methods used to inform the public, and to what extent they are perceived by the patients should be investigated, and the necessary regulations should rapidly be implemented.

The females and university graduates were in the majority among the patients who knew about COVID-19 symptoms and the methods of protection. This sophisticated group

was found to believe that the risk of getting the disease was higher in a health institution, particularly during treatment; they had concerns about presenting for dental treatment, and they paid more attention to oral hygiene during the pandemic. In our study, 80.7% of the patients reported that they paid more attention to oral hygiene and they brushed their teeth more regularly during the pandemic. In line with this finding, studies have shown that the pandemic process increases the attention people pay in dental care (Guo, Zhou, Liu, & Tan, 2020). Nevertheless, it has been reported that staying away from COVID-19 is much more important even for the patient group, who care about oral health and exhibit a positive attitude towards professional dental care (Moffat et al., 2020). In a study conducted in the USA, almost half of the patients reported that they postponed their dental treatments and only 9.3% of the patients still went to dental clinics (Kranz, Gahlon, Dick, & Stein, 2020). In a study conducted in Brazil, 44.2% of patients, who received treatment, stated that they would only go to dentist appointments in emergencies, and 17.5% stated that they would not go under any circumstances (Peloso & Pini, 2020). In a study conducted with the parents of child patients in China, the vast majority of participants mentioned that the dental clinics were more dangerous compared to the other public places, and they would only take their child to the dentist if they had a severe toothache (Sun & Xu, 2020). Studies have shown that anxious or panicked individuals, who think COVID-19 is a serious problem, hesitate to come to a dentist appointment, and would not go to the dentist unless there is an emergency. (Moffat et al., 2020; Peloso & Pini, 2020). In our study, it was observed that anxious individuals believed that they were more likely to get the disease from the health institution they admitted to, and they had more hesitation about coming to dental treatment during this period. It was observed that most of the patients admitted to our faculty due to unfinished treatments or the need for urgent treatment. Similar to a study in the USA (Moffat et al., 2020), in our study, most of the patients stated that they thought they could get a disease from other patients in the waiting room.

It has been reported that dental clinics are among the riskiest areas in terms of the spread of COVID-19 infection due to the aerosol scattered around during the procedure, and many new regulations have been proposed during the pandemic (Falahchai, Babaee Hemmati, & Hasanzad, 2020; Guo et al., 2020; L. J. Pereira & C. V. Pereira, 2020). Measures have been taken such as determining the treatment needs of patients remotely by examining them on the phone or via the video communication methods (teledentistry), looking after only patients in need of urgent treatment, having at least 30 minutes of interval between two patients for ventilation of the clinic, and making arrangements to maintain social distance in

waiting rooms (Falahchai et al., 2020; Guo et al., 2020; Moffat et al., 2020; LJ. Pereira & CV. Pereira, 2020). Particularly, teledentistry is recommended to become widespread due to its advantages such as protecting both physicians and patients from the risk of infection, and saving time (Dave, Seoudi, & Coulthard, 2020; LJ. Pereira & CV. Pereira, 2020; Rahman, Nathwani, & Kandiah, 2020; Sun & Xu, 2020). Almost all of the patients, who received healthcare services through a virtual clinic and telephone consultation, were satisfied with this experience and reported that they could use this system again during the pandemic (Rahman et al., 2020). However, it has been challenging for dentists to balance between taking measures to prevent COVID-19 transmission and managing the ongoing treatment of patients (Moffat et al., 2020). At the beginning of the pandemic, a study conducted in Beijing, China demonstrated that the number of patients presenting to the dental emergency room decreased by 38%; despite this decrease, it took a long time to take strict infection control measures (Guo et al., 2020). In our study, approximately one-third of the patients stated that they had dental problems during the pandemic, and experienced problems about receiving health care.

Patients should be informed about whether the health institutions they present to have taken the necessary measures (Moffat et al., 2020). 81% of the parents of child patients, indicated that they would trust the clinic to bring their children after they are informed about the measures taken (Sun & Xu, 2020). In the previous studies, most patients were reported to think that dentistry clinics complied with the new guidelines and that they trusted physicians and employees about the measures taken (Moffat et al., 2020; Sun & Xu, 2020). Similarly, in our study, it was observed that the majority of patients found the changes made in patient admission necessary and believed that the health institution they presented to could prevent COVID-19 transmission.

In these unusual conditions in the world, both physicians and patients are experiencing an unfamiliar process, and try to keep up with the new regulations. During this pandemic, the aim of the dentists should be to encourage the population to recall their good oral health habits without increasing the spread of COVID-19 (AS. Kochhar, Bhasin, GK. Kochhar, & Dadlani, 2020; Moffat 2020). The public should be informed about the effects of COVID-19, as well as the methods of protection from the disease in the most accurate and effective way. In oral and dental health institutions, the necessary precautions for infection control should be taken as quickly as possible; and patients in need of urgent treatment should be provided safe access to health care without suffering. Patients should be informed about new practices and motivated to follow the rules. In addition, considering that there are asymptomatic patients in

the society, physicians should approach each patient as a potential COVID-19 patient in order to protect patients, clinical staff, and themselves.

In conclusion, it was observed that the pandemic process caused anxiety and unrest in both physicians and patients. Because dentistry clinics are the most risky areas for the spread of infection, many other new regulations need to be made in the pandemic. In oral and dental health institutions, the necessary precautions for infection control should be taken as quickly as possible; and patients in need of urgent treatment should be provided safe access to health care without suffering. In addition, patients should be informed about new practices and motivated to follow the rules.

Limitations of this study

The questions asked in some parts of the questionnaire include socially desirable behaviors. This may have led to bloated results. Another limitation is that the respondents do not represent the population in the whole country. Further studies with larger sample sizes are needed.

Conflicts of interest: There is no conflict of interest for this study.

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