dicledentj Dicle Dental Journal

Volume: 24
Number: 1

e-ISSN
2822-6755

ARAŞTIRMA MAKALESİ / RESEARCH ARTICLE

THE IMPACT OF THE COVID-19 PANDEMIC ON THE DENTISTS WORKING IN DİYARBAKIR PUBLIC HOSPITALS

DİYARBAKIR KAMU HASTANELERİNDE ÇALIŞAN DİŞHEKİMLERİNİN COVID-19 PANDEMİSİNDEN ETKİLENME DÜZEYİ

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ABSTRACT

Aim: The study aims to determine the depression levels experienced by dentists in public hospitals in Diyarbakir, Turkey, during the last week during the COVID-19 pandemic compared to the pre-pandemic period.
Material and Method: A total of 200 dentists working in public hospitals in Diyarbakir were included in the study.30 question questionnaire including socio-demographic data and Beck Depression Inventory was administered to the participants. Scores according to the Beck Depression Inventory were evaluated as follows: 0-9 points normal; 10-16 points mild depression, 17-29 points moderate depression, 30-63 points severe depression.
The normal distribution of the variables was calculated using the Shapiro Wilk's test. Mann Whitney U and Kruskal Wallis-H tests were used to examine the differences between the groups. In case of significant differences, evaluation was made using the Post-Hoc Multiple Comparison Test.
Results: In terms of Beck depression measurement score, no statistically significant difference was found between gender, marital status, institution of employment, reception of pandemic information education and being COVID-19 positive in terms of Beck depression measurement score. On the other hand, a statistically significant difference was found between age groups and occupational groups: It was determined that those over 40 years old had a lower Beck score compared to those aged 20-40 where faculty members had a lower Beck score compared to research fellows. The scores of those who did not take part in filiation were found to be significantly lower than those who took part, and the average Beck score of the participants was determined as 15.03.
Conclusion: It can be stated that the psychological state of dentists working in public hospitals in Diyarbakır was mildly affected during the COVID-19 pandemic, based on the findings of the study. It is revealed that it is important to optimize emergency action plans and cross infection control protocols within the scope of dentistry education and clinical services in the current COVID-19 pandemic period.

Keywords: COVID-19 pandemic, dentistry, beck depression inventory

Received: 18.03.2023 **Accepted:** 28.03.2023 **Published:** 30.04.2023

ÖZET

Amaç: Bu çalışma, Diyarbakır ili Kamu Hastanelerinde çalışan diş hekimlerinin Covid-19 pandemisi sürecinde, pandemi öncesine oranla son bir hafta içinde yaşadıkları depresyon düzeylerinin belirlenmesi amacıyla planlanmıştır.
Gereç ve Yöntem: Araştırmaya Diyarbakır ili Kamu Hastanelerinde çalışan toplam 200 diş hekimi dahil edildi. Katılımcılara sosyo-demografik veriler ve Beck Depresyon Ölçeğini içeren toplam 30 soruluk bir anket uygulandı. Beck Depresyon Ölçeğine göre oluşan skorlar: 0-9 puan normal; 10-16 puan hafif düzeyde depresyon, 17-29 puan orta düzeyde depresyon, 30-63 puan şiddetli düzeyde depresyon şeklinde değerlendirildi.
Shapiro Wilk's testinden yararlanılarak değişkenlerin normal dağılımdan gelme durumları hesaplandı. Gruplar arasındaki farklılıklar incelenirken; Mann-Whitney U ve Kruskal Wallis-H Testlerinden yararlanıldı. Anlamlı farklılıkların görülmesi halinde, Post-Hoc Çoklu Karşılaştırma Testiyle değerlendirme yapıldı.
Bulgular: Araştırmamızda, Beck depresyon ölçüm skoru bakımından; cinsiyet, medeni durum, çalışılan kurum, pandemiyle ilgili bilgilendirme eğitimi ve Covid-19 hastalığına yakalanma durumu arasında istatistiksel olarak anlamlı farklılık tespit edilmemiştir. Öte yandan yaş grupları ve meslek grupları arasında istatistiksel açıdan anlamlı farklılık bulunmuş, 40 yaş üstünde olanların 20-40 yaş arasında olanlara, öğretim üyesi olanların ise araştırma görevlisi olanlara göre Beck skorunun düşük olduğu saptanmıştır. Filyasyonda çalışmayanların skoru, çalışanlara göre anlamlı derecede düşük bulunmuş, katılımcıların Beck skoru ortalaması 15.03 olarak belirlenmiştir.
Sonuç: Çalışmamız bulgularına göre, Diyarbakır ili Kamu Hastanelerinde çalışan diş hekimlerinin psikolojik durumlarının Covid-19 pandemi sürecinde hafif düzeyde etkilendiği söylenebilir. İçinde bulunduğumuz Covid-19 pandemi sürecinde diş hekimliği eğitim-öğretim ve klinik hizmetleri kapsamında acil eylem planlarının ve çapraz enfeksiyon kontrol protokollerinin optimize edilmesinin önemi ortaya çıkmaktadır.

Anahtar Kelimeler: Covid-19 pandemisi, diş hekimliği, Beck depresyon ölçeği

Geliş: 18.03.2023 **Kabul:** 28.03.2023 **Yayın:** 30.04.2023

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Atıf/Citation: Yıldız C, Bakır S. The impact of the Covid-19 pandemic on the dentists working in Diyarbakır Public Hospitals. Dicle Dent J. 2023;24(1):5-18

INTRODUCTION

The contagious coronavirus infection, called COVID-19 (Sars Cov-2) by the World Health Organization (WHO), has begun to spread to more than 200 countries all over the world since the end of 2019 (1). A global pandemic was officially declared by the WHO in March 2020 (2). As a result of the rapidly increasing number of cases and deaths, a large part of healthcare professionals, together with the whole society, have begun to face important psychological problems (3).

Although the clinical manifestations of COVID-19 vary from person to person, the most common are fever, dry cough, muscle pain, and fatigue. Less common clinical symptoms include headache, diarrhea, impaired sense of smell and taste, and hemoptysis (4-6).

The difficult clinical diagnosis of COVID-19 during the incubation period has led to the rapid spread of the infection (7, 8). Subsequently, it was understood that COVID-19 was transmitted from person to person through Flügge micro-droplets suspended as aerosol or as a result of direct contact. However, it has been reported that even cases without clinical signs can transmit the virus (9).

Since this infection enters the body through the mouth, nose, or eyes, dentists are included in the high-risk group due to the intensity of aerosol procedures performed.

Considering the transmission modes of the virus, it is essential to take measures to prevent the transmission of the infection from one patient to another through medical instruments and equipment (cross-infection). Protecting healthcare professionals as well as patients from the risk of contamination and creating mechanisms to support them psychologically are the most important steps in the fight against the epidemic (10).

The necessity of being in close contact with the patient, the heavy workload, the worry of getting an infection, the anxiety of transmitting the infection to their own family, and the fear of death cause anxiety or depression in many dentists. Anxiety and worries felt according to the Beck Depression Inventory (BDI) can be seen in the form of sadness, pessimism, feelings of failure and guilt, as well as loss of energy, disruption in sleep patterns, exhaustion, appetite/weight loss, crying spells, self-dislike, desocialization, or suicidal tendency. The purpose of the BDI is not to determine the presence of depression but to provably quantify the degree of depression symptoms. The 21 items in the scale, consisting of clinical observations, reflect an integrated version of the symptoms in the form of a scale.

There is no study in the literature evaluating the extent to which the COVID-19 pandemic affects healthcare professionals and especially dentists in our country. The study aims to determine the depression states experienced by dentists during the pandemic and to provide them support and take necessary precautions accordingly.

MATERIAL AND METHOD

A total of 200 dentists working in public hospitals in Diyarbakır, who volunteered to participate in the study between September 2020 and March 2021, were included in our study, which was approved by the Dicle University Clinical Research Ethics Committee (30.09.2020; Protocol Number:2020-32). A total of 90 of the participants work at Dicle University Faculty of Dentistry, while the rest work at Diyarbakır Oral and Dental Health Center. The study was planned in accordance with the World Medical Association Declaration of Helsinki and consent was obtained from all participants prior to the study.

An online questionnaire including socio-demographic data and Beck Depression Inventory was applied to the physicians participating in the study, and the data obtained were analyzed with IBM SPSS 21 (SPSS statistics standard pack v.21) software. The Shapiro Wilk's test was used by considering the unit numbers while examining the normal distribution of the variables. A significance level of 0.05 was used in the evaluation of the results. In the case of $P<0.05$, it was concluded that the variables did not come from the normal distribution, and in the case of $P>0.05$, the variables came from the normal distribution.

Mann Whitney U and Kruskal Wallis-H Tests were used when examining the differences between groups if the variables did not come from a normal distribution. In case of significant differences in the Kruskal Wallis-H Test, the groups with differences were determined with the Post-Hoc Multiple Comparison Test.

This article was written out of the thesis of specialty in dentistry titled "The Impact of The COVID-19 Pandemic on the Dentists Working in Diyarbakir Public Hospitals" which was written under the supervision of Asst.Prof.Dr.Şeyhmus Bakır.

The questionnaire form used in the study is presented in Table 1:

Table 1. Questionnaire form example

THE IMPACT OF THE COVID-19 PANDEMIC ON THE DENTISTS WORKING IN DIYARBAKIR PUBLIC HOSPITALS

Dear health professional, this questionnaire has been prepared to measure the level of impact of the COVID-19 pandemic on your mental health (level of anxiety and depression). Your answers will be used for research purposes only and will not be shared with others. Thank you very much for your participation and valuable contribution.

1. Age: ☐ 20 to 40. ☐ 40 and older
2. Gender: ☐ Female ☐ Male
3. Institution: ☐ University Hospital ☐ Oral and Dental Health Center
4. Marital Status : ☐ Single ☐ Married
5. Your Title: ☐ Dentist ☐ Specialist Dentist ☐ Research Fellow. ☐ Faculty Member
6. Did you take part in filiation activities? ☐ Yes ☐ No
7. Did you receive information training on COVID-19 pandemic? ☐ Yes ☐ No
8. Have you had COVID-19? ☐ Yes ☐ No
9. Did you need any psychological support or medication during this period? ☐ Yes ☐ No

BECK DEPPRESSION INVENTORY

INSTRUCTIONS: Dear participant, sentences in groups are given below. First of all, read the sentences in each group carefully and choose the sentence that best describes how you felt in the LAST WEEK, INCLUDING TODAY, **compared to before the pandemic**. Your sincere and honest answers to the questions are extremely essential in terms of the scientific quality of the research. Many thanks in advance for your contribution and help.

10.

0. I do not feel sad and distressed.
1. I feel sad and distressed.
2. I am always sad and distressed. I can't get rid of it.
3. I'm so sad and distressed that I can't stand it anymore.

11.

0. I am not hopeless and pessimistic about the future.
1. I am pessimistic about the future.
2. I have no expectations for the future.
3. I am hopeless about the future and feel like nothing is going to get better.

12.

0. I don't consider myself an unsuccessful person.
1. I feel like I'm more unsuccessful than others.
2. I feel my past is full of failures.
3. I consider myself a totally unsuccessful person.

13.

0. I enjoy many things as much as I used to.
1. I can't enjoy many things the way I used to.
2. Nothing gives me full pleasure anymore.
3. I'm bored of everything.

14.

0. I don't feel guilty in any way.

1. I feel guilty at times.
2. I often feel guilty.
3. I always feel guilty.

15.

0. I don't think I've done things that deserve punishment.

1. I feel like I can be punished for what I've done.

2. I expect to be punished.
3. It feels like I got the punishment I deserve.

16.

0. I am pleased with myself.
1. I am not very pleased with myself.

2. I am angry at myself.
3. I hate myself.

17.

0. I don't think I'm worse than anyone else.
1. I criticize myself for my weaknesses or mistakes.

2. I always blame myself for my mistakes.

3. I blame myself for every mishap.

18.

0. I have no thoughts of killing myself.
1. Sometimes I think about killing myself, but I don't act.

2. I would like to kill myself.
3. I would kill myself if I had the chance.

19.

0. I don't feel like crying more than usual.

1. Sometimes I feel like crying.
2. I cry often.

3. I used to be able to cry, now I can't cry even if I wanted to.

20.

0. I'm no angrier now than I always have been.
1. I get angry or nervous more easily than before.
2. I'm always angry these days.
3. Things that once made me angry don't bother me anymore.

21.

0. I have not lost my desire to meet and talk with others.
1. I want to talk and meet with others less than before.

2. I have lost my desire to meet and talk with others.
3. I don't want to talk or see anyone.

22.

0. I can make decisions as easily as I used to.
1. I can't make decisions as easily as I used to.
2. I am having more difficulty making decisions than I used to.

3. I can't make any decisions anymore.

23.

0. I don't see any change when I look at myself in the mirror.
1. I feel like I'm older and uglier.
2. I feel that my appearance has changed a lot and I have become ugly.

3. I consider myself very ugly.

24.

0. I can work as well as I used to.
1. I have to make an effort to do something.
2. I have to push myself very hard to be able to do anything.

3. I cannot do anything.

25.

0. I can sleep well as usual.
1. I can't sleep as well as I used to.
2. I wake up 1-2 hours earlier than usual and I can't go back to sleep.

3. I wake up much earlier than usual and I can't go back to sleep.

26.

0. I don't feel more tired than usual.
1. I get tired earlier than before.
2. Everything I do makes me tired.
3. I feel so tired that I can't do anything.

27.

0. My appetite is as usual.
1. My appetite is not as good as usual.

2. I have lost my appetite a lot.
3. I no longer have an appetite.

28.

0. I haven't lost weight lately.
1. I lost at least 2 kg even though I didn't try to lose weight.
2. I lost at least 4 kg even though I didn't try to lose weight.
3. I lost at least 6 kg even though I didn't try to lose weight.

29.

0. I don’t worry about my health.
1. I have complaints such as aches, stomach cramps, and constipation and these worry me.
2. I worry a lot about my health deteriorating and have a hard time focusing on other things.
3. I'm so worried about my health that I can't think of anything else.

30.

0. My interest in sexual matters remains unchanged.

1. I am less interested in sexual matters than I used to be.
2. I am much less interested in sexual matters now.
3. I have completely lost interest in sexual matters.

RESULTS

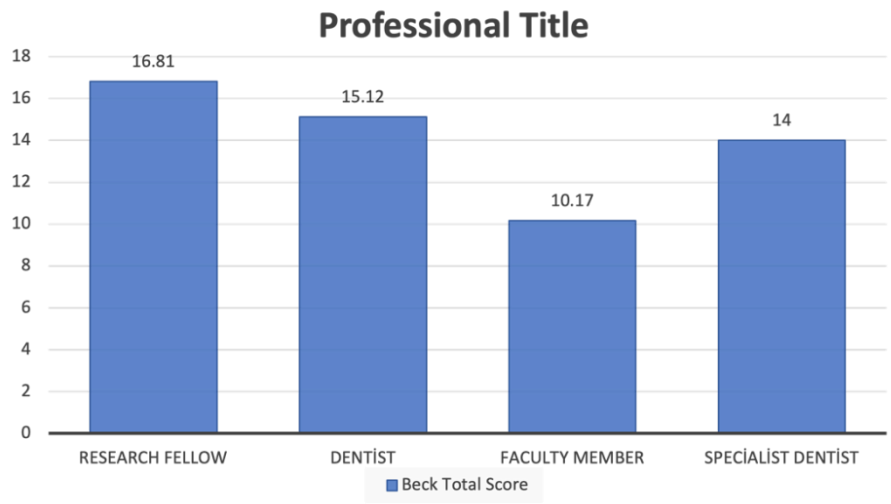
Table 2. Frequency distribution table

DEMOGRAPHIC FEATURES		n	%
Age	20 to 40	150	75
	40 and older	50	25
	Total	200	100
Gender	Male	110	55
	Female	90	45
	Total	200	100
Institution	Oral and Dental Health Center	110	55
	University Hospital	90	45
	Total	200	100
Marital Status	Single	80	40
	Married	120	60
	Total	200	100
Title	Research Fellow	64	32
	Dentist	105	52.5
	Faculty Member	24	12
	Specialist Dentist	7	3.5
	Total	200	100
Did you take part in filiation activities?	Yes	99	49.5
	No	101	50.5
	Total	200	100
Did you receive information training on COVID-19 pandemic?	Yes	113	56.5
	No	87	43.5
	Total	200	100
Have you had COVID-19?	Yes	58	29
	No	142	71
	Total	200	100
Did you need any psychological support or medication during this period?	Yes	65	32.5
	No	135	67.5
	Total	200	100

The Beck score of those older than 40 years is significantly lower than those aged 20 to 40 ($p<0.05$).

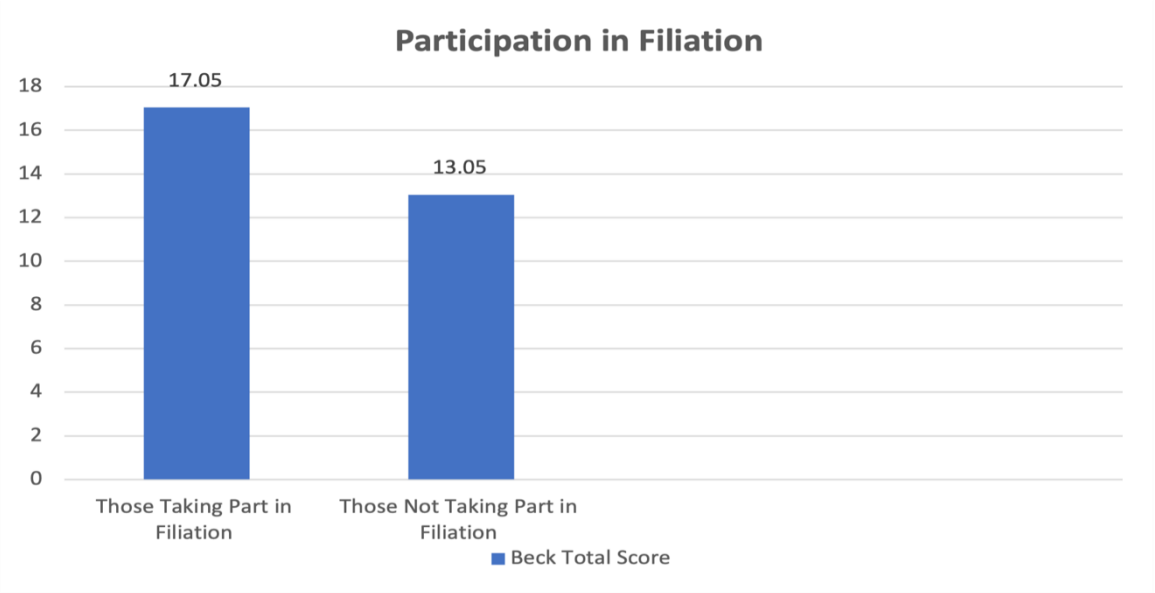
There is a statistically significant difference between professional titles ($p<0.05$). Beck scores of faculty members are significantly lower than those of research fellows.

Graphic 1. Difference between professional titles in terms of Beck score



In terms of Beck score, there was a statistically significant difference between taking part in the filiation ($p<0.05$). Beck scores of those who are not involved in the filiation activities are significantly lower than those who took part in the filiation.

Graphic 2. Difference between taking part in filiation in terms of Beck score



In terms of Beck score, there is a statistically significant difference between feeling the need for psychological support or taking medication in this period ($p<0.05$). Beck scores of those who do not feel the need for psychological support or medication during this period are significantly lower than those who feel the need. The average Beck score of the participants in the study was determined as 15.03.

Table 3. Beck depression test in-group statistics

Group Statistics						
			Beck total score			
Questions	BECK		Number of the physicians	%	Average	Standard Deviation
Question 10	Sadness	Normal (Beck 0 to 9)	74	37	8.3	7.46
		Mild depression (10-16)	88	44	15.01	5.98
		Moderate depression (17-29)	27	13.5	24.11	7.92
		Severe Depression (30-63)	11	5.5	38.18	12.13
Question 11	Pessimism	Normal (Beck 0 to 9)	51	25.5	5.84	4.63
		Mild depression (10-16)	84	42	14.45	8.19
		Moderate depression (17-29)	16	8	21.25	7.96
		Severe Depression (30-63)	49	24.5	23.55	10.85
Question 12	Feeling of Failure	Normal (Beck 0 to 9)	159	79.5	12.47	8.45
		Mild depression (10-16)	32	16	22.28	9.89
		Moderate depression (17-29)	8	4	31.75	10.7
		Severe Depression (30-63)	1	0.5	56	-
Question 13	Dissatisfaction	Normal (Beck 0 to 9)	41	20.5	6.46	6.03
		Mild depression (10-16)	118	59	13.56	6.66
		Moderate depression (17-29)	24	12	24.38	8.88
		Severe Depression (30-63)	17	8.5	32.71	12.81
Question 14	Guilt Feelings	Normal (Beck 0 to 9)	105	52.5	9.42	6.59
		Mild depression (10-16)	72	36	17.82	7.98
		Moderate depression (17-29)	18	9	30.33	8.97
		Severe Depression (30-63)	5	2.5	37.6	13.37
Question 15	Expectation of Punishment	Normal (Beck 0 to 9)	158	79	12.25	8.25
		Mild depression (10-16)	22	11	20.32	9.87
		Moderate depression (17-29)	7	3.5	29.71	3.77
		Severe Depression (30-63)	13	6.5	31.92	12.51
Question 16	Self Dislike	Normal (Beck 0 to 9)	118	59	9.71	6.15
		Mild depression (10-16)	58	29	19.72	8.74
		Moderate depression (17-29)	22	11	28.77	10.9
		Severe Depression (30-63)	2	1	41.5	17.68
Question 17	Self-Criticalness	Normal (Beck 0 to 9)	85	42.5	9.25	8.03
		Mild depression (10-16)	98	49	17.38	8.1

		Moderate depression (17-29)	9	4.5	28.56	11.17
		Severe Depression (30-63)	8	4	32.5	14.68
Question 18	Suicidal Ideas	Normal (Beck 0 to 9)	175	87.5	12.54	7.88
		Mild depression (10-16)	23	11.5	30.52	7.25
		Moderate depression (17-29)	0	0	-	-
		Severe Depression (30-63)	2	1	55	1.41
Question 19	Crying Spells	Normal (Beck 0 to 9)	89	44.5	9.07	7.44
		Mild depression (10-16)	81	40.5	16.05	6.64
		Moderate depression (17-29)	8	4	32.25	9.54
		Severe Depression (30-63)	22	11	29.14	11.38
Question 20	Nervousness	Normal (Beck 0 to 9)	59	29.5	7.41	7.15
		Mild depression (10-16)	109	54.5	15.98	7.55
		Moderate depression (17-29)	18	9	29.61	12.7
		Severe Depression (30-63)	14	7	21	12.51
Question 21	Desocialization	Normal (Beck 0 to 9)	83	41.5	7.75	5.58
		Mild depression (10-16)	80	40	16.03	6.65
		Moderate depression (17-29)	28	14	26.18	7.42
		Severe Depression (30-63)	9	4.5	38.67	12.4
Question 22	Indecision	Normal (Beck 0 to 9)	77	38.5	7.94	6.19
		Mild depression (10-16)	91	45.5	16.9	7.55
		Moderate depression (17-29)	23	11.5	22.22	9.15
		Severe Depression (30-63)	9	4.5	38.44	13.92
Question 23	Body Image Distor-tion	Normal (Beck 0 to 9)	111	55.5	10.26	7.69
		Mild depression (10-16)	72	36	18.79	7.83
		Moderate depression (17-29)	11	5.5	25.91	13.74
		Severe Depression (30-63)	6	3	38.17	13.82
Question 24	Inhibition of Work/Loss of Energy	Normal (Beck 0 to 9)	59	29.5	7.07	6.35
		Mild depression (10-16)	105	52.5	14.76	6.96
		Moderate depression (17-29)	26	13	25	7.03
		Severe Depression (30-63)	10	5	38.9	11.1
Question 25	Disturbed Sleep	Normal (Beck 0 to 9)	81	40.5	9.05	7.65
		Mild depression (10-16)	88	44	17.32	9.3
		Moderate depression (17-29)	22	11	20	7.73
		Severe Depression (30-63)	9	4.5	34.33	11.38
Question 26	Fatigue	Normal (Beck 0 to 9)	42	21	5.48	6.55

		Mild depression (10-16)	114	57	14.49	6.95
		Moderate depression (17-29)	26	13	21.19	7.67
		Severe Depression (30-63)	18	9	31.83	13.55
Question 27	Loss of Appetite	Normal (Beck 0 to 9)	128	64	11.41	8.06
		Mild depression (10-16)	53	26.5	17.51	7.59
		Moderate depression (17-29)	16	8	28.81	9.12
		Severe Depression (30-63)	3	1.5	52.33	4.73
Question 28	Weight Loss	Normal (Beck 0 to 9)	152	76	12.77	8.85
		Mild depression (10-16)	34	17	17.88	8.47
		Moderate depression (17-29)	9	4.5	28.56	8.23
		Şiddetli depresif (30-63)	5	2.5	40	17.39
Question 29	Physical Anxieties	Normal (Beck 0 to 9)	84	42	8.45	6.9
		Mild depression (10-16)	56	28	16.12	6.53
		Moderate depression (17-29)	52	26	21.71	9.86
		Severe Depression (30-63)	8	4	33	16.47
Question 30	Loss of Libido	Normal (Beck 0 to 9)	108	54	10.16	7.45
		Mild depression (10-16)	66	33	18.08	8.32
		Moderate depression (17-29)	19	9.5	24	11.07
		Severe Depression (30-63)	7	3.5	37.14	12.79

DISCUSSION

The Beck Depression Inventory, which was developed to monitor behavioral symptoms and the changes achieved with treatment in depression, is an experimentally validated method that is widely used in detecting possible signs of depression in the normal population (11-13). In this study, it was deemed appropriate to use the Beck Depression Inventory, which includes various socio-demographic subgroups. We aimed to see how this situation would reflect on physician behaviors in our study, which we planned to measure the change in mood of dentists working in public hospitals in Diyarbakır city due to the COVID-19 pandemic.

For example, in a study conducted with 37 healthcare professionals, 18.9% of the participants showed signs of high-level stress. In addition, participants who showed signs of moderate or major depression were also found (16). In a similar study, major depression symptoms were observed in 14.5% of 64 healthcare workers (17).

In another study examining the work stress of 180 Chinese clinical nurses involved in the fight against COVID-19 infection, the most common finding related to the high stress level of the participants was anxiety and worry (16).

It was concluded that one-third of the participants showed signs of mental depression in one of the preliminary studies on the mental health of 994 medical and nursing personnel working in the Wuhan region of China (17). In another study conducted on 230 physicians and nurses working on the front lines of the pandemic, symptoms of anxiety were found in 23% of the employees and symptoms of post-traumatic stress disorder in 27.4% (18).

Hawryluck et al. reported that lockdowns exceeding 10 days cause a serious increase in the symptoms of post-traumatic stress disorder (19). The loss of daily routines and the restriction of both social and

physical contacts increase psychological problems. Although the social distance rule is one of the most effective methods to protect from the pandemic, it can also cause some negative consequences (20). For all these reasons, depression, anxiety, stress disorder and burnout symptoms are quite common among healthcare professionals working in COVID-19 treatment services (21,22).

The level of symptoms such as depression, anxiety and stress disorder in administrative staff was significantly higher than that detected in medical staff in a study conducted with 470 healthcare professionals (63% in medical services, 37% in administrative services) working in a COVID19 hospital in Singapore. It has been concluded that the anxiety levels of administrative service workers who do not take an active role in the treatment process increase due to the fact that they do not use personal protective equipment, have close contact with many people, and consider every healthcare worker they come into contact with as a carrier of infection (23).

There is a need for appropriate working conditions and adequate rest opportunities, adequate supply of medical protective equipment, as well as rehabilitation programs aimed at strengthening their psychological well-being/resilience for health professionals who experience the most psychological symptoms related to COVID-19 (24- 26).

For healthcare professionals, the fear of being infected is higher than the fear in society at large. One of the most important reasons for this fear is the possibility of transmitting the infection to their families and close contacts (27,28). Health professionals cannot have physical contact with their spouses and children and continue to communicate with them by telephone. This leads to a significant decrease in emotional and social support from family and relatives (20).

Some studies show that health professionals and their families are stigmatized as potential virus carriers by the society. Therefore, it has been observed that the pressure they are exposed to is higher than that of the general population. This situation has the potential to harm the person at least as much as depression and other mental symptoms (29). People working in the health sector have different responsibilities in business life as well as their responsibilities as parents and spouses. Under this pressure, chronic stress turns into burnout syndrome (30).

Acting as a savior during a deadly pandemic is a motivational factor for healthcare professionals to deal with the emotional burden of the epidemic. Indeed, in a study conducted in the Chinese province of Wuhan (2020), burnout symptoms were observed in 13% of frontline workers among 190 participants, while these symptoms were observed in 39% of those working in non-COVID-19 services (31).

In addition to being infected with COVID-19, healthcare professionals are concerned about transmitting the infection to their family or relatives. Two separate studies by Schwartz et al. in 2019 and 2020 emphasized that heavy workload, emotional stress due to being away from their families and dealing with severe cases can cause mental health problems such as fear, anxiety, and depression due to the high risk of infection. Studies have indicated that the anxiety and depression levels of female physicians are significantly higher than their male colleagues (32).

A meta-analysis study that included 21 studies measuring the prevalence of anxiety disorder in China reported that the level of anxiety in women was higher than in men (33). Similarly, Chuin and Choo (2009) stated that death anxiety in men is lower than that in women (34).

Bakioğlu et al. (2020) found that women's level of fear of COVID-19 infection was higher than men (35). Another study conducted with medical residents stated that the level of depression in women was significantly higher than in men (36). All these findings show that women's anxiety and risk perception levels are higher than men's.

A study by Ekşi et al. (2019) found that married people have lower death anxiety than singles. (37). This result can be explained by the fact that single people experience more loneliness than married people (38). A similar study by Erdoğdu et al. (2007) concluded that the level of death anxiety is higher in married people (39).

No significant relationship was found between the anxiety and depression levels of the participants and their gender and marital status in another study by Kong et al. (2020) on 144 hospitalized patients with the diagnosis of COVID-19 in Wuhan, China (40).

Although the study by Özdin et al. in 2020 found that women's anxiety and depression scores were higher than men's, they could not detect any relationship between marital status and anxiety and depression (41).

A similar study (2020) conducted by Gencer et al. on 568 people living in the province of Çorum evaluated the fear levels of people due to the coronavirus pandemic and found the fear level of women to be higher than men. It also showed that those who were married or widowed had lower levels of fear of the coronavirus than the participants (42).

Although the level of depression is higher in males and singles, it was observed in our study that gender and marital status did not make a statistically significant difference on the level of depression due to COVID-19.

It is an expected situation that there is a directly proportional relationship between age and the level of fear because the probability of being exposed to diseases increases in advanced ages and those over 65 are most affected by the pandemic. However, death anxiety decreases with increasing age. A study by Gencer et al. on 568 volunteers living in Çorum (2020) concluded that those who experience the most fear of coronavirus are young people (15-20 years old) and anxiety decreases as age increases (42).

Karaman and Yastıbaş (2021), in a study in which they evaluated the symptoms of depression, anxiety and stress in health professionals struggling with the COVID-19 epidemic, stated that the psychological burden of the pandemic would be higher in young people (38).

A study by Huang and Zhao (2020) found that younger people had higher levels of depression and anxiety. This has been associated with young people spending more time thinking and researching about the pandemic (43). On the other hand, Kong et al. (2020) reported that the anxiety and depression levels of the older age group were significantly higher than the younger ones (40).

In accordance with the general view, our study concluded that participants in the lower age group were more affected by COVID-19 related problems. It was observed that participants in the 20-40 age group showed more depression symptoms compared to those over 40 years old. Because young physicians undertake more workload or are assigned more in filiation activities.

Dentists may be needed within the scope of combating global pandemics. The inclusion of dentists and people from other professions in the filiation teams in our country is a good example of this. In a study by Ataç et al. (2020) in which they measured the degree of anxiety and insomnia in healthcare professionals who took part in the COVID-19 pandemic, it was determined that 24.6% of healthcare professionals were involved in filiation. Anxiety symptoms were detected in 22.7% of the health professionals who participated in the study (44).

Almost half (49.5%) of the physicians participating in our study took part in filiation activities during the COVID-19 pandemic. The Beck score of those who took part in filiation was higher than those who did not. We believe that this is due to the difficulty of working conditions, fatigue, and fear of infection.

Of the physicians who participated in our study, 63% had sadness, 74.5% pessimism, 79.5% dissatisfaction, and 12.5% suicidal tendencies. This situation manifested itself as crying spells in 55.5% of the participants, nervousness in 70.5%, desocialization and a desire not to talk to anyone in 58.5%. Besides, 70% of the participants had a loss of energy and a desire not to work, 60% of them had a sleep disorder, and 79% of them felt tired and exhausted. Also, it was revealed that 58% of the participants experienced physical anxiety, 24% lost weight, and 46% lost libido during the pandemic period.

Consistent with this information, the highest Beck score values were found in the research fellows working in the university hospital in our study. This may be due to the fact that the workload in university hospitals is more concentrated on research fellows.

Another remarkable result of our study is that there is no statistically significant difference between the depression levels of the participants who have been infected with the COVID-19 virus before and those who are not yet infected. Because the disease is mostly mild with drug support. In addition, a statistically significant difference was found in our study between the rates of needing or not needing for psychological support/medication during the pandemic period. Those who needed psychological

support or medication had a significantly higher Beck score.

We found that the majority of dentists participating in the study had mild depression (Beck Average Score 15.03) in our study, which was based on the scoring method used in the Beck Depression Inventory (0-9 points no depression/normal, 10-16 points mild depression, 17-29 moderate depression, 30-63 severe depression).

Among the mood states showing mild depression symptoms, dissatisfaction (59%), fatigue (57%), nervousness (54.5%), inhibition of work-energy loss-procrastination (52.5%) stand out with high rates. Among the emotional states showing severe depression symptoms, pessimism (24.5%) is followed by crying spells (11%), fatigue (9%), and dissatisfaction (8.5%).

In cases where no signs of depression are found, suicidal ideas take the first place with 87.5%. However, the fact that 12.5% actually thought about it is a finding that should be taken seriously. Feelings of failure (79.5%), weight loss (76%) and loss of appetite (64%) are the emotions least triggered by COVID-19.

Considering the mode of transmission of the pathogen, it is thought that dentists are at least as likely to be infected as healthcare professionals working in clinics where COVID-19 patients are treated. Because dental treatment procedures require the use of sharp and high-speed rotating instruments contaminated with saliva, blood and other body fluids, and close physical contact of physicians/assistant personnel with patients (45). COVID-19 infection can also be transmitted by breathing in airborne viruses. The fact that no solution has yet been found to prevent the aerosol effect raises concerns about the transmission of COVID-19 (45).

The possibility of exposure of dentists to viral pathogens that can be transmitted through the oral cavity and respiratory tract during interventional procedures should be considered, and accordingly all patients should be considered as high-risk patients. Therefore, personal protective equipment such as gloves, overalls and goggles/face protectors that can prevent droplets from coming into contact with the eye mucosa, as well as N95/FFP2 face masks, must be used during procedures that create aerosol effects (46,47).

CONCLUSION

The COVID-19 pandemic has revealed the necessity of optimizing emergency action plans and cross-infection control protocols, which include the precautions to be taken within the scope of dental education and clinical services in the event of a pandemic. Depending on the working hours and conditions, health professionals may show typical mental symptoms such as depression, anxiety, post-traumatic stress disorder and burnout. There is a need for an effective pandemic management that includes the protection of mental health of health professionals and the development of strategies to cope with pandemic-like traumas.

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