

Küresel Bir Olayın (COVID-19) Diş Hekimlerinin Algıladığı Tehdit ve Sosyal Destek Üzerindeki Etkisi

The Impact of Global Issue (COVID-19) on Dentists' Perceived Threat and Social Support

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ÖZ

Amaç: COVID-19 küresel olayı insan kaynaklarını psikolojik, davranışsal ve ekonomik olarak etkilemiştir. Bu çalışmada, diş hekimlerinin algılarına dayalı olarak COVID-19 olayının etkileri ile algılanan tehdit ve sosyal destek arasındaki ilişki araştırılmıştır.

Materyal ve Metot: Veriler, 1 Aralık 2020 ile 20 Ocak 2021 tarihleri arasında çevrimiçi bir anket (n= 422) kullanılarak toplanmıştır. Diş hekimlerine COVID-19 ile ilgili olarak algılanan tehdit ve algılanan sosyal destek hakkında sorular sorulmuştur.

Bulgular: COVID-19 olayı ile enfeksiyon korkusu, yüksek riskli işler, damgalanma ve uzaklaşma gibi algılanan tehditler arasında anlamlı bir ilişki bulunmuştur. COVID-19 olayı ile algılanan sosyal destek arasında da anlamlı bir ilişki bulunmuştur.

Sonuç: Çalışma koşullarının COVID-19'a karşı daha koruyucu olmasını sağlamak, diş hekimlerinin enfeksiyon korkusunu ve yüksek iş riski algısının yanı sıra damgalanma ve mesafe koyma algılarını azaltabilmektedir. Ayrıca, pandemi sürecinde diş hekimlerinin daha motive olmalarına ve daha iyi hizmet vermelerine yardımcı olmak için sosyal destek uygulamaları hayata geçirilebilir.

Anahtar Kelimeler: Algılanan sosyal destek, algılanan tehdit, COVID-19, diş hekimliği

ABSTRACT

Objective: The COVID-19 global event has affected human resources psychologically, behaviorally, and economically. In this study, the relationship between the effects of the COVID-19 event and perceived threat and social support was investigated based on the perceptions of dentists.

Materials and Methods: The data were collected between December 1, 2020 and January 20, 2021 using an online questionnaire (n= 422). The dentists were queried about perceived threat and perceived social support in relation to COVID-19.

Results: A significant relationship was found between the COVID-19 event and perceived threats such as the fear of infection, high-risk jobs, stigmatization, and distancing. A significant relationship was also found between the COVID-19 event and perceived social support.

Conclusion: Ensuring their working conditions are more protective against COVID-19 can reduce dentists' fear of infection and perception of high job risk as well as perceptions of stigmatization and distancing. In addition, social support practices can be implemented during the pandemic to help dentists to be more motivated and provide better service.

Keywords: COVID-19, dentistry, perceived social support, perceived threat

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INTRODUCTION

The health sector is a business environment where there is a powerful interaction between healthcare providers and service users. It can be surmised that before the COVID-19 global event, healthcare personnel experienced higher levels of positive emotions such as happiness, trust, appreciation, and pride than negative emotions such as stress, anxiety, and depression. However, since the inception of the COVID-19 pandemic, negative emotions have arisen related to high job risk, fear of infection, changing jobs, and being distant from the workplace.

The concept of perceived threat represents dentists' perception of COVID-19 as related to the fear of infection, high-risk jobs, and stigmatization/distancing. Si et al.¹ found a significant relationship between the COVID-19 event and perceived threat and its dimensions (fear of infection, high-risk jobs, stigmatization/distancing). Healthcare workers are negatively affected when they experience job-related stress, anxiety, and depression. These effects in turn negatively impact the quality of service healthcare professionals provide to their patients, their examination and treatment of patients.² Successful risk management of COVID-19 can reduce negative emotions experienced by healthcare professionals.³ Stigma discrimination and stigma fear are determinants of health care workers' attitudes towards their jobs and of job satisfaction.⁴ Italian dentists have been heavily affected by the COVID-19 outbreak, related both to fear of infection and to financial losses.⁵ Lai et al.⁶ conducted a study of healthcare professionals who diagnose, treat, and care for COVID-19 patients. The study found a relationship between the COVID-19 event and high levels of depression, anxiety, insomnia, and distress. According to Cawcutt et al.,⁷ effective infection prevention practices are needed during the COVID-19 pandemic to reduce the risks associated with healthcare workers' jobs and to alleviate their fear of infection.

As the perception of social support increases during the COVID-19 event, depression symptoms decrease, and the quality of sleep improves. This demonstrates that social support is significantly associated with the risk of depression and sleep quality.⁸ Moreover, perceived social support has remained stable despite the decline in COVID-19 rates.⁹

A survey related to COVID-19 conducted in Turkey found high levels of perceived social support and further found that family and friendship support is perceived at a higher level than other social supports.¹⁰

The aim of this study was to investigate the relationship between the effects of the COVID-19 and perceived threat and social support based on the perceptions of dentists.

MATERIALS AND METHODS

This study was approved by the Social and Human Sciences Research Ethics Committee at the Ordu University, Turkey (Date: 25/11/2020, decision no: 2020/95). This study was conducted in accordance with the Helsinki declaration.

Study Design: In this study, the relationship between the impact of the COVID-19 event and perceived social support and threat variables on dentists was examined. The data were collected by sending an online questionnaire link to dentists' personal and institutional email addresses. Data collection was carried out between December 1, 2020 and January 20, 2021. This research uses a cross-sectional study and quantitative research design. **Perceived Threat Scale:** In this study, a three-dimensional (fear of infection, high-risk job, stigmatization/distancing) and eight-item scale developed by Si et al.¹ was used to measure the threat perceived by dentists during the global pandemic. The Cronbach's alpha coefficient of the perceived threat scale in the study of Si et al.¹ is $\alpha = 0.81$. In this study, the Cronbach's alpha coefficient calculated for the perceived threat scale is $\alpha = 0.74$.

Perceived Social Support Scale: A two-dimensional 12-item scale was used to measure social support as perceived by dentists during the COVID-19 event.¹¹ The internal consistency coefficient (Cronbach's alpha) of the perceived social support scale consisting of the family and friends' factor is 0.89 in Chou's¹¹ study. The perceived social support scale in this study is $\alpha = 0.888$.

Impact of Event (Covid-19) Scale: In this study, an event effect scale consisting of six expressions calculated as Cronbach's alpha ($\alpha=0.80$) whose reliability was proved by Thoresen et al.¹² was used. Si et al.¹ used this incident impact scale in their research relating to the COVID-19 global event and stated that this scale is reliable ($\alpha=0.81$). In this study, the Cronbach alpha value calculated for the event impact scale is 0.90. Items in the Impact of Event (COVID-19) Scale were evaluated as 5=strongly agree to 1=strongly disagree using a 5-point Likert scale.

Sampling and Participants: In this study, the online survey of dentists in Turkey was used to evaluate the relationship between perceived social support and global events and threats. The questionnaire was shared via email. Participants were first contacted through the shared survey link. The sample of the study was determined using a simple random sampling technique and consists of 422 Turkish dentists. Dentists who voluntarily agreed to participate in the study were able to answer the questionnaire. According to data from the Turkish Dental Association has been working as a dentist 34100 active in Tur-

key. In this study, four socio-demographic variables were used: gender, workplace, specialty, and years of experience in dentistry. The demographic characteristics of the participants are shown in Table 1.

Statistical Analysis: The IBM SPSS 25.0 package program was used to analyze the data. Demographic characteristics of the participants were determined using descriptive statistics such as percentage and frequency. Whether the variables show normal distribution or not was determined according to Tabachnick and Fidell's criteria.¹³ Skewness and Kurtosis values should be in the range of -1.5 to +1.5 to accept that the research data are normally distributed. The hypotheses were tested using parametric tests. The validity of the scales was demonstrated as a result of factor analysis with principal components and varimax rotation. The relationships between variables were determined according to the Pearson correlation coefficient. The impact of the incident (COVID-19) on perceived social support

and threat was tested by linear regression analysis. The level of statistical significance was set at $p < 0.05$.

RESULTS

Sample Characteristics: Of the 422 participants, 221 (52.4%) are female and 201 (47.6%) are male. While 353 (83.6%) of the participants are specialist dentists, 69 (16.4%) are general dentists. The majority (75.1%) of the dentists who participated in the study were working at universities. As for the time working in their profession, 148 of the participants (35.1%) had two to five years of seniority and 146 (34.6%) had a seniority of six to ten years (Table 1).

Factor Analysis: The validity of the scales was determined by the explanatory factor analysis method. Factor load 0.50 criterion was applied during factor analysis. Factor analysis results are shown in Table 2.

Correlation Analysis: The bivariate relationships

Table 1. Socio-demographic characteristics of participants.

Gender	f	%	Specialty	f	%
Female	221	52.4	Specialist	353	83.6
Male	201	47.6	General Practitioner	69	16.4
Profession	f	%	Workplace	f	%
Oral and Maxillofacial Surgery	44	10.4	University	317	75.1
Oral and Maxillofacial Radiology	26	6.2	Public Hospital	52	12.3
Pediatric Dentistry	40	9.5	Private Practice	53	12.6
Orthodontics	76	18	Professional Experience	f	%
Endodontics	40	9.5	0-1 years	17	4
Prosthetic Dentistry	45	10.7	2-5 years	148	35.1
Periodontology	50	11.8	6-10 years	146	34.6
Restorative Dentistry	32	7.6	11-15 years	64	15.2
General Practitioner	69	16.4	More than 16 years	47	11.1

f: frequency; %: Percent; Sample (N)= 422.

Table 2. Factor analysis.

	Mean	SD	1	2	3	4	5	6	7	8
1. IE	2.85	0.970	(0.90)							
2. PT	3.55	0.688	0.667**	(0.74)						
3. Fi	3.41	0.966	0.575**	0.819**	(0.69)					
4. H _{rj}	3.99	0.862	0.515**	0.591**	0.302**	(0.63)				
5. S/d	3.40	0.903	0.413**	0.780**	0.403**	0.241**	(0.65)			
6. PSS	3.84	0.747	0.480**	0.340**	0.298**	0.372**	0.134**	(0.88)		
7. Fa	3.31	1.020	0.841**	0.628*	0.516**	0.611**	0.334**	0.603**	(0.92)	
8. Fr	4.10	0.909	0.116*	0.064	0.076	0.114*	-0.024	0.892**	0.178**	(0.94)

N= 422; Significant at ** $p < 0.01$. * $p < 0.05$ (two-tailed); IE: Impact of Event (COVID-19); PT: Perceived Threat; Fi: Fears of Infection; H_{rj}: High-Risk Job; S/d: Stigmatization/distancing; PSS: Perceived Social Support; Fa: Family; Fr: Friend; Cronbach's alpha coefficients are reported in parentheses on the diagonal; SD = Standard Deviation.

between the COVID-19 event, perceived threat and perceived social support, averages, and standard deviations are given in Table 3. The results show that there is a significant and positive relationship between the COVID-19 event and perceived social support and threat.

This research demonstrates the impact of COVID-19 on perceived threat ($r=0.667$, $p < 0.01$) and its dimensions: fear of infection ($r=0.557$, $p < 0.01$), high-risk job ($r=0.515$, $p < 0.01$), and stigmatization/distancing ($r=0.413$, $p < 0.01$) (Table 3). The perceived threat dimension with the strongest relation

with the COVID-19 event is fear of infection. This study also found a relationship between perceived social support ($r=0.480$, $p < 0.01$) and the COVID-19 event. A significant and positive relationship was also found between perceived family ($r=0.841$, $p < 0.01$) and friend ($r=0.116$, $p < 0.05$) support. While there is a strong relationship between the COVID-19 event and family size, there is a weak relationship between the friend dimension and COVID-19.

Table 4 shows the results of simple linear regression analysis. According to the analysis result, the

Table 3. Relationships between Impact of Event (COVID-19). Perceived Threat and Perceived Social Support.

Perceived Threat Scale	Factor Load	Eigen values	% of Variance	α
Fears of Infection				
Item2	0.811	2.836	23.239	0.74
Item3	0.802			
Item1	0.648			
Stigmatization/Distancing				
Item6	0.841	1.251	22.064	
Item8	0.796			
Item7	0.561			
High-Risk Job				
Item5	0.881	1.062	19.051	
Item4	0.780			
Total Variance (%): 64.354				
Kaiser-Meyer-Olkin Value= 0.718; Bartlett's Test of Sphericity: [$\chi^2(28) = 690.459$; $p < 0.001$]				
Perceived Social Support Scale	Factor Load	Eigenvalues	% of Variance	α
Friend				
Item11	0.870	5.701	47.511	0.88
Item14	0.834			
Item9	0.829			
Item12	0.824			
Item10	0.806			
Item16	0.781			
Item15	0.762			
Item13	0.747			
Family				
Item18	0.852	3.067	25.561	
Item19	0.824			
Item17	0.821			
Item20	0.816			
Total Variance (%): 73.072				
Kaiser-Meyer-Olkin Value= 0.858; Bartlett's Test of Sphericity: [$\chi^2(66) = 4900.911$; $p < 0.001$]				
Impact of Event (COVID-19) Scale	Factor Load	Eigenvalue	% of Variance	α
Item21	0.855	4.005	66.756	0.90
Item23	0.851			
Item26	0.847			
Item24	0.845			
Item22	0.761			
Item25	0.737			
Kaiser-Meyer-Olkin Value= 0.860; Bartlett's Test of Sphericity: [$\chi^2(15) = 1533.195$; $p < 0.001$]				

COVID-19 event has a significant effect on the level of perceived threat [F(1.42)=336.557; R2=0.445; =0.667; p=0.000 <0.001]. Indeed, 44% of the variance in the impact of the COVID-19 event is explained by the perceived threat level. It was found that the incident effect also had a significant effect on perceived threat dimensions: fear of infection [F(1.42)=206.980; R2=0.330; =0.557; p=0.000 <0.001], high-risk job [F(1.42)=151.807; R2=0.265; =0.515; p=0.000 <0.001] and stigmatization / distancing [F(1.42)=86.250; R2=0.170; =0.413; p=0.000 <0.001]. Of the perceived threat dimensions, the COVID-19 global event has the greatest

impact on the fear of infection and the least effect on the distance dimension. Of the variance in the COVID-19 event impact, 23% is explained by perceived social support. The event effect has a significant relationship with perceived social support [F(1.42) =125.597; R2=0.230; =0.480; p=0.000 <0.001]. The event effect differed as related to perceived social support dimensions. The effect of the COVID-19 event on perceptions of support from families is highly significant [F(1.42) =1014.186; R2=0.707; =0.841; While p=0.000 <0.001], while its effect on the friend dimension is quite low [F(1.42)=5.227; R2 = 0.013; =0.116; p=.017 <0.05].

Table 4. Simple linear regression analysis.

Perceived Threat Dimensions								
Impact of Event (COVID-19)	Perceived Threat		Fears of Infection		High-Risk Job		Stigmatization/ distancing	
	B	t	β	t	β	t	β	t
	0.667**	18.346	0.575**	14.387	0.515**	12,321	0.413**	9.287
	F= 336.557	R ² = 0.445	F= 206.980	R ² = 0.330	F= 151,807	R ² = 0.265	F= 86.250	R ² = 0.170
**p<0.001								
Perceived Social Support Dimensions								
Impact of Event (COVID-19)	Perceived Social Support		Family		Friend			
	B	t	β	t	β	t		
	0.480**	11.207	0.841**	31.846	0.116*	2.393		
	F= 125.597	R ² =0.230	F= 1014.186	R ² = 0.707	F = 5.227	R ² = 0.013		
**p<0.001			*p<0.05					

DISCUSSION AND CONCLUSION

This study aimed to determine the impact of COVID-19 as an event effect on the level of threat and social support as perceived by dentists. The impact of the COVID-19 event on the perceived threat was discussed separately from the discussion of social support. Because the COVID-19 event is closely related to both global and local healthcare, this research predicted that the impact of the COVID-19 would have a significant impact on the threat perceived by dentists.

The present study found that the event effect has a significant (p < 0.01) and same direction relationship with all dependent variables and dimensions. As a result of the regression analysis, it was seen that the COVID-19 event has a significant (p < 0.01) effect on perceived threat and its dimensions (fear of infection, high-risk job, stigmatization/distancing). As the impact of COVID-19 increases, the level of threat perceived by dentists increases. It was concluded that among the perceived threat dimensions, the in-

dependent variable that had the greatest effect was the fear of infection. This was followed by the perceived threat dimensions of high-risk job and stigmatization/distancing, respectively. Similarly, some studies have suggested that individuals experience more anxiety during the pandemic.¹⁰

The perceived threat of COVID-19 has been harmful to mental health. The threat induced by COVID-19 positively impacts anxiety.¹⁴ During the pandemic period, there is an increase in the perceived stress level. Therefore, increasing the level of perceived stress increases the level of perceived threat. In the COVID-19 period, the stress level of individuals reached a higher level.¹⁵ COVID-19 causes of increased psychological anxiety of nurses. Also, this threat may affect nurses' intention to quit their jobs.¹⁶ The perceived threat associated with COVID-19 effects to increase in the death anxiety of individuals. This anxiety differs according to gender.¹⁷ The risk of COVID-19 has triggered emotions such as fear, anxiety, and anger in people. People's social

lives and close relationships were adversely affected.¹⁸ The risk of COVID-19 has caused people to stay away from each other. This epidemic caused fear of infection in working place. Frontline healthcare workers are at a higher risk of being infected. This situation causes fear of infection in healthcare workers.³

This study reveals the relationship between the COVID-19 pandemic and perceived social support and its dimensions (family and friends). As a result of the correlation analysis, a significant ($p < 0.01$) and positive relationship was found between the COVID-19 event and perceived social support. A significant and strong relationship ($r = 0.841$, $p < 0.01$) was found between the COVID-19 event and the family dimension of perceived social support (Table 3). A weaker relationship was found between the COVID-19 event and the friend dimension of perceived social support ($r = 0.116$, $p < 0.05$). The effect of the event impact of COVID-19 on perceived social support and its dimensions (family and friends) was examined with simple linear regression analysis. Other studies also emphasize the importance of social support during the pandemic period. COVID-19 affects the perceived threat level and the need to seek social support.¹⁹ Social support provided by family and friends is a social perception that positively affects relationships during the pandemic because family and friends are essential for social support. The COVID-19 outbreak positively affects individuals' perception of social support and family climate.²⁰ Perceived social support from family, friends, and other notable people is closely related to the level of resilience.²¹

It has been found that the COVID-19 event has a significant effect on perceived social support and its dimensions. As the impact of the COVID-19 event increases, the social support perceived by dentists increases. Moreover, the regression analysis in Table 4 shows that the COVID-19 event and social support perceived by dentists have a positive and strong effect on the family dimension. In contrast, there is a positive but weak relationship between the event effect and the friendship dimension of perceived support. Research showing that perceived social support is significantly associated with the COVID-19 incident supports the findings of this study.⁸⁻¹⁰ Ozmete and Pak¹⁰ concluded that perceived social support during the COVID-19 event is at a high level. Furthermore, perceived family and friendship support is perceived at a higher level than other social supports. According to Grey et al.,⁸ perceived social support during COVID-19 affects the risk of depression and sleep quality. Xu et al.⁹ highlight the relationship between perceived social support and COVID 19. The increase in the impact of COVID-19 has led to an increase in perceived support. As

the perceived support increases, anxiety caused by COVID-19 decreases.

This and other studies reveal that during the COVID-19 pandemic, fear of being infected, of being distant/stigmatized, and of having a high-risk job, along with perceptions of social support, have a significant impact on healthcare workers.

In conclusion, infection prevention practices are crucial to protect healthcare workers from COVID-19 infection and to allay their fear of infection. Together with other health care professionals, dentists feel the fear of COVID-19 at a high level. Providing social support to dentists, and ensuring that they perceive this support, can increase their motivation and help them to perform their duties more effectively.

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