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Original article

The Effect of Occupational Moral Injury on Career Abandonment Intention Among Physicians in the Context of the COVID-19 Pandemic

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ABSTRACT

Background: Since the advent of the COVID-19 pandemic, physicians have been the unsung heroes of the pandemic. However, many are about to give up the battlefield. This study investigated the effect of occupational moral injury on physicians' career abandonment intention, taking into account the possible mediating role of emotional exhaustion.
Methods: Cross-sectional data collected from 201 physicians were analyzed using the partial least squares structural equation modeling (PLS-SEM) with SmartPLS to determine the relationship among physicians' moral injuries, emotional exhaustion, and career abandonment intention.
Results: The results indicated that occupational moral injury was positively related to emotional exhaustion and career abandonment intention. In addition, emotional exhaustion was found to play a mediating role in the relationship.
Conclusion: To reduce physicians' intention to leave their career, physicians should be prepared for moral injury and psychological issues by offering psychological support and meeting their needs early at both the individual and organizational levels during and after the pandemic.

1. Introduction

Since the new coronavirus disease (COVID-19) was declared as a worldwide pandemic by the World Health Organization on March 11, 2020, 364 million people have been infected by the disease, and 5.6 million of them have died as of February 2022. At the forefront of this pandemic, healthcare professionals assume a crucial responsibility to challenge a virus whose behavior is unpredictable, and even the diagnosis and treatment of infected patients are made in the shadow of uncertainty [1]. This uncertainty comes with extraordinary stress on healthcare professionals who are on the frontline to face one of the most serious disasters in history in terms of hospitalizations and deaths. Working under these challenging conditions with the risk of becoming infected and dying, there is also an increased risk for many healthcare workers to have mental health symptoms, such as work-related stress, depression, post-traumatic stress disorder, and anxiety [2]. Moreover, as healthcare professionals have to adapt to new protocols and continual changes in disease management, they are experiencing a significant increase in the volume and intensity of their work causing extreme stress and anxiety [3,4].

Within such a difficult period, healthcare professionals often experience moral injury, when a legitimate authority betrays "what is right" in a high-risk situation [5]. Studies have found that moral injury exists mostly in the populations, such as rape victims, military personnel, first responders, war veterans, and police officers, experiencing severe trauma [6–8]. However, limited research has examined the effect of moral injury among healthcare professionals [9–11]. Therefore, the literature highlights the importance of examining moral injury among healthcare professionals working in the context of the COVID-19 pandemic [12–14] taking into consideration that they may also be at risk of post-traumatic stress disorder [12,15] and emotional exhaustion [11]. It is a fact that healthcare professionals face with difficult moral decisions in the processes of treating the patients in suffer from life-threatening infections and by the nature, their job requires emotional involvement [11,16]. From an

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organizational perspective, previous research has examined emotional exhaustion as an important work-related stressor that has an impact on well-being and health in the workplace, as well as on important work-related outcomes, such as turnover, performance, job satisfaction, and career abandonment intention [17,18]. However, limited research has been conducted to identify the mediating effect of emotional exhaustion on health professionals' attitudes toward their work [19]. Especially career abandonment intention, which refers to the intention to leave the current profession, should be examined since emotional exhaustion is the main predictor of the leaving and career abandonment intention. In addition, the intention to leave the profession is not only just an individual issue but also an important outcome for organizations as it represents actual turnover [20].

As a result of that, it has been suggested by various studies, such as Austin et al. [21] and Laurs et al. [22], that moral injury has a relationship with career abandonment intention, and there is a mediating role of emotional exhaustion in this relationship as affirmed by a number of studies [10,11,23–26].

Emotional exhaustion as a potential mediator on healthcare professionals' attitudes toward the work has not received significant attention in many studies, but such a consideration might enhance our theoretical understanding and offer empirical evidence on how emotional exhaustion affect the relationship between moral injury and career abandonment intention among physicians in the context of COVID-19.

2. Materials and methods

2.1. Measures

The responses were rated on a five-point Likert scale, ranging from 1 "completely disagree" to 5 "completely agree". In addition, a double-blind back-translation process [27] was used to translate the items in the survey into Turkish.

2.1.1. Occupational moral injury

To assess occupational moral injury among physicians, we adopted a four-item scale, which labeled perceived transgressions by self from Nash et al. [28]. The original scale was assessed for military service to measure moral injury. The participants answered the questionnaire by taking into consideration their medical experience since the COVID-19 outbreak.

2.1.2. Emotional exhaustion

We used a six-item scale developed by Wharton [29] to measure job-related emotional exhaustion.

2.1.3. Career abandonment intention

Career abandonment intention was assessed using the three-item scale adapted from Krausz et al. [30].

2.2. Research hypotheses

The term moral injury has increasingly attracted attention since it was first introduced to the literature by psychiatrist Johnathan Shay [31]. The definition of moral injury can be split into a three-component as (1) betrayal of what is right (2) by a legitimate authority (3) in a high-risk situation [5]. Moral injury occurs when someone must commit or witness an action that violates their moral belief system. Healthcare professionals often complain that they cannot work under desired conditions for reasons, such as hospital and insurance practices. Furthermore, a particularly disturbing aspect of the pandemic period for healthcare professionals is that they are commonly defined as "front line" warriors in society. The term "front line" that contributes to burnout syndrome evokes images of soldiers in combat and mental health problems they often suffer, such as post-traumatic stress disorder [32].

While moral injury is a little-known term in non-military communities, the COVID-19 pandemic has shown that the phenomenon of moral injury exists not just in the battlefield [12]. Potential moral injury events occur in high-risk environments. In such environments, one's own actions can violate his/her own values or moral codes by doing something that should not be done or not doing something that should be done. In the current literature that focuses primarily on military issues, these events include wounding or killing enemy combatants, being unable to prevent the suffering of fellow soldiers or civilians or being betrayed by a leader [33]. In the context of COVID-19, withdrawing care from a less promising patient in intensive care to save a more promising patient is an example of an action with the potential moral injury. In response to potential moral injury events, people may develop feelings of disgust, guilt, shame, and anger, as well as feelings of blaming themselves and/or others. When these distressing moral feelings are suppressed or avoided, moral injury occurs and negatively affects a person's functioning [34].

Recently, the effects of moral injury on healthcare workers' emotional exhaustion and turnover intention have attracted attention in the literature [35]. During the COVID-19 pandemic, physicians experienced difficult moral decisions because they didn't have sufficient personal protective equipment, ventilators, and life-saving medicines in the face of the increasing number of patients with life-threatening infections. In this period, physicians often faced pressure to select patients for whom they would use limited health equipment, resulting in moral injury [11]. One empirical research reported that moral injury was strongly associated with burnout among physicians and nurses regardless of the clinical attributes, sociodemographic factors, and religious characteristics [9]. In addition, studies conducted by Wang et al. [10] and Zhizhong et al. [11] on the healthcare professionals have reported that moral injury symptoms are strongly correlated with higher clinician burnout during the COVID-19 period. Furthermore, moral distress negatively affects healthcare workers' intention to remain in the profession [21,22]. Based on these factors, moral injuries experienced by physicians will have an impact on their emotional exhaustion and leaving the profession.

H1. Physicians' moral injuries are positively associated with their emotional exhaustion.

H2. Physicians' moral injuries are positively associated with their career abandonment intention.

Emotional labor refers to the effort to manage emotions when the job role requires the display of certain emotions and the suppression of others. Since it is not always possible to demonstrate the "appropriate" emotional response, employees must suppress emotional responses that are inappropriate for the job role such as disgust and disappointment and display more adaptive ones such as empathy and patience. Emotional dissonance between the emotions experienced by individuals leads to exhaustion by depleting emotional resources [36].

The conservation of resources (COR) theory provides valuable insights for studies of emotional exhaustion [37]. Resources are defined as conditions, energies, or personal characteristics valued by the individual, and these valued resources should be conserved to meet current job demands as the main motivation source for employees. According to the theory, individuals have a limited number of resources, such as emotional, physical, and mental, for

response to situations. The individual will try to protect these resources in order not to lose them. When loss occurs or when resources are threatened, employees will be more stressful, and they will experience a loss of energy in the form of emotion due to high job demands. As a coping mechanism, employees conserve the remainder of resources by decreasing their commitment to the workplace and leaving their current job [38,39].

Research in the literature provides increasing empirical evidence that emotional exhaustion is strongly associated with important work attitudes, such as career abandonment intention [23] and employee turnover intention [40,41]. Emotional exhaustion is an emotional response to demanding working conditions and results in emotional withdrawal from profession [24]. Emotionally exhausted healthcare workers will experience lower job satisfaction, which will reduce their job performance [16]. Research shows that healthcare workers' levels of commitment to their organizations decrease and their desire to leave positions increase as a result of increasing job demands [42,43]. In an empirical study conducted by Blau [17], the depletion of emotional energy needed to meet job demands was found to be a significant correlate for career abandonment intention. In addition, Laschinger and Fida [24] found that emotional exhaustion has a direct effect on career abandonment intention.

H3. Physicians' emotional exhaustion is positively related to their career abandonment intention.

When social exchange relationships with organizations are developed by employees, they will be more prone to perform higher levels of organizational citizenship behavior, higher job performance, and lower turnover intention [44]. However, jobs that cause moral injury and emotional exhaustion will undermine this process. First, emotional exhaustion can be viewed as the cost of benefits obtained through employment for the organization. Second, when employees are exposed to overwork to the point of emotional burnout and moral injury, they tend to take a negative attitude toward the organization they work for [45]. In addition, moral distress leads to more stress and lower employee productivity [24]. Some research concludes that emotional exhaustion is the main predictor of turnover [46,47] and career abandonment intention [25]. In a field study conducted by Lee and Ashforth [26], emotional exhaustion was found to be a mediator in the burnout process, leading to turnover intention. In line with these empirical findings and conceptual frameworks, the following hypothesis has been developed regarding the mediating role of emotional exhaustion in the relationship between moral injury and career abandonment intention of physicians.

H4. Emotional exhaustion has a mediating role in the relationship between moral injuries of physicians and their career abandonment intention.

3. Results

3.1. Data collection and participants

We collected data using a self-administered questionnaire survey to test the hypotheses in this cross-sectional study. Study participants were physicians working in city hospitals in Turkey. The sample comprises 201 physicians and 58.2% of whom were male (Table 1). Most participants have 20 years and above (35.8%) of professional experience, followed by 1–4 years (15.4%), 5–9 years (14.9%), 10–14 years (16.4%), and 15–19 years (17.4%). Most participants fell in the 35–44 years age group (37.8%). In addition, participants were predominantly specialists (79%).

3.2. Analysis and results

In this research, the structural model was tested with partial least squares (PLS) analysis. Like covariance-based SEM techniques (e.g., AMOS, LISREL), PLS is a second-generation statistical technique (e.g., SmartPLS, WarpPLS) that calculates the measurement model and the structural theoretical model simultaneously. The main difference of PLS from covariance-based algorithms is that PLS is variance-based and allows working with a small sample [48–50]. In addition, PLS-SEM is a suitable method for examining complex models with many items and mediating variables with a small sample [48,51]. Therefore, the PLS-SEM method is widely used in small-sample studies (e.g. [49,52,53]). In this study, the research data and the significance of hypotheses were tested by using bootstrapping resampling methods in SmartPLS software [48].

3.2.1. Measurement model result

All the latent variables have reflective indicators in this study [48]. Sarstedt et al. [54] suggested that indicator reliability, internal consistency reliability, convergent validity, and discriminant validity should be used to evaluate the quality of reflectively specified measurement models. The evaluation process begins by examining the indicator loadings to test indicator reliability. The loadings should be at least 0.708 for each indicator. Loadings above 0.708 indicate the construct explains more than 50 percent of the indicator's variance [54]. All the indicator loadings in the study have values above 0.708 as shown in Table 2. Hence, the loadings are confirmed as exhibiting acceptable indicator reliability. Afterward, it is recommended to use composite reliability (CR) to evaluate the internal consistency reliability [48,55]. A CR value of 0.70 or higher proves sufficient composite scale reliability [56], but it should not exceed 0.95 [57]. CR values for career abandonment intention, emotional exhaustion, and moral injury were 0.93, 0.95, and 0.93, respectively. Hence, the results indicate that the internal consistency reliability is quite satisfactory. The next step in evaluating the model measurement involves the assessment of convergent validity of each construct. Convergent validity is the extent to which a construct converges in its indicators by explaining the items' variance. To evaluate convergent validity, the average variance extracted (AVE) for all indicators is used. The recommended threshold value for the AVE value is 0.50 [56,58]. The AVE values for career abandonment intention, emotional exhaustion, and

Table 1
Demographic characteristics of participants (n = 201)

Features	Category	N	%
Gender	Female	84	41,8
	Male	117	58,2
Age (years)	25–34	58	28,9
	35–44	76	37,8
	45–54	54	26,9
	55 and above	13	6,5
Years in profession	1–4	31	15,4
	5–9	30	14,9
	10–14	33	16,4
	15–19	35	17,4
	20 and above	72	35,8
Professional status	GP	14	7
	Assistant	20	10
	Specialist	159	79
	Medical Student	8	4

Table 2
Measurement model assessment result

Variables	Items	Indicator loadings	Average variance extracted (AVE)	Composite reliability (CR)
Career abandonment intention	Cai1. I am seriously thinking of leaving the hospital.	0.919	0.806	0.926
	Cai2. I am actively searching for another career out of the hospital.	0.871		
	Cai3. I will leave the profession in the near future.	0.903		
Emotional exhaustion	Eexh1. I feel emotionally drained from my work	0.918	0.768	0.952
	Eexh2. I feel used up at the end of the day	0.900		
	Eexh3.I dread getting up in the morning and having to face another day on the job	0.834		
	Eexh4. I feel burned out from my work	0.945		
	Eexh5. I feel frustrated by my job	0.876		
	Eexh6. I feel I'm working too hard on my job	0.775		
Moral injury	Minj1. I acted in ways that violated my own moral code or values.	0.897	0.771	0.931
	Minj2. I am troubled by having acted in ways that violated my own morals or values.	0.835		
	Minj3. I violated my own morals by failing to do something that I felt I should have done.	0.889		
	Minj4. I am troubled because I violated my morals by failing to do something, I felt I should have done.	0.888		

moral injury are 0.806, 0.768, and 0.771, respectively, providing support for convergent validity. Table 2 presents the indicator reliability, internal consistency reliability, AVE, and convergent validity for the latent variables.

Finally, discriminant validity tests were performed to test whether a construct is empirically distinct from other constructs by assessing Fornell-Larcker criterion and heterotrait-monotrait (HTMT) [54,55]. The Fornell-Larcker criterion [55] is widely used to evaluate discriminant validity. According to this criterion, the AVE square root of each variable should be greater than the correlation coefficients of the variables. The results of the discriminant validity are met for this research because the square roots of AVE on the diagonal lines are larger than the correlation between the constructs in the model (Table 3) [57]. Sarstedt et al. [54,58] suggested that HTMT criteria can provide better results for discriminant validity. For conceptually very distinct constructs, the values below the threshold of 0.85 indicate that discriminant validity is established [59]. All HTMT values are all below the threshold of 0.85 as shown in Table 4. Hence, this study achieved adequate discriminant validity. Since the assessment provides support for the measurement quality, the structural model evaluation will be performed in the next step.

3.2.2. *Structural model result*

In the assessment of the structural model with reflective indicators of each construct, Hair et al. [60] and Sarstedt et al. [54] recommended evaluating path coefficients and the significance values, explanatory power, and predictive power, respectively.

First, as suggested by Chin [48], PLS-SEM was used to estimate both the main and the mediating effects in the model. To determine the significance of the relationship between variables in SmartPLS, a bootstrapping run was performed with 1000 bootstrap samples with 201 cases [48]. After running bootstrap, SmartPLS provided *t*-values for structural model estimates obtained from the procedure [57]. Hypothesis 1 predicted that physicians' moral injuries are positively related to emotional exhaustion. The results affirmed that physicians' moral injuries were positively related to emotional exhaustion ($\beta = 0.38$, $t = 6.377$, p = 0.000). Therefore, Hypothesis 1 was supported. Hypothesis 2 suggested that physicians' moral injuries are positively related to career abandonment intention. The result showed that physicians' moral injuries were positively related to career abandonment intention ($\beta = 0.33$, $t = 4.938$, p = 0.000). Hence, Hypothesis 2 was supported. Hypothesis 3 anticipated that physicians' emotional exhaustion is positively related to career abandonment intention. The results indicated that physicians' emotional exhaustion was positively related to career abandonment intention ($\beta = 0.56$, $t = 11.090$, p = 0.000). Thus, Hypothesis 3 was supported (Figs. 1 and 2).

Furthermore, Hypothesis 4 proposed that emotional exhaustion has a mediating role in the relationship between moral injuries of physicians and their career abandonment intention. The Sobel test, which is widely used to measure the mediating effect, cannot provide consistency with the non-parametric PLS-SEM method. For this reason, bootstrapping is used instead of the Sobel test which

Table 3
Discriminant validity (Fornell-Larcker) and correlations among variables, means, and standard deviations.

Variables	1	2	3	M	SD
1. Career abandonment intention	**0.90**			2.64	1.13
2. Emotional exhaustion	0.61*	**0.88**		3.76	0.98
3. Moral injury	0.33*	0.38*	**0.88**	2.35	1.07

Square root of AVE on the diagonal (bold).
* Correlation is significant at the 0.01 level (2-tailed).

Table 4
Heterotrait-monotrait criteria (HTMT)

Variables	1	2	3
1. Career abandonment intention			
2. Emotional exhaustion	0.647		
3. Moral injury	0.360	0.416	

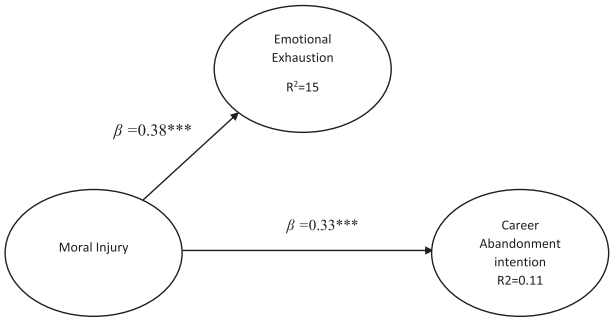

Fig. 1. Direct effect of moral injury on emotional exhaustion and career abandonment intention.
***p = 0.000 (two-tailed).

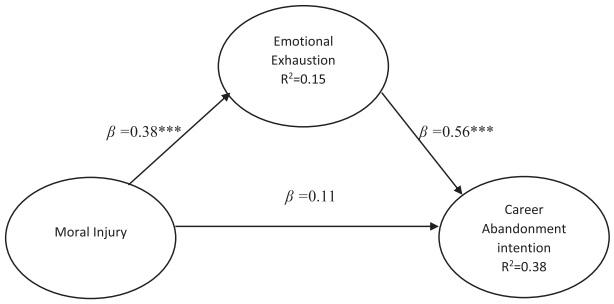

Fig. 2. Mediating effect of emotional exhaustion on the relationship between moral injury and career abandonment intention.
***p = 0.000 (two-tailed).

cannot be applied within the scope of PLS-SEM to test the mediating effect [57,61]. First, following the studies by Hair et al. [57] and Klarner et al. [61], the significance level of the direct effect was examined without the mediating variable of emotional exhaustion using the bootstrapping process in SmartPLS. Later, emotional exhaustion was included in the model, and the path coefficients, t values, and the significance level of the indirect effect were investigated. The direct path of moral injury to career abandonment intention was significant at p = 0.000. The relationship between moral injury and career abandonment intention became insignificant with the inclusion of emotional exhaustion in the model, and the path coefficient decreased from 0.33 (t = 4.938, p = 0.000) to 0.11 (t = 1.783, p > 0.05). This indicated that emotional exhaustion had a full mediation role in the moral injury – career abandonment intention relationship according to Baron and Kenny [62] procedure. So H4 was supported.

After testing the significance and relevance of path coefficients, the next step involves the examining of R2 (coefficient of determination). The R^2 represents the model's explanatory power and also referred to as in-sample predictive power [54]. All the two exogenous latent variables (moral injury and emotional exhaustion) explained 0.378 % of the variance in career abandonment intention. Thus, the explanatory power of the exogenous latent variables is large for career abandonment intention [[63]; small: .02 ≤ R2 < .13, medium: .13 ≤ R2 < .26, and large: .26 ≤ R2]. The most recent recommendation for model validation is to use the PLSpredict procedure, also referred to as out-of-sample predictive power [58,64,65]. To determine how the model would perform if applied to predict a new observation, the PLSpredict routine with 10 folds and 10 repetitions was used as Shmueli et al. [65] recommended. The predictive power assessment in this study is based on the root mean squared error (RMSE) because PLS-SEM errors are distributed symmetrically. The RMSE errors are compared to the LM errors in this process [65]. In the PLS-SEM analysis, all indicators have lower RMSE values except for one indicator (Eexh6) compared to the naïve LM benchmark as shown in Table 5. Thus, the model has high predictive power [54].

Table 5
Differences of RMSE values

	PLS		LM		PLS – LM	
Indicators	RMSE	Q^2	RMSE	Q^2	RMSE	$Q^2_{predict}$
CAI3	1.192	0.085	1.211	0.057	−0.019	0.028
CAI2	1.179	0.031	1.194	0.007	−0.015	0.024
CAI1	1.250	0.105	1.259	0.092	−0.009	0.013
Eexh4	1.099	0.102	1.108	0.086	−0.009	0.016
Eexh1	1.073	0.110	1.078	0.102	−0.005	0.008
Eexh3	1.152	0.094	1.157	0.087	−0.005	0.007
Eexh6	1.939	0.088	0.936	0.094	1.003*	−0.006*
Eexh5	1.148	0.113	1.158	0.096	−0.01	0.017
Eexh2	0.949	1.118	0.951	0.108	−0.005	0.01

4. Discussion

In this cross-sectional study, we examined the effect of moral injury on emotional exhaustion and career abandonment intention and tested whether emotional exhaustion has a mediating role in the relationship between moral injury and career abandonment intention among physicians during the COVID-19 pandemic. We found that moral injury was positively associated with emotional exhaustion and career abandonment intention. These findings are consistent with previous studies indicating that moral injury was positively related to emotional exhaustion among healthcare professionals [10,11]. Furthermore, the results showed that moral injury was positively related to career abandonment intention. Studies conducted by Austin et al. [21] and Laurs et al. [22] reported similar findings.

In addition, we found that emotional exhaustion fully mediated the relationship between moral injury and career abandonment intention. The finding is supported by other studies indicating that moral injury is related to emotional exhaustion [10,11] and, in turn, emotionally exhausted physicians perform withdrawal behaviors, such as career abandonment intention [24,25,29]. The results of this study on career abandonment intentions among Turkish physicians are not surprising. According to the Turkish Medical Association, due to psychological and financial problems, 197 physicians emigrated abroad only in January 2022. This number was 1,405 in 2021. It is predicted that more than 2 thousand physicians will leave Turkey by the end of 2022. The number increases exponentially as those who leave their jobs lead the other physicians to leave their professions [66] and look for brighter opportunities, especially in Europe [67].

Physicians face ethical challenges as they are confronted with patient suffering and death daily, and they have a sense of inability to help the patients adequately. This situation causes ethical dilemmas and moral injuries. The limited number of empirical studies on the moral injury of healthcare professionals, especially in the last two years of the pandemic, reveals that it must be imperative to consider the phenomenon of moral injury in terms of health services. Physicians may blame themselves as they are surviving in the face of an unexpected number of deaths from deadly viruses. This feeling of guilt starts to become evident when a physician asks himself the question of "what I could do more" as a result of the loss he experienced, despite putting all his strength into saving his patient. Witnessing the loss of lives of their patients and the feeling of helplessness they felt afterward can cause a mental collapse.

This study makes contributions to the literature which has very limited empirical studies on moral injury in the healthcare context and the understanding of its relation to emotional exhaustion and career abandonment intention. To our knowledge, no research has yet examined moral injury among physicians in Turkey. One of the main limitations of this study is that it is a cross-sectional study. For this reason, it is not possible to examine causal relationships. To test causal relationships more precisely, a longitudinal study should be conducted. Second, the study examined moral injury only among physicians, and other healthcare workers, such as nurses, were excluded. Therefore, other healthcare workers should be included in future studies. Third, potential situations that might cause moral injury need to be evaluated. Finally, although the questionnaire was anonymous in nature, external factors may affect the reporting of

symptoms; hence, the accuracy of the answers cannot be guaranteed.

5. Conclusion

Based on the results outlined in the study, COVID-19 pandemic caused moral injury and emotional exhaustion among the physicians under contagious conditions because they had to make extraordinary choices that caused them to experience dilemmas between their careers and moral values in the contagious environment. Additionally, negative aspects of psychological health may continue to exist after the pandemic. Therefore, new intervention programs can be created to protect physicians from moral injury and emotional exhaustion by offering psychological support and meeting their needs early at both the individual and organizational levels. In turn, their intention to stay in their career will increase.

Conflicts of interest

The authors declare no conflicts of interest.

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