

Original Research Article

Evaluation of COVID-19 Awareness and Concerns of Patients Admitted to Dentist

Diş Hekimine Başvuran Hastaların COVID-19 Farkındalık ve Endişelerinin Değerlendirilmesi

Şükrü Kolay¹ , Esra Mavi² 

ABSTRACT

Aim: This study aimed to examine the level of knowledge among adult patients admitted to Sivas Cumhuriyet University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, regarding the Coronavirus Disease-2019 (COVID-19) pandemic and their concerns regarding the transmission of COVID-19 during dental visits.

Material and Method: The data were obtained through face-to-face interviews. According to the sample size formula with an unknown population ($n = t^2PQ/d^2$), 385 people were taken into the sample. Frequency and percentage (%) distribution were used to define the research data. The variables were analyzed according to Pearson Chi-Squared analysis.

Results: 70.7% of the 229 female participants and 77.8% of the 153 male participants were vaccinated against COVID-19 ($p>0.05$). 84.7% of 72 people with chronic diseases and 71% of 310 people without chronic diseases were vaccinated against COVID-19 ($p<0.05^*$). 73.9% of 272 people with COVID-19 concern and 72.9% of 107 people without COVID-19 concern were vaccinated against COVID-19 ($p>0.05$). 77.2% of the 228 women surveyed and 63.6% of the 154 men surveyed were concerned about COVID-19 ($p<0.05^*$). 75% of the 72 people with chronic diseases and 71% of the 310 people without chronic diseases were concerned about COVID-19 ($p>0.05$).

Conclusion: The safest way to gain immunity to end the pandemic and return to our normal workflow is by getting vaccinated. Age, gender, education, the presence of chronic diseases, and COVID-19 concern can also affect vaccination rates against COVID-19.

Keywords: COVID-19; Dentists; Pandemics; SARS-CoV-2

ÖZET

Amaç: Bu çalışmada, Sivas Cumhuriyet Üniversitesi, Diş Hekimliği Fakültesi, Ağız Diş ve Çene Cerrahisi Anabilim Dalı'na başvuran erişkin hastaların Coronavirüs Hastalığı-2019 (COVID-19) pandemisi hakkındaki bilgi düzeylerinin ve diş hekimi ziyaretleri sırasında COVID-19'un bulaşmasına ilişkin endişelerinin incelenmesi amaçlanmıştır.

Gereç ve Yöntem: Veriler yüz yüze görüşmeler yoluyla elde edilmiştir. Evreni belli olmayan örneklem hacmi formülüne göre ($n=t^2PQ/d^2$), 385 kişi örnekleme alınmıştır. Araştırma verilerinin tanımlanmasında frekans ve yüzde (%) dağılımı kullanılmıştır. Değişkenler Pearson ki-kare testi ile analiz edilmiştir.

Bulgular: 229 kadın katılımcının %70.7'si ve 153 erkek katılımcının %77.8'i COVID-19'a karşı aşılandı ($p>0.05$). Kronik hastalığı olan 72 kişinin %84.7'si, kronik hastalığı olmayan 310 kişinin ise %71'i COVID-19'a karşı aşılandı ($p<0.05^*$). COVID-19 endişesi olan 272 kişiden %73.9'u, COVID-19 endişesi olmayan 107 kişiden ise %72.9'u COVID-19 aşılandı ($p>0.05$). Ankete katılan 228 kadının %77.2'si, ankete katılan 154 erkeğin ise %63.6'sı COVID-19 konusunda endişeliydi ($p<0.05^*$). Kronik hastalığı olan 72 kişinin %75'i, kronik hastalığı olmayan 310 kişinin ise %71'i COVID-19 konusunda endişeliydi ($p>0.05$).

Sonuç: Pandemi bitirmek ve normal iş akışımıza dönmek için bağışıklık kazanmanın en güvenli yolu aşı olmaktır. Yaş, cinsiyet, eğitim, kronik hastalıkların varlığı ve COVID-19 endişesi de COVID-19 aşısının kabul oranlarını etkileyebilir.

Anahtar Kelimeler: COVID-19; Diş Hekimi; Pandemiler; SARS-CoV-2

Makale gönderiliş tarihi: 30.04.2023; Yayına kabul tarihi: 18.07.2024
İletişim: Dr. Esra Mavi

Cumhuriyet Üniversitesi Diş Hekimliği Fakültesi Ağız, Diş ve Çene Cerrahisi Anabilim Dalı, Sivas, Türkiye
E-mail: dtesraaltunsoy@gmail.com

¹ Uzm. Dt., Akalin Oral And Dental Health Clinic, Aksaray, Türkiye

² Asst. Prof. Dr., Cumhuriyet University Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, Sivas, Türkiye

INTRODUCTION

Throughout the history of humanity, numerous pandemics have occurred, spreading across international borders and causing widespread mortality and health issues.¹ In December 2019, an outbreak of pneumonia with an unknown origin was first reported in Wuhan, China.² The World Health Organization (WHO) defined a global emergency on January 30, 2020, due to the new coronavirus outbreak.³ Subsequently, on March 11, 2020, the WHO declared the outbreak as a pandemic due to the rapid and exponential increase in the number of individuals affected by the virus worldwide.⁴ The WHO named the virus as Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2), and the disease as Coronavirus Disease-2019 (COVID-19).⁵ Today, the COVID-19 pandemic caused by SARS-CoV-2 continues, and as of 17 June 2023, 768.187.096 confirmed cases and 6.945.714 deaths have been reported worldwide since the beginning of the epidemic.⁶

The origin of the SARS-CoV-2 virus is still debated and investigated. Although it has not been fully clarified yet, the comparative analysis of genomic data suggests that the epidemic is a zoonotic transmission from animal to human.⁷ COVID-19 disease can be transmitted by exposure to an infected person at a distance of fewer than 2 meters and for longer than 15 minutes, by inhaling the aerosol produced by coughing and sneezing by an infected person, and by direct contact with infected objects.⁸ Common symptoms observed in COVID-19 cases include fever (92.8%), cough (69.8%), dyspnea (34.5%), myalgia (27.7%), pharyngalgia (17.4%), headache (7.2%), diarrhea (6.1%), sore throat (5.1%), and runny nose (4%).⁹

In order to protect against COVID-19, interpersonal social distance should be maintained, and masks should be used indoors and in cases where social distance cannot be achieved.¹⁰ Hands should be washed with soap and water, and alcohol-containing hand disinfectants should be used in cases where soap and water are not available.¹¹ The use of masks has been recommended to protect against respiratory tract epidemics since the 14th century.¹² Hand hygiene plays a critical role in reducing the transmission of SARS-CoV-2, and it is advisable to avoid touching the eyes, mouth, and nose before thoroughly washing hands.¹³

The development and dissemination of vaccines is a potential solution to the epidemic.¹ An effective vaccine against the disease offers a safe pathway towards achieving herd immunity.¹⁴ As of June 17, 2023, The WHO reported a total of 13.398.054.518 vaccine doses administered.⁶ Re-infection is observed in COVID-19 and seasonal coronaviruses. This suggests that vaccines may not provide lifelong protection against COVID-19, and additional doses may be necessary to enhance and sustain immunity.¹⁵

COVID-19, caused by SARS-CoV-2, has had a significant impact on dentistry. Aerosols, the main mode of transmission of SARS-CoV-2, are inherent in dental procedures. Aerosols are droplets smaller than 5 µm that can remain in the air for a long time. These fine particles have the ability to penetrate deeply into the bronchioles and play a crucial role in viral infections.¹⁶ SARS-CoV-2 can be found in saliva, nasopharyngeal secretions, and blood. Bioaerosols generated within the dental clinical setting pose a risk for cross-infection through inhalation, contact with the eyes, or contamination of work surfaces.¹⁷ Although the most effective device for preventing the transmission of SARS-CoV-2 in dental settings remains unclear, it is prudent to approach dental procedures with the assumption that all patients may be infected.¹⁸

MATERIAL AND METHOD

Ethics committee approval was obtained from the Sivas Cumhuriyet University Non-Interventional Clinical Research Ethics Committee dated 26.05.2021 and numbered 2021-05/42. The study's budget was covered by the researchers.

Based on prior research, we developed a self-administered questionnaire to determine sociodemographic factors, as well as COVID-19-related knowledge, awareness, attitudes, behaviors, and worries.¹⁹⁻²⁰ The questionnaire used in the study consisted of three parts. The first part collected sociodemographic information (4 question), the second part included questions related to COVID-19 awareness (7 question), and the third part (13 question) focused on the concerns regarding dental visits and the transmission of COVID-19. The questions were assessed by seven field experts. They assigned ratings to each item as follows: (A) The item represents the feature, (B) It should be slightly

Table 1. Questionnaire form consisting of 24 questions

Questions	
1- How old are you?	11- What is the biggest factor that negatively affects your COVID-19 vaccination?
18-29	Personal factors
30-39	The influence of the people around me
40-49	What I read/heard on social media
50-59	What I read/heard in the news
60 or more	Other
2- Gender	12- Does the COVID-19 disease worry you?
Female	Yes
Male	No
3- Education Level	13- Does the fear of COVID-19 prevent you from going to the dentist?
Primary school	Yes
Middle school	No
High school	14- What is your reason for applying to the surgery clinic?
University	Tooth extraction
4- Do you have a chronic disease?	Jaw pain
Cardiovascular disease (cardiovascular diseases, blood pressure, etc.)	Implant
Diabetes	Abscess
Respiratory system disease (COPD, asthma, tuberculosis, etc.)	Other
Other	15- Would you apply to the surgery clinic if your situation was not urgent?
No	Yes
5- According to the World Health Organization, tick the most common symptoms of COVID-19. (You can tick more than one option in this question)	No
Fever	16- Are you worried about the risk of COVID-19 transmission in the area you are waiting for dental treatment?
Dry cough	Yes
Tiredness	No
Fever, Dry cough	17- Were you worried about the risk of contracting COVID-19 during your dental treatment?
Fever, Tiredness	Yes
Dry cough, Tiredness	No
Fever, Dry cough, Tiredness	18- Do you think it is possible to meet someone infected with COVID-19 in the waiting room or clinic?
Participants who are unable to respond to common symptoms of COVID-19	Yes
6- According to the Ministry of Health of the Republic of Turkey, mark the ways of transmission of COVID-19 disease. (You can tick more than one option in this question)	No
Inhalation of droplets produced by coughing and sneezing	19- Does the dentist show symptoms of cold, flu or coronavirus despite wearing a mask, does it increase your anxiety about COVID-19?
By taking the hands to the nose, mouth and eyes after touching the surfaces with the virus.	Yes
Inhalation of droplets produced by coughing and sneezing and by taking the hands to the nose, mouth and eyes after touching the surfaces with the virus.	No
Participants who cannot respond to the transmission routes of COVID-19	20- Does the patient who had dental treatment in the next seat at the same time as you show symptoms of a cold, flu or coronavirus increase your anxiety about COVID-19?
7- According to the Ministry of Health of the Republic of Turkey, mark the ways of protection from COVID-19 disease. (You can tick more than one option in this question)	Yes
Mask use	No
Social distance	21- If you feel the risk of contracting COVID-19 in the clinic or waiting room, will you leave the clinic?
Hand cleaning	Yes
Mask use, Social distance	No
Mask use, Hand cleaning	22- All of the instruments used before tooth extraction are cleaned and packaged as sterile. After each patient, the dentist chair is cleaned with disinfectant. The clinic is occasionally ventilated. Do you think these measures are sufficient in terms of the risk of COVID-19 transmission?
Social distance, Hand cleaning	Yes, enough
Mask use, Social distance, Hand cleaning	No, insufficient
Participants who could not mark their way of protection from COVID-19	23- Would you recommend the surgery clinic to your relatives during the COVID-19 pandemic period?
8- Have you had the COVID-19 disease?	Yes
Yes	No
No	24- What are your suggestions and thoughts on minimizing the risk of transmission of COVID-19 in the surgical department where your treatment is performed?
9- Have you been vaccinated against COVID-19? (If your answer to this question is "Yes", proceed to question 12.)	
Yes	
No	
10- If your answer to the previous question is 'No', what is the reason?	
My turn has not come	
I do not believe that vaccines protect from COVID-19	
I'm worried about the side effects of vaccines	
Vaccines contain harmful substances	
Other	

corrected, (C) It should be highly corrected, and (D) The item does not represent the feature. The Davis technique was used to assess the content validity study (CVI) ($CVI = (A+B)/n$, n =the total number of experts).²¹ In line with the experts' suggestions, some items were corrected. The CVI values varied from 0.86 to 1. It was accepted that all twenty four items had sufficient content validity because their CVI values were greater than 0.80.²² A total of 24 questions were included in the questionnaire (Table 1). The purpose of the study was explained to the participants, and written consent was obtained. Participants were also assured of the confidentiality of their information and were informed that their participation was voluntary. When $\alpha = 0.05$, $P = 0.50$, $Q = 0.50$, $d = \pm 0.05$, 385 people were sampled according to the sample volume formula ($n = Z^2PQ/d^2$), the universe of which is unclear. A pilot research with 10 patients who were not included in the study was done to clarify the questions.

The research was conducted between July 1, 2021 and December 31, 2021, on adult patients aged 18 and over seeking treatment at Cumhuriyet University Faculty of Dentistry, Department of Oral and Maxillo-facial Surgery, covering a period of 6 months. A total of 385 questionnaires were included in the study.

Statistical Analysis

The data were entered into the SPSS (22.0) package program. Frequency and percentage (%) distributions were used to describe the research data.

The data obtained from the open-ended questions was categorized and evaluated. The variables were analyzed using Pearson Chi-Squared analysis. The statistical significance level was 0.05.

RESULTS

The percentage and frequency distributions of the participants' responses to the questionnaire questions are presented in Table 2.

According to the results of the study, 60% of 145 people aged 18-29, 71.6% of 102 people aged 30-39, 85.7% of 77 people aged 40-49, 94.6% of 37 people aged 50-59, 95.2% of 21 people over the age of 60, received the COVID-19 vaccine ($p < 0.05^*$) (Table 3). 70.7% of the 229 female participants and 77.8% of the 153 male participants were vaccinated against COVID-19 ($p = 0.13$). 85.9% of 78 primary school graduates, 70% of 50 middle school graduates, 62.7% of 110 high school graduates, 76.8% of 142 university graduates were vaccinated against COVID-19 ($p < 0.05^*$) (Table 4). 84.7% of 72 people with chronic diseases and 71% of 310 people without chronic diseases were vaccinated against COVID-19 ($p < 0.05^*$) (Table 5). 73.9% of 272 people with COVID-19 concern and 72.9% of 107 people without COVID-19 concern were vaccinated against COVID-19 ($p = 0.842$). 77.2% of the 228 women surveyed and 63.6% of the 154 men surveyed were concerned about COVID-19 ($p < 0.05^*$) (Table 6). 75% of the 72 people with chronic diseases and 71% of the 310 people without chronic diseases were concerned about COVID-19 ($p = 0.494$).

Table 2. Distribution of answers to the questionnaire

Questions	n	%	Questions	n	%
1			11		
18-29	145	37.7	Personal factors	26	25.7
30-39	103	26.8	The influence of the people around me	19	18.8
40-49	78	20.3	What I read/heard on social media	7	6.9
50-59	38	9.9	What I read/heard in the news	13	12.9
60 or more	21	5.5	Other	36	35.6
2			12		
Female	230	59.7	Yes	274	71.7
Male	155	40.3	No	108	28.3
3			13		
Primary school	78	20.4	Yes	90	23.7
Middle school	50	13.1	No	290	76.3
High school	112	29.2	14		
University	143	37.3	Tooth extraction	288	74.8
4			Jaw pain	31	8.1
Cardiovascular disease (cardiovascular diseases, blood pressure, etc.)	24	6.2	Implant	41	10.6
Diabetes	11	2.9	Abscess	5	1.3
Respiratory system disease (COPD, asthma, tuberculosis, etc.)	8	2.1	Other	20	5.2
Other	29	7.5	15		
No	313	81.3	Yes	113	29.4
5			No	272	70.6
Fever	65	16.9	16		
Dry cough	25	6.5	Yes	173	44.9
Tiredness	50	13	No	212	55.1
Fever, Dry cough	36	9.4	17		
Fever, Tiredness	34	8.8	Yes	130	33.9
Dry cough, Tiredness	13	3.4	No	254	66.1
Fever, Dry cough, Tiredness	120	31.2	18		
Participants who are unable to respond to common symptoms of COVID-19	42	10.9	Yes	264	68.8
6			No	120	31.3
Inhalation of droplets produced by coughing and sneezing	96	24.9	19		
By taking the hands to the nose, mouth and eyes after touching the surfaces with the virus.	64	16.6	Yes	231	60
Inhalation of droplets produced by coughing and sneezing and by taking the hands to the nose, mouth and eyes after touching the surfaces with the virus.	184	47.8	No	154	40
Participants who cannot respond to the transmission routes of COVID-19	41	10.6	20		
7			Yes	272	70.6
Mask use	25	6.5	No	113	29.4
Social distance	25	6.5	21		
Hand cleaning	10	2.6	Yes	293	77.1
Mask use, Social distance	16	4.2	No	87	22.9
Mask use, Hand cleaning	10	2.6	22		
Social distance, Hand cleaning	4	1	Yes, enough	344	90.8
Mask use, Social distance, Hand cleaning	287	74.5	No, insufficient	35	9.2
Participants who could not mark their way of protection from COVID-19	8	2.1	23		
8			Yes	314	83.1
Yes	76	19.8	No	64	16.9
No	308	80.2	24		
9			There should be an appointment, the density in the waiting room should be eliminated and social distance should be increased in the waiting room.	19	34.5
Yes	281	73.6	More emphasis should be placed on cleanliness	14	25.5
No	101	26.4	Care should be taken to ventilate the environment	3	5.5
10			Cleanliness, mask and social distance should be taken care of	17	30.9
My turn has not come	20	19.8	Between the patients should be covered with a screen or a cabin should be built.	1	1.8
I do not believe that vaccines protect from COVID-19	7	6.9	PCR test or vaccination must be required at the entrance	1	1.8
I'm worried about the side effects of vaccines	36	35.6			
Vaccines contain harmful substances	3	3			
Other	35	34.7			

Table 3: Distribution of vaccination rates according to age

Age	Have you been vaccinated against COVID-19?				p value
	Yes		No		
	n	%	n	%	
18-29	87	60	58	40	<0.001*
30-39	73	71.6	29	28.4	
40-49	66	85.7	11	14.3	
50-59	35	94.6	2	5.4	
60 or more	20	95.2	1	4.8	
Total	281	73.6	101	26.4	

*p<0.05

Table 4. Distribution of vaccination rates according to educational status

Education Level	Have you been vaccinated against COVID-19?				p value
	Yes		No		
	n	%	n	%	
Primary school	67	85.9	11	14.1	0.003*
Middle school	35	70	15	30	
High school	69	62.7	41	37.3	
University	109	76.8	33	23.2	
Total	280	73.7	100	26.3	

*p<0.05

Table 5. Distribution of vaccination rates according to chronic disease state

Chronic Disease	Have you been vaccinated against COVID-19?				p value
	Yes		No		
	n	%	n	%	
Yes	61	84.7	11	15.3	0.02*
No	220	71	90	29	
Total	281	73.6	101	26.4	

*p<0.05

Table 6. Distribution of the relationship between COVID-19 anxiety and gender

Gender	Does the COVID-19 disease concern you?				p value
	Yes		No		
	n	%	n	%	
Female	176	77.2	52	22.8	0.004*
Male	98	63.6	56	36.4	
Total	274	71.7	108	28.3	

*p<0.05

DISCUSSION

Dentistry is a healthcare field that involves proximity to the oral environment, which harbors opportunistic and pathogenic microorganisms that can result in cross-contamination and infection. The probability of exposure to these microorganisms during dental procedures is high because these procedures are invasive.²³ The risk of cross-infection with SARS-CoV-2 may increase among dental staff and patients, due to the unique characteristics of dental practices such as face-to-face communication, exposure to body fluids such as saliva, blood, and aerosols.²⁴ Studies have shown that dentistry is unprepared for respiratory system disease transmitted by aerosols, droplets and contact.²⁵

In this study, the participation rate in the survey decreased with advancing age. The group that showed the highest willingness to participate and did not refuse the survey was the younger population. We believe that this trend can be attributed to factors such as a decrease in literacy rates with age, increased reluctance to participate in the study, decreased tolerance for study requirements, and the occurrence of hearing and vision problems associated with aging. Additionally, it was observed that women were more willing to participate in the survey compared to men.

People's rejection of vaccines began in 1976 with the advent of the first vaccine to protect against smallpox.²⁶ False information can be spread through news sources as if it were true. This may cause hesitation in accepting the vaccine. Distrust of modern medicine and government institutions is another source of vaccine hesitancy. However, it is important to note that anti-vaccine individuals constitute a minority, and approximately 80% of the global population agrees that vaccines are safe.²⁷ Among the respondents in this study, 26.4% reported not being vaccinated. The majority of those who were not vaccinated (35.6%) expressed concerns about the potential side effects of vaccines. This result supports that many people are not aware of the effectiveness of the vaccine and are afraid of side effects.²⁸ Furthermore, 38.6% of the study participants who were not vaccinated cited negative influences from people in their social circle, as well as information they read or heard in the news and on social media, as reasons for their decision.

A statistically significant difference was observed between the likelihood of getting a COVID-19 vaccine and age. The vaccination rate tends to increase as the age of the participants in the survey increases. As age increases, the likelihood of severe illness increases.²⁹ We think that this is the reason why the vaccination rate increases with age.

One of the risk factors that increase the likelihood of contracting severe COVID-19 is the male gender.³⁰ However, interestingly, this study found that women expressed statistically higher levels of concern about COVID-19 compared to men. In our study, the rate of vaccination of men was higher than that of women. However, there was no statistically significant difference between getting the COVID-19 vaccine and gender.

A statistically significant difference was found between the level of education and getting a COVID-19 vaccine. In this study, the rate of COVID-19 vaccination showed an inverse correlation with the level of education. These results support the data that people who hesitate about vaccination are more likely to be educated.²⁷ We believe that with the increase in education levels, people's questioning levels of the vaccine have increased and they are more cautious about the vaccine.

In this study, it was observed that individuals with chronic diseases have higher rates of COVID-19 vaccination compared to those without chronic diseases. People with chronic diseases are more likely to have severe COVID-19.³¹ It is for this reason that people with chronic diseases pay more attention to vaccination than others. However, no statistically significant relationship was found between the presence of chronic diseases and COVID-19 anxiety in this study. There is no difference in terms of COVID-19 concern between those with chronic diseases and those without.

In this study, no statistical relationship was found between those with COVID-19 anxiety and those without, in terms of receiving the COVID-19 vaccine. Having or not having an individual's COVID-19 concern does not affect their tendency to get vaccinated. Although COVID-19 is quite common, some people may not respond to its symptoms, transmission methods, or prevention strategies, suggesting a lack of concern about the infection and its consequences.

The disease is spread by infected, symptomatic or asymptomatic individuals. Dentists, who come into contact with numerous patients, have the potential to act as vectors for the transmission of SARS-CoV-2 among patients.³² Given the nature of their profession, every dental examination and procedure carries a risk of virus transmission. Therefore, in the early stages of the epidemic, non-urgent health appointments and procedures were postponed or canceled to minimize the risk. Some patients, being aware of this risk, also chose to cancel their appointments voluntarily.³³ According to the study, 70.6% of the participants stated that they would not visit a dental clinic unless their condition was urgent. 77.1% of the participants stated that they would leave the clinic if they felt the risk of contracting COVID-19 in the clinic or waiting room. Having dental treatments done safely by people who are concerned about COVID-19 will help ensure the continuity of oral and dental health. For this purpose, the intensity in the waiting room should be eliminated by working with carefully planned appointment schedules, a screen should be used in the clinic to reduce the contact of patients with each other, and the treatment of patients should be carried out in separate rooms.

44.9% of the participants, while in the waiting room, and 33.9% while undergoing dental treatments, expressed concerns about COVID-19 transmission. The small size of the waiting room, the presence of patient companions in the waiting room, the inability to control congestion, the lack of social distancing among people, and the inadequate ventilation system in the waiting room are factors that we believe contribute to these concerns. In the clinic, we believe that the requirement for patients to remove their masks during dental treatments and the absence of any barriers between dental units, apart from a screen, to prevent patient contact, further heighten anxiety regarding COVID-19 among the participants.

The fact that the dentist exhibits symptoms of a cold, flu, or coronavirus despite wearing a mask also increases anxiety regarding COVID-19 in 60% of the participants. This concern can cause patients to avoid dental treatment. Therefore, if the doctor shows any signs of illness, their contact with patients should be minimized. Individuals who display symptoms in the adjacent dental unit raise anxiety about COVID-19 in 70.6% of the study participants. For this reason,

it is necessary to remotely solve the problem of the patient who may be a COVID-19 case or a potential COVID-19 case or to postpone the appointment. If the situation is urgent or cannot be postponed, the patient should be considered high risk to infect others. Arranging the patient's visit as the last appointment of the day can be considered.³⁴

The best method of protection for both dentists and patients is to raise awareness, avoid unnecessary contact with individuals suspected of having COVID-19, utilize personal protective equipment, and adhere to precautions such as frequent hand washing. Consequently, it is crucial for dentists to implement necessary precautions to prevent COVID-19 transmission and ensure patients' continued adherence to dental treatments.

CONCLUSION

Since dentists are a professional group that works in close proximity to the oral environment, they may be exposed to COVID-19 and may serve as a vector that can carry SARS-CoV-2 to patients. Patients have concerns regarding COVID-19 transmission in both waiting rooms and the clinic. It is important to eliminate the intensity in the waiting room by working by appointment. In addition, reducing patients' contact with each other can reduce patients' concerns. Postponing the treatment of patients with COVID-19 symptoms is also very important to protect both the healthcare workers and the patients who come to the clinic.

CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

REFERENCES

1. Aslan R. Tarihten günümüze epidemiler, pandemiler ve Covid-19. *Ayrıntı Dergisi* 2020;8:35-41.
2. Li DD, Li QH. SARS-CoV-2: vaccines in the pandemic era. *Mil Med Res* 2021;8:1.
3. Sharma A, Farouk IA, Lal SK. COVID-19: A Review on the Novel Coronavirus Disease Evolution, Transmission, Detection, Control and Prevention. *Viruses* 2021;13:202.
4. La Marca A, Capuzzo M, Paglia T, Roli L, Trenti T, Nelson SM. Testing for SARS-CoV-2 (COVID-19): a systematic review and clinical guide to molecular and serological in-vitro diagnostic assays. *Reprod Biomed Online* 2020;41:483-99.

5. Awadasseid A, Wu Y, Tanaka Y, Zhang W. Current advances in the development of SARS-CoV-2 vaccines. *Int J Biol Sci* 2021;17:8-19.
6. covid19.who.int [Internet]. Available from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
7. Melo P, Barbosa JM, Jardim L, Carrilho E, Portugal J. COVID-19 Management in Clinical Dental Care. Part I: Epidemiology, Public Health Implications, and Risk Assessment. *Int Dent J* 2021;71:251-62.
8. Kochhar AS, Bhasin R, Kochhar GK, Dadlani H. COVID-19 Pandemic and Dental Practice. *Int J Dent* 2020;2020:8894794.
9. Shamsoddin E. A COVID-19 pandemic guideline in evidence-based medicine. *Evid Based Dent* 2020;21:71-3.
10. Swain ID. Why the mask? The effectiveness of face masks in preventing the spread of respiratory infections such as COVID-19 - a home testing protocol. *J Med Eng Technol* 2020;44:334-7.
11. Gupta MK, Lipner SR. Hand hygiene in preventing COVID-19 transmission. *Cutis* 2020;105:233-4.
12. Howard J, Huang A, Li Z, Tufekci Z, Zdimal V, van der Westhuizen HM, *et al.* An evidence review of face masks against COVID-19. *Proc Natl Acad Sci U S A* 2021;118:e2014564118.
13. Izzetti R, Nisi M, Gabriele M, Graziani F. COVID-19 Transmission in Dental Practice: Brief Review of Preventive Measures in Italy. *J Dent Res* 2020;99:1030-8.
14. Fontanet A, Cauchemez S. COVID-19 herd immunity: where are we? *Nat Rev Immunol* 2020;20:583-4.
15. Priyanka, Choudhary OP, Singh I. Protective immunity against COVID-19: Unravelling the evidences for humoral vs. cellular components. *Travel Med Infect Dis* 2021;39:101911.
16. Comisi JC, Ravenel TD, Kelly A, Teich ST, Renne W. Aerosol and spatter mitigation in dentistry: Analysis of the effectiveness of 13 setups. *J Esthet Restor Dent* 2021;33:466-79.
17. Ali K, Raja M. COVID-19: dental aerosol contamination in open plan dental clinics and future implications. *Evid Based Dent* 2021;22:54-5.
18. Checchi V, Bellini P, Bencivenni D, Consolo U. COVID-19 Dentistry-Related Aspects: A Literature Overview. *Int Dent J* 2021;71:21-6.
19. Abdelhafiz AS, Mohammed Z, Ibrahim ME, Ziady HH, Alorabi M, Ayyad M, *et al.* Knowledge, perceptions, and attitude of Egyptians towards the novel coronavirus disease (COVID-19). *J Community Health* 2020;45:881-90.
20. Aquilanti L, Gallegati S, Temperini V, Ferrante L, Skrami E, Procaccini M, *et al.* Italian response to coronavirus pandemic in dental care access: the DeCADE study. *Int J Environ Res Public Health* 2020;17:6977.
21. Davis LL. Instrument review: getting the most from a panel of experts. *Appl Nurs Res* 1992;5:194-7.
22. Shi J, Mo X, Sun Z. Content validity index in scale development. *Zhong Nan Da Xue Xue Bao Yi Xue Ban* 2012;37:152-5.
23. Amante LFLS, Afonso JTM, Skrupskelyte G. Dentistry and the COVID-19 Outbreak. *Int Dent J* 2020;71:358-68.
24. Pan Y, Liu H, Chu C, Li X, Liu S, Lu S. Transmission routes of SARS-CoV-2 and protective measures in dental clinics during the COVID-19 pandemic. *Am J Dent* 2020;33:129-34.
25. Bakaeen LG, Masri R, AlTarawneh S, Garcia LT, AlHadidi A, Khamis AH, *et al.* Dentists' knowledge, attitudes, and professional behavior toward the COVID-19 pandemic: A multisite survey of dentists' perspectives. *J Am Dent Assoc* 2021;152:16-24.
26. Ortiz-Sánchez E, Velando-Soriano A, Pradas-Hernández L, Vargas-Román K, Gómez-Urquiza JL, Cañadas-De la Fuente GA, *et al.* Analysis of the Anti-Vaccine Movement in Social Networks: A Systematic Review. *Int J Environ Res Public Health* 2020;17:5394.
27. Stolle LB, Nalamasu R, Pergolizzi JV, Jr., Varrassi G, Magnusson P, LeQuang J, *et al.* The NEMA Research Group. Fact vs Fallacy: The Anti-Vaccine Discussion Reloaded. *Adv Ther* 2020;37:4481-90.
28. Housset B. Défiance vis-à-vis de la vaccination : pourquoi ? *Rev Mal Respir* 2019;36:955-61.
29. Lamberghini F, Testai FD. COVID-2019 fundamentals. *J Am Dent Assoc* 2021;152:354-63.
30. Gao YD, Ding M, Dong X, Zhang JJ, Kursat Azkur A, Azkur D, *et al.* Risk factors for severe and critically ill COVID-19 patients: A review. *Allergy* 2021;76:428-55.
31. Cascella M, Rajnik M, Aleem A, Dulebohn SC, Di Napoli R. Features, Evaluation, and Treatment of Coronavirus (COVID-19). *StatPearls*. Treasure Island (FL): StatPearls Publishing Copyright © 2021, StatPearls Publishing LLC.; 2021.
32. Candan M, Yıldırım S. Prevalence of asymptomatic SARS-CoV-2 infection in children in Sivas province, Central Anatolia. *The European Research Journal* 2022;8:771-6.
33. Altan A. Emotional effect of the Covid-19 pandemic on oral surgery procedures: a social media analysis. *J Dent Anesth Pain Med* 2021;21:237-44.
34. Melo P, Manarte-Monteiro P, Veiga N, de Almeida AB, Mesquita P. COVID-19 Management in Clinical Dental Care Part III: Patients and the Dental Office. *Int Dent J* 2021;71:271-7.