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Research / Araştırma Makalesi

Evaluation of Effects of COVID-19 on Dentistry Patients Through Path Analysis

COVID-19 Pandemisinin Diş Hekimliği Hastaları Üzerine Etkisinin Path Analizi Kullanılarak Değerlendirilmesi

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ÖZ

Amaç: Tüm dünyada devam eden ve Türkiye'de hızla ilerleyen pandemi sürecinde diş tedavileri yarım kalabilmekte ve diş sorunu olan hastalar kaygıyla kendilerine zarar verici davranışlarda bulunabilmektedir. Hastaların bu bulaşıcı hastalık hakkındaki bilgi düzeylerini, diş sorunları sırasındaki tutumlarını, istenmeyen davranışlara neden olabilecek anksiyete ve depresyon düzeylerini anlamak önceliklidir. Yapılan bu anket çalışması, türk diş hekimliği hastalarının COVID-19 hakkındaki bilgi düzeyi, anksiyete ve depresyon düzeylerini belirleyip; mevcut kanıtları sentezlemeyi ve analiz etmeyi amaçlamaktadır.

Gereç ve Yöntemler: 32 sorudan oluşan bu ankette sırasıyla demografik bilgiler, COVID-19 hakkında bilgi, diş tedavilerinde COVID-19' a ilişkin farkındalık ve Hastane Anksiyete ve Depresyon Ölçeği yer aldı. Anket, 20 Eylül 2021- 20 Ocak 2022 tarihleri arasında gönüllülük esasına göre gerçekleştirilmiş ve anketteki tüm sorular 837 katılımcı tarafından yanıtlanmıştır. Değişkenlerin ilişkilerini değerlendirmek için path analizi, nitel verileri değerlendirmek için Ki-Kare testleri kullanıldı. İstatistiksel anlamlılık düzeyi $p < 0.05$ olarak ayarlandı.

Bulgular: COVID-19 hastalığına ilişkin bilgi düzeyi 92.85 ± 11.47 (100) (dk ± SD) olarak belirlendi. Hastaların % 97.3' ü (n=814) acil diş ağrısı ve apse durumunda doktoruna ulaşmak istediklerini bildirdi. % 4.2' si (n=35) ise acil diş ağrısından dolayı ne yapacağını bilemediklerini bildirdi.

Sonuçlar: COVID-19 hakkında sadece bilgi sahibi olmanın anksiyeteyi ve depresyon düzeyini düşürmediği açıkça ortaya konmuştur. Farkındalığı yüksek olan hastalarda ise anksiyete ve depresyon düzeylerinin daha düşük olduğu ortaya konmuştur.

Anahtar Kelimeler: COVID-19, sağlık araştırmaları, diş hekimliği hastaları, anksiyete, depresyon

ABSTRACT

Background: During the pandemic, which continues all over the world and progresses in Turkey, it is a priority to understand patients' knowledge level concerning this contagious disease and understand patients' attitude during their dental problems and also level of anxiety that could cause misbehavior. This study aims to synthesize and analyze existing evidence on the level of knowledge, awareness as to COVID-19, anxiety, and depression of Turkish dental patients.

Methods: This survey consisting of 32 questions included demographic information, knowledge about COVID-19, the awareness of the importance of COVID-19 in dental treatments, and the Hospital Anxiety and Depression Scale. The survey was performed from September 20, 2021 to January 20, 2022 on a voluntary basis, and 837 participants responded all the questions in the survey. Path analysis was used to evaluate the relations of variables. Chi-Square tests were used to evaluate qualitative data. The statistical significance level was set at $p < 0.05$.

Results: COVID-19 knowledge level was determined as 92.85 ± 11.47 (100) (min ± SD). 97.3 % of the patients (n=814) reported that they wanted to reach their doctor in case of emergency toothache. 4.2 % (n= 35) reported that they did not know what to do for emergency tooth pain.

Conclusion: It has been clearly demonstrated that just knowing about COVID-19 does not reduce anxiety and depression levels. It has been revealed that anxiety and depression levels are lower in patients with high awareness.

Keywords: anxiety, COVID-19, dentistry, depression, health surveys

Introduction

The coronavirus disease (COVID-19) is a viral infection caused by a novel coronavirus which was first reported in late December 2019 in Wuhan City, Hubei, China[1,2]. The infection spread to other countries within a short period with rapidly increasing cases reported worldwide. Turkey is among many countries affected by the COVID-19 infection and comes 11th in terms of the number of COVID-19 cases, until now, the number of confirmed cases was above 17.042.722 and more than 101.492 deaths (Available from: https://www.worldometers.info/coronavirus/ Accessed January 17, 2023). As in many countries, precautions such as national quarantine and home isolation were taken across our country, except for mandatory and emergency health services and jobs that cannot be postponed.

While daily life routines were deeply affected during the pandemic, there have been some changes in patients' opinion and attitudes about dental procedures during COVID-19 pandemic period. Patients may remain uncertain about whether to attend their dental appointments or not, due to the fear of the virus transmission. It is inevitable that this situation will cause anxiety in dental patients.

Considering that there are many emergency cases in dentistry that cannot be postponed, it is crucial that dental patients have information about the conditions which they should come to clinic or what they should do if they cannot attend to their appointment. The task of providing this awareness mostly rests with the experts. Additionally, it was reported that patients who have adequate health information they receive, have lower levels of anxiety, stress and depression during a pandemic[3].

This questionnaire study was designed to assess the knowledge and awareness level of the dental patients about COVID-19; moreover, measure their anxiety and depression level during the pandemic in Turkey. In addition, it was intended to observe the associations among these 4 variables in a more comprehensive manner by using path analysis method.

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Materials and methods

Participants

All participants signed an informed consent form before participating in this survey study. Approval was received from the Ethical Committee of Yeditepe University (#1199).

The web-based questionnaire survey was delivered to 1000 participants through e-mail. The research population consisted of individuals aged above 18 attended to our clinics in Yeditepe University Faculty of Dentistry in Istanbul. The survey was performed from September 20, 2021 to January 20, 2022 on a voluntary basis and 837 participants responded all the questions in the survey.

Survey content

The study was based on a self-administered, structured, close-ended questionnaire, included 4 parts, consisting of 32 questions in total. These questions in parts respectively included demographic information, knowledge and attitudes about COVID-19, the awareness regarding to the importance of COVID-19 in dental treatments, and Hospital Anxiety and Depression Scale (HADS).

Part 1 questions which investigating demographic factors, the 2nd part consisted of six questions to test the knowledge about COVID-19, and the awareness of the importance of COVID-19 in dental treatments was evaluated by eight questions in the 3rd part. One point was given for each correct answer, and no points were given for each in-correct or uncertain answer.

In part 2 and 3, each of questions was prepared by 5 experts regarding to Content Validity Index/Ratio (CVI/CVR). Experts assessed that "the item measures the targeted structure," "the item is related to the structure but unnecessary," and "the item does not measure the targeted structure." CVI was calculated according to opinions of experts by using Lawshe technique: CVI= (Ne–N/2)/(N/2); Ne: The number of experts indicating "essential" N: Total number of experts. CVI value was obtained as "1" at the prior of this study.

From questions 19 to 32 (part 4), a self-report hospital and depression scale is used to determine presence and severity of anxious and depressive symptoms, developed by Zigmond and Snaith in 1983[4]. It has anxiety (HAD-A) and depression (HAD-D) subscales. Turkish language version of HADS has been found to be available in a reliable and valid manner by Aydemir et al.[5]. HADS consists of 14 questions, seven for measuring anxiety while seven for determining depression level. Each question is scored from 0 to 3, in an order that indicates increasing severity of anxiety or depression level. The lowest possible scores for depression and anxiety are 0, and the highest possible scores are 21. The cut-off scores for anxiety and depression subscale are "10" and "7," respectively. Accordingly, those who score above these scores were considered at risk[5].

As a statistical technique, path analysis was used to examine the relationships between variables. The Number Cruncher Statistical System 2007 (Kaysville, Utah, USA) was used for statistical analysis. Mann Whitney U test was used in the inter-group evaluation of quantitative data that did not show normal distribution. The Kruskal Wallis test was used for between more than two groups. The Pearson Chi-Square test and Continuity corrected Chi-Squared test were used to evaluate qualitative data. Statistical significance level was set at $p < 0.05$.

Results

Out of 1000 forms delivered, 837 dental patients responded and completed the survey. The demographic data of the participants is listed in **Table 1**. Since there were not enough samples in point of age, education level, no comparison could be made within these groups in terms of knowledge, awareness, and anxiety and depression.

Table 1. Descriptive characteristics of dental patients (n=837)

Descriptive features		n	%
Gender	Woman	581	69.4
	Man	256	30.6
Age groups (years)	18-25	31	3.7
	25-35	217	25.9
	35-45	129	15.4
	45-60	246	29.4
	>60	214	25.6
Education level	Primary school	44	5.3
	High school	160	19.1
	College/University	463	55.3
	Graduate school	170	20.3
Social-media usage	Yes	793	94.7
	No	44	5.3

1. In honor of the responses of the questions measuring to COVID-19 knowledge level was determined as 92.85 ± 11.47 (100) (min ± SD). There was no significant difference in the knowledge of COVID-19 between genders ($p = 0.212$; $p < 0.05$).

2. In part 3, one of the 8 questions was the conditions which respondents prefer to go to the dental clinic during the COVID-19 pandemic. Based on that, patients were asked to select 1 or more situations that they considered urgent enough to go to the dentist. A significant portion of the respondents reported the presence of abscess and emergency toothache (n = 814, 97.3%) as the reason to apply to the dental clinic during the pandemic period. The other most chosen conditions were desimentation of filling/crown (n = 367, 43.8%) and removal of the sutures (n = 329, 39.3%).

3. In part 3, the second question was about learning which behavior patients will exhibit in dental emergencies. The majority of the participants prefer to phone to the dentist instead of going to dental clinic during the COVID-19 pandemic when they have toothache (n = 544, 65 %). A total of 35 (4.2 %) of the participants do not know what they have to do when they are in pain.

4. In part 3, six questions were aimed at measuring awareness of the relationship between dentistry/dental procedures and COVID-19 infection (**Table 2**). A high proportion of patients gave the correct answer to each of questions.

Table 2. Response of patients to the questions on measuring the awareness of the relationship between dentistry and COVID-19 infection (n=837)

Questions	Answers	n	%
Do you prefer to come with a companion in case of coming to the dental clinic during COVID-19?	Yes (false answer)	54	6.5
	No (true answer)	783	93.5
Do you know that dental clinics are a high-risk environment due to the COVID-19 transmission route, as the virus can survive on all surfaces in the clinic, including the waiting room?	Yes (true answer)	810	96.8
	No (false answer)	27	3.2
Do you know that dentists may have a high risk of COVID-19 transmission due to the scattering of air-water droplets into the air during dental treatments?	Yes (true answer)	808	96.5
	No (false answer)	29	3.5
Do you know not to go to the dentist except for emergency dental treatments in COVID-19 pandemic due to the transmission risk?	Yes (true answer)	813	97.1
	No (false answer)	24	2.9
Do you agree with dentists' refusal to accept treatment other than emergency dental treatments in order to protect themselves and their patients in accordance with the law published by Ministry of Health during COVID-19 pandemic?	Yes (true answer)	815	97.4
	No (false answer)	22	2.6
If it is necessary to go to the dentist, do you take more precautions than routine?	Yes (true answer)	796	95.1
	No (false answer)	41	4.9

5. The HAD scale scores of respondents showed a statistically significant difference between gender groups in terms of anxiety and depression scores. Both of the anxiety and depression scores of women were found to be statistically higher than men ($p= 0.001$; $p < 0.01$) (**Table 3**).

Table 3. Evaluation of the HAD Scale scores of the patients according to gender (Z: Mann Whitney U Test, *p < 0,05 **p < 0,01).

		Hospitalized Anxiety and Depression Scale			
		Anxiety		Depression	
		Min-Max	Median (Q1-Q3)	Min-Max	Median (Q1-Q3)
Gender	Woman	0-18	7 (5-9,5)	0-19	7 (5-9)
	Man	0-16	5 (3-8)	0-19	6 (3-8)
	Z	-5,497		-4,03	
	p	0,001**		0,001**	

6. According to the findings of the path analysis, the path coefficient between knowledge and awareness was found to be statistically significant ($p < 0.001$), and awareness increases as knowledge increases in only men, only women, and as a whole (**Table 4**).

Table 4. Relationship between awareness, knowledge, anxiety, and depression with coefficients in women and men (β0: Standard coefficient β1: Non-standard coefficient S.E.: Standard Error C.R: Critical Ratio p: Statistical Significance).

Gender	Variables			β0	β_1	S.E.	C.R.	p
Women	Awareness	←	Knowledge	0.155	0.137	0.036	3777	**<0.001**
	Anxiety	←	Awareness	-0.115	-0.678	0.247	-2744	**0.006**
	Depression	←	Knowledge	0.011	0.057	0.218	0.259	0.795
	Anxiety	←	Knowledge	-0.015	-0.076	0.219	-0.349	0.727
	Depression	←	Awareness	-0.107	-0.629	0.246	-2557	**0.011**
Men	Awareness	←	Knowledge	0.256	0.264	0.062	4224	**<0.001**
	Anxiety	←	Awareness	-0.054	-0.264	0.315	-0.837	0.403
	Depression	←	Knowledge	-0.003	-0.015	0.353	-0.043	0.966
	Anxiety	←	Knowledge	0.026	0.129	0.325	0.396	0.692
	Depression	←	Awareness	-0.078	-0.414	0.342	-1.21	0.226
Total	Awareness	←	Knowledge	0.186	0.174	0.032	5478	**<0.001**
	Anxiety	←	Awareness	-0.081	-0.457	0.198	-2310	**0.021**
	Depression	←	Awareness	-.089	-0.507	0.200	-2531	**0.011**
	Depression	←	Knowledge	0.001	0.007	0.187	0.039	0.969
	Anxiety	←	Knowledge	-0.010	-0.053	0.185	-0.285	0.775

7. The path coefficients formed between 'the knowledge and anxiety' and 'the knowledge and depression' were found to be insignificant in all genders (**Table 4**). Hence, it is clear that high level of knowledge does not reduce anxiety or depression level.

8. The path analysis demonstrates that the awareness level is significantly associated with the anxiety and depression level for only women and as a whole genders (**Figure 1 and Figure 3**). The negative coefficients on 'awareness and anxiety' and 'awareness and depression' links explicit that the women patients with more awareness, have lower anxiety and depression levels.

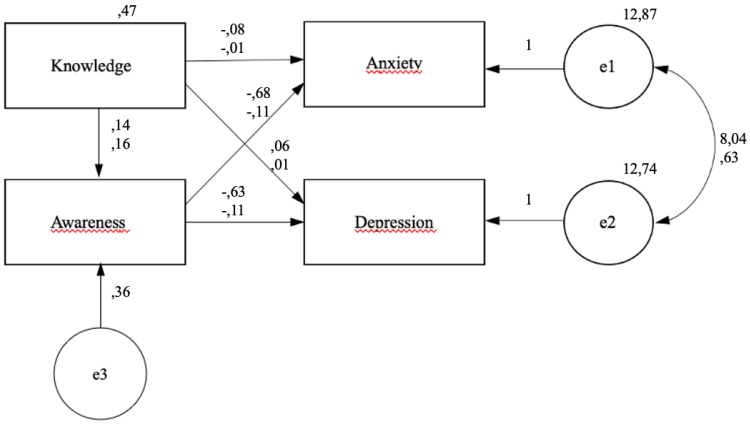

Figure 1. The path model conducted for women based on analysis of data in Table 4. For path coefficients, upper numbers are the unstandardized coefficients, while lower numbers are standardized path coefficients. A single coefficient represents the unstandardized coefficient.

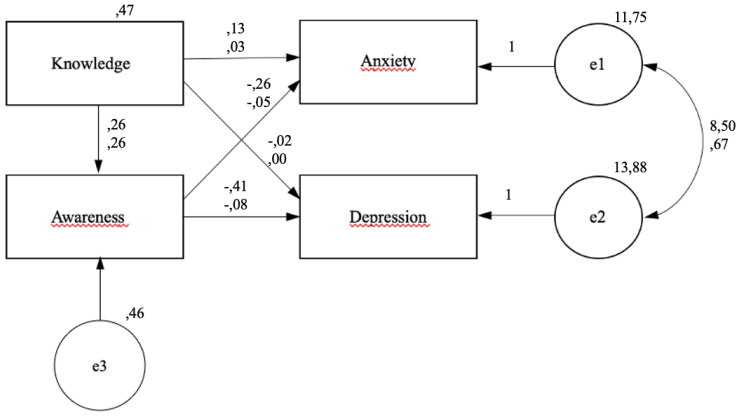

Figure 2. The path model conducted for men based on analysis of data in **Table 4**. For path coefficients, upper numbers are the unstandardized coefficients, while lower numbers are standardized path coefficients. A single coefficient represents the unstandardized coefficient

9. In contrast to women, there is not significantly relation was found between 'awareness and anxiety' and 'awareness and depression' in men (**Figure 2**). In men, only the path coefficient between knowledge and awareness was found to be statistically significant, the others were insignificant ($p < 0.05$). The results of path analysis are presented in **Table 4**.

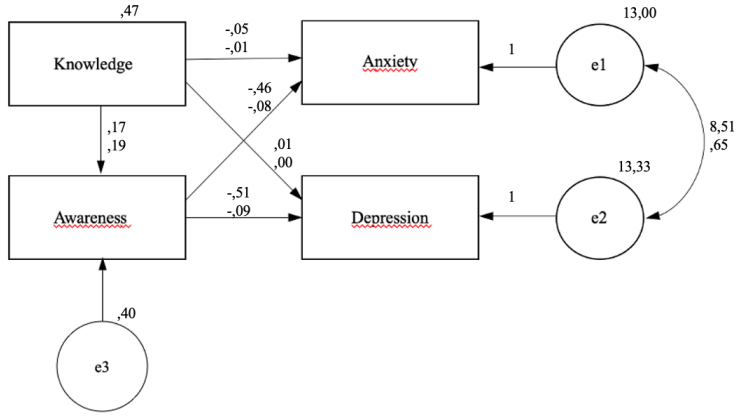

Figure 3. The path model conducted for all dental patients based on analysis of data in **Table 4**. For path coefficients, upper numbers are the unstandardized coefficients, while lower numbers are standardized path coefficients. A single coefficient represents the unstandardized coefficient

Discussion

In the literature, there are many publications on the knowledge, approach, and treatment procedures of dentists during the COVID-19 pandemic[6-8]. Interestingly, only a few studies have assessed the knowledge and awareness of the dental patients about COVID-19[9-11]. To our knowledge, this study is the first to provide evidence of causal linkages among the anxiety and depression levels, knowledge, and awareness related to this contagion viral disease level of the dental patients.

For preventing the spread of coronavirus during dental practices, taking precautions from the very first moment is cruical. Ashok et al. reported that during MERS-CoV, the majority of patients were aware of the infection control measures followed by dentist and took some precautions when present inside the dental clinic[12]. Similarly, according to the findings of this study, when it is necessary to go to the dentist, almost all patients know that when they need to take more effective additional precautions compared to in other environments.

After concluding the situations considered urgent by the patients, "How should you behave if such situations happen to you?" question has been asked. The fact that the response rate of "I phone to doctor" is the highest suggests that the communication needs of the patients are high. Therefore, providing contact information that may be needed for emergencies should not be skipped. We are of the opinion that the concept of "telemedicine", should find more place in the practice of dentistry, especially for emergencies, as the concept of "teledentistry,"

The fact that the response "I do not know what to do" has a considerable rate gives another serious feedback that we as clinicians should clearly inform the patients under which circumstances they should come to the clinic or call the doctor. Otherwise, in emergency dental problems, the behavior of the patients in "do not prefer to go or call the dentist and eliminate the complaint by their own" may lead to more undesirable consequences.

There are many COVID-19 studies in which various anxiety scales are applied mostly to physicians in literature[13-15]. However, we applied HAD scale to the dental patients. In this way, by being aware of the anxiety levels of the dental patients, we can understand them better and mutually facilitate the professional difficulties of our process.

According to the findings of the path analysis, the causality relationship between 'knowledge and anxiety' and 'knowledge and depression' was found to be insignificant. Contrary to what was expected, as the knowledge increased, the level of anxiety did not decrease. The fact that patients have descriptive information about the virus does not mean that they have the appropriate behavioral and conscious awareness to prevent the spread and transmission of virus.

Considering the path analysis, while the level of awareness increased, the level of anxiety and depression decreased. At this point, we advocate that the clinicians should put more effort in informing the patients about the do's and do nots, to increase awareness through e-mails, public service broadcasting or social media sharing.

According to the findings of this study, the level of anxiety in women is higher than men and it is associated with the awareness. For this reason, clinicians may need to be more self-sacrificing and formative to make females more worry-free.

In this study, the sampling method limits the generalizability of study findings. The fact that this survey could not cover the whole of Turkey can be considered as a limitation of the study.

Conclusion

The present study serves as precious feedback to understand the Turkish dental patients' general knowledge, awareness, anxiety, and depression levels about COVID-19 in Turkey. As a takeaway from this pandemic period, we must do our best to raise the awareness about dental procedures that can never be postponed. And certainly, this public awareness should be given in a scientific health education message without creating anxiety in the community which might increase the fear.

Değerlendirme / Peer-Review

İki Dış Hakem / Çift Taraflı Körleme

Etik Beyan / Ethical statement

Bu çalışma Selçuk Üniversitesi 3. Uluslararası Yenilikçi Diş Hekimliği Kongresi'nde (25-27 Kasım 2022, Konya, Türkiye) sözlü bildiri olarak sunuldu.

Çalışma herhangi bir tez çalışması değildir.

Bu çalışmanın hazırlanma sürecinde bilimsel ve etik ilkelere uyulduğu ve yararlanılan tüm çalışmaların kaynakçada belirtildiği beyan olunur.

This study was presented as an oral presentation at Selcuk University 3rd International Congress of Innovative Dentistry (25-27 November 2022, Konya, Turkey).

The study is not any thesis work

It is declared that during the preparation process of this study, scientific and ethical principles were followed and all the studies benefited are stated in the bibliography.

Benzerlik Taraması / Similarity scan

Yapıldı – ithenticate

Etik Bildirim / Ethical statement

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Bu çalışma sırasında, yapılan araştırma konusu ile ilgili doğrudan bağlantısı bulunan herhangi bir ilaç firmasından, tıbbi alet, gereç ve malzeme sağlayan ve/veya üreten bir firma veya herhangi bir ticari firmadan, çalışmanın değerlendirme sürecinde, çalışma ile ilgili verilecek kararı olumsuz etkileyebilecek maddi ve/veya manevi herhangi bir destek alınmamıştır. | The authors declared that this study has received no financial support.

Çıkar Çatışması / Conflict of Interest

Bu çalışma ile ilgili olarak yazarların ve/veya aile bireylerinin çıkar çatışması potansiyeli olabilecek bilimsel ve tıbbi komite üyeliği veya üyeleri ile ilişkisi, danışmanlık, bilirkişilik, herhangi bir firmada çalışma durumu, hissedarlık ve benzer durumları yoktur.| The authors have no conflict of interest to declare.

Yazar Katkıları / Author Contributions

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KAYNAKLAR / RESOURCES

1. Peng X, Xu X, Li Y, Cheng L, Zhou X, Ren B. Transmission routes of 2019-nCoV and controls in dental practice. Int J Oral Sci 2020;12(1):9
2. Khurshid Z, Asiri FYI, Al Wadaani H. Human saliva: Non-invasive fluid for detecting novel coronavirus (2019-nCoV). Int J Environ Res Public Health. 2020;17(7):2225
3. Song P., Karako T. COVID-19: Real-time dissemination of scientific information to fight a public health emergency of international concern. Bioscience Trends. 2020;14(1).
4. Zigmond AS, Snaith RP. The Hospital Anxiety and Depression Scale. Acta Psychiatr Scand. 1983; 1983; 67(6):361-70
5. Aydemir Ö, Güvenir T, Küey L, Kültür S. Hastane Anksiyete ve Depresyon Ölçeği Türkçe Formunun Geçerlilik ve Güvenilirlik Çalışması. Türk Psikiyatri Dergisi. 1997;8(4); 280-287
6. Kamate SK, Sharma S, Thakar S, Srivastava D, Sengupta K, Hadi AJ, et al. Assessing knowledge, attitudes and practices of dental practitioners regarding the covid-19 pandemic: A multinational study. Dent Med Probl. 2020;57(1):11-17
7. Shacham M, Hamama-Raz Y, Kolerman R, Mijiritsky O, Ben-Ezra M, Mijiritsky E. COVID-19 factors and psychological factors associated with elevated psychological distress among dentists and dental hygienists in Israel. Int J Environ Res Public Health. 2020;17(8):2900
8. Ahmed MA, Jouhar R, Ahmed N, Adnan S, Aftab M, Zafar MS, et al. Fear and practice modifications among dentists to combat novel coronavirus disease outbreak. Int J Environ Res Public Health. 2020;17(8):2821
9. Kaushik M, Agarwal D, Gupta AK. Cross-sectional study on the role of public awareness in preventing the spread of COVID-19 outbreak in India. Postgrad Med J. 2020;0:1-5
10. 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(19):6977
11. Cotrin P, Peloso RM, Oliveira RC, de Oliveira RCG, Pini NIP, Valarelli FP, et al. Impact of coronavirus pandemic in appointments and anxiety/concerns of patients regarding orthodontic treatment. Orthod Craniofacial Res. 2020;23(4):455-61
12. Ashok N, Rodrigues JC, Azouni K, Darwish S, Abuderman A, Alkaabba AAF, et al. Knowledge and apprehension of dental patients about MERS-A questionnaire survey. J Clin Diagnostic Res. 2016; 10(5):ZC58-62
13. Liu CY, Yang YZ, Zhang XM, Xu X, Dou QL, Zhang WW, et al. The prevalence and influencing factors in anxiety in medical workers fighting COVID-19 in China: A cross-sectional survey, Epidemiology and Infection. 2020;20(148)e98
14. Xing L, Xu M, Sun J, Wang Q-X, Ge D, Jiang M, et al. Anxiety and depression in frontline health care workers during the outbreak of Covid-19. Int J Soc Psychiatry 2020; 20764020968119
15. Marijanović I, Kraljević M, Buhovac T, Cerić T, Mekić Abazović A, Alidžanović J, et al. Use of the Depression, Anxiety and Stress Scale (DASS-21) Questionnaire to Assess Levels of Depression, Anxiety, and Stress in Healthcare and Administrative Staff in 5 Oncology Institutions in Bosnia and Herzegovina During the 2020 COVID-19 Pandemic. Med Sci Monit 2021;(27):e930812