

Access this article online
Quick Response Code:

Website: <a href="http://www.jehp.net">www.jehp.net</a>
DOI: 10.4103/jehp.jehp_1580_20

# The mediating role of compassion in the relationship between COVID-19 anxiety syndrome and COVID-19 burnout

Esmail Mousavi Asl, Hatam Boostani, Forouzan Behrouzian, Hamzeh Rostami

## Abstract:

**BACKGROUND:** The coronavirus has caused fundamental changes in our way of life, leading to a wave of psychological distress associated with the COVID-19 epidemic, including stress, anxiety, perceived threats, and fear. Considering the psychological consequences of COVID-19, the present study was conducted with the aim of mediating the role of compassion in the relationship between COVID-19 anxiety syndrome and COVID-19 burnout.

**MATERIALS AND METHODS:** The design of the present study was descriptive correlation. The present study population included all students of Ahvaz Jundishapur University of Medical Sciences in the academic year 2020. Two hundred and fifty-one students were selected and completed the COVID-19 Anxiety Syndrome Questionnaire, Compassion Scale, and COVID-19 Burnout Scale. Pearson correlation coefficient test and structural equation model were performed using SPSS version 18 and LISREL 8.8.

**RESULTS:** The results showed that COVID-19 burnout had a positive and significant relationship with the overall score of anxiety syndrome ( $r = 0.42$ ,  $P = 0.01$ ), while it has a negative and significant relationship with compassion ( $r = -0.37$ ,  $P = 0.01$ ). Compassion also has a significant negative relationship with anxiety syndrome ( $r = -0.35$ ,  $P = 0.01$ ). In addition, the results of path analysis showed that compassion plays a mediating role in the relationship between COVID-19 anxiety syndrome and COVID-19 burnout.

**CONCLUSION:** Based on the findings of the present study, it can be said that compassion acts as a protective factor against the negative effects of anxiety syndrome. Therefore, this factor can be considered in the development of prevention and treatment programs for burnout caused by COVID-19.

## Keywords:

Anxiety, burnout, COVID-19

Department of Psychiatry,  
Golestan Hospital, School  
of Medicine, Ahvaz  
Jundishapur University of  
Medical Sciences, Ahvaz,  
Iran

## Address for correspondence:

Dr. Hamzeh Rostami,  
Department of Psychiatry,  
Golestan Hospital, School  
of Medicine, Ahvaz  
Jundishapur University of  
Medical Sciences, Ahvaz,  
Iran.  
E-mail: [rostami-h@ajums.ac.ir](mailto:rostami-h@ajums.ac.ir)

Received: 05-12-2021  
Accepted: 23-02-2021  
Published: 30-11-2021

## Introduction

COVID-19 spread exponentially and significantly over all continents over several months.<sup>[1]</sup> Due to the high rate of infection, transmission, and mortality, COVID-19 can lead to many psychological problems, including depression, fear stress, anxiety,<sup>[2]</sup> and possibly burnout.<sup>[3,4]</sup> Recent research has shown that people

in quarantine experience a variety of psychological problems such as fear, stress, and failure.<sup>[5]</sup> To date, uncertainty remains about when and how the virus will end, despite the ease of COVID-19 measures such as maintaining social distance and wearing a face mask in public places.<sup>[4]</sup>

Thus, the uncertainty associated with COVID-19 and the length of time we stay at home can make a notable difference in

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: [WKHLRPMedknow\\_reprints@wolterskluwer.com](mailto:WKHLRPMedknow_reprints@wolterskluwer.com)

**How to cite this article:** Asl EM, Boostani H, Behrouzian F, Rostami H. The mediating role of compassion in the relationship between COVID-19 anxiety syndrome and COVID-19 burnout. *J Edu Health Promot* 2021;10:413.

our daily lives. Such changes in daily life caused by COVID-19 can increase the levels of stress, anxiety, burnout, fear, and failure.<sup>[2,3]</sup> Stressful living conditions have significant adverse effects on a person's mental health and psychological functioning and lead to psychological problems such as anxiety, mental confusion, social deprivation, and depression.<sup>[2]</sup>

Excessive stress can lead to a wide range of psychological problems such as anxiety, emotional disorders and burnout. Understanding how COVID-19 pandemic disease affects a person's response to a stressful situation (and conversely) can create and develop useful and effective interventions.<sup>[6]</sup> In the broader literature, burnout has been found to be associated with a wide range of health, mental health, and well-being indicators such as increased anxiety, depression, sleep problems, alcohol consumption, memory impairment, and neck and back pain.<sup>[7]</sup> The importance of psychological interventions in the COVID-19 era has become apparent.<sup>[8,9]</sup>

Researchers have looked at the relationship of compassion with COVID-19. The Dalai Lama defines compassion as sensitivity to one's own and another's suffering and the motivation to reduce or prevent it. In this definition, the first component of compassion is engagement with distress.<sup>[10]</sup> This component reflects our ability to be aware of and pay attention to suffering and to move toward it. According to this component, compassion involves a kind of strength and courage to deal with distress rather than avoid it.<sup>[10]</sup> The second component of compassion is compassionate motivation to help reduce and prevent suffering. While awareness of suffering may be obvious, the goal of compassion is to help clients alleviate their suffering.<sup>[10]</sup> Research supports the protective role of compassion against the psychological consequences of COVID-19.<sup>[11-15]</sup> Neff (2003) considers three components of compassion that are interrelated. In Neff (2003) conceptualization, each component consists of two parts, and in front of each aspect of a component, there is a negative aspect. These three components are as follows: (a) being kind and understanding oneself versus self-judgment, (b) considering error as part of the vast human condition and experience versus isolation, and (c) looking at painful thoughts and feelings with the mind awareness instead of avoiding or overidentification them.<sup>[16]</sup> There is ample evidence that compassion is negatively related to psychopathology and acts as a protective factor against various mental disorders.<sup>[17-19]</sup> Compassion is associated with COVID-19 anxiety.<sup>[13,14]</sup>

Given the protective role of compassion, COVID-19-associated anxiety syndrome is a variable that appears to be a risk factor for burnout.<sup>[20,21]</sup> Another study examining the relationship between burnout, anxiety,

and stress disorders during the COVID-19 epidemic found that physicians and nurses experienced mental health problems, including burnout.<sup>[22]</sup> Because of the long-term nature of the virus, individuals can greatly suffer from the common burnout caused by COVID-19. Maintaining positive mental health is just as important as maintaining physical health in the event of an outbreak. In this regard, evaluating the effect of COVID-19 on the psychological health of individuals is a prominent topic for study during the epidemic. The question arises as to whether the relationship of COVID-19 anxiety syndrome with burnout is a simple and direct relationship or other psychological variables can also mediate in this relationship?. Therefore, considering the protective role of compassion against burnout, it may also play a mediating role in the relationship between anxiety syndrome and burnout.

Given the psychological consequences of COVID-19, determining its predictors can be an important step in the intervention and treatment. The lack of such a study is felt to identify the factors affecting the psychological consequences of COVID-19 and to use the research results for treatment.

## Materials and Methods

### Objective

The present study intends to examine these contrasts in the context of positive psychology and psychopathology. This study was conducted to investigate the mediating role of compassion in the relationship between COVID-19 anxiety syndrome and COVID-19 burnout.

### Study design and setting

The design of the present study is descriptive and cross-sectional. The study environment was Ahvaz Jundishapur University of Medical Sciences.

### Study participants and sampling

The study population included all students of Ahvaz Jundishapur University of Medical Sciences in the 2020 academic year. From this population, 251 people were selected according to the minimum sample size in the structural equation model.<sup>[23]</sup> The inclusion criteria in the present study were satisfaction with participating in the study and being at least 18 years old.

### Data collection tool and technique

Data collection of the present study was done online through WhatsApp and Telegram virtual network, considering the epidemic of COVID-19 and its high infection and transmission capacity. Data analysis was performed using SPSS version 25 (IBM Corp. Released 2017. IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp.) and LISREL 8.8 (version 8.8,

Jöreskog K, Sörbon D. Lisrel for Windows 8.80. 2006. Scientific Software International: Lincolnwood, IL.). The assumptions of modeling structural equations including the data level for all variables are interval; the normality of the data, the linearity, and the absence of multicollinearity were investigated. The assumptions were made to perform the structural equation model. The prepared questionnaires were given to the subjects. In addition, a guide sheet for filling out the questionnaire, consent form, and also how to use the information were provided to the participants along with the questionnaire. In addition, the participant was free to refrain from continuing cooperation at any stage of the research. The implementation of this study did not impose any financial costs on the participants.

### Ethical consideration

This study was approved by the Ethics Committees of Ahvaz Jundishapur University of Medical Sciences (IR.AJUMS.REC.1399.897).

### Measures

#### The COVID-19 Anxiety Syndrome Scale

A short tool is to identify the characteristics of COVID-19-related anxiety syndrome. This scale has 9 items.<sup>[24]</sup> Participants respond to each phrase on a five-point Likert scale from 1 (not at all) to 5 (almost always).<sup>[24]</sup> Cronbach's alpha for this scale was 0.86.<sup>[24]</sup> The COVID Anxiety Syndrome Scale 19 has desirable psychometric properties.<sup>[24]</sup>

#### The COVID-19 Burnout Scale

This scale consists of 10 items. Each item is graded on a five-point Likert scale from 1 (never) to 5 (always). The total score can be calculated by adding 10 items and scores are from 10 to 50. A higher score indicates a higher level of burnout related to COVID-19. The scale also has a very high internal consistency and has good psychometric properties.<sup>[4]</sup> The COVID-19 Burnout Scale has desirable psychometric properties.<sup>[4]</sup>

#### The Compassion Scale

It is a 16-item scale that measures compassion for others and is based on Naf's model of self-compassion. This scale measures the four dimensions of kindness, common humanity, mindfulness, and lessened indifference. This scale has very desirable psychometric properties (reliability, convergent validity, structural validity, and internal consistency).<sup>[25]</sup>

### Statistical analysis

Data analysis was performed using SPSS version 25 and LISREL 8.8. The model's fit was examined using multiple indices, including the Chi-square statistic ( $\chi^2$ ), the comparative fit index (CFI), the standardized root mean square residual (SRMR), nonnormed fit index (NNFI), and

the root mean square error of approximation (RMSEA), adjusted goodness of fit index (AGFI) and normed fit index (NFI). Model fit indices are assumed to be good if AGFI  $\geq 0.90$ , NNFI  $\geq 0.90$ , CFI  $\geq 0.90$ , SRMR  $\leq 0.10$ , and RMSEA  $\leq 0.08$ .<sup>[26]</sup>

## Results

### Description of the sample

The results were analyzed on 251 students of Ahvaz Jundishapur University of Medical Sciences with an age range of 18–56 years with a mean and standard deviation of  $27.52 \pm 4.87$ . Of these, 146 (58.16) were single, 99 (39.4) were married, and 6 (2.4) were divorced. Educational status: 107 B.Sc. individual (42.62%), 65 MSc individual (25.9%), and 79 Ph. D. individual (31.47%).

As you can see in Table 1, The results showed that COVID-19 burnout had a positive and significant relationship with the overall score of anxiety syndrome ( $r = 0.42, P = 0.01$ ), while it has a negative and significant relationship with compassion ( $r = -0.37, P = 0.01$ ). Compassion also has a significant negative relationship with anxiety syndrome ( $r = -0.35, P = 0.01$ ).

In the present study, the hypothesized model investigated the relationship between COVID-19 anxiety syndrome and COVID-19 burnout mediated by compassion. First, the assumptions of modeling structural equations including the data level for all variables are interval; the normality of the data, the linearity, and the absence of multicollinearity were investigated. The assumptions were made to perform the structural equation model. The results of the fit indices of the proposed model are shown in Table 2, which shows that the proposed model has the desired fit.

As shown in Figure 1, anxiety syndrome has a direct effect coefficient ( $t = 2.93, \beta = 0.28$ ) on COVID-19 burnout and is significant. Compassion has a direct effect ( $t = -2.69$ ,

**Table 1: Mean, standard deviation, correlation between COVID-19 anxiety syndrome, compassion, and burnout**

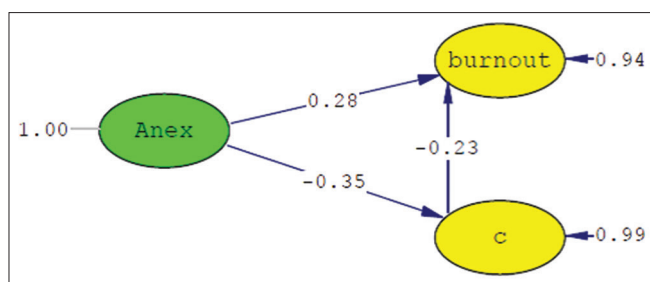
Variable	Mean±SD	1	2	3
Burnout	28.44±5.17	1	0.42**	-0.37**
Anxiety syndrome	28.54±6.69		1	-0.35**
Compassion	42.95±9.31			1

\*\*Correlation is significant at 0.01 level. SD=Standard deviation

**Table 2: Model fit indices, the mediating role of compassion in the relationship between COVID-19 anxiety syndrome, and COVID-19 burnout**

Indices	NNFI	NFI	RMSEA	IFI	$\chi^2$	df	$\chi^2/df$	CFI
Quantity	0.91	0.92	0.05	0.91	989.80	557	1.77	0.93

NFI=Normed fit index, NNFI=Non-NFI, RMSEA=Root mean square error of approximation, CFI=Comparative fit index, IFI=Incremental fit index



**Figure 1:** The mediating role of compassion in the relationship between COVID-19 anxiety syndrome and COVID-19 burnout. C = Compassion; Anex = COVID-19 anxiety syndrome

$\beta = -0.23$ ) on COVID-19 burnout. Given that in the structural model, the significance of the path coefficient is determined using the value of  $t$ . If the value of  $t$  is  $>1.96$ , the relationship between the two variables is significant. Model fit indices are assumed to be good if  $SRMR \leq 0.10$ ,  $NNFI \geq 0.90$ ,  $CFI \geq 0.90$ , and  $RMSEA \leq 0.08$ .<sup>[26]</sup>

## Discussion

COVID-19 disease has many psychological effects on individuals.<sup>[27-30]</sup> The results showed that COVID-19 anxiety syndrome had a positive and significant correlation with COVID-19 burnout and had a reliable predictor in the path analysis model for burnout. This result is consistent with the research of Yildirim and Solmaz who showed that COVID-19 anxiety syndrome is significantly associated with COVID-19 burnout.<sup>[4]</sup> Morgantini *et al.* showed that there is a positive and significant relationship between stress and burnout.<sup>[31]</sup> Sung *et al.* in another study examined the relationship between burnout, anxiety, and stress disorders during the COVID-19 epidemic. The results showed that physicians and nurses faced mental health problems including burnout.<sup>[22]</sup>

Stress and anxiety can weaken the immune system and make them vulnerable to diseases such as COVID-19 disease. These changes appear to have led to a wave of psychological distress associated with the COVID-19 epidemic, including stress, anxiety, perceived threat, and fear. For example, preliminary findings from China show that more than a quarter of the general population experienced moderate-to-severe stress or anxiety-related symptoms in response to COVID-19.<sup>[32,33]</sup>

The results of our study also showed that compassion plays a mediating role in the relationship between COVID-19 anxiety syndrome and COVID-19 burnout. These results are consistent with other studies.<sup>[4,13]</sup> Yildirim and Solmaz showed that resilience mediates the association between COVID-19 anxiety syndrome and COVID-19 burnout.<sup>[4]</sup> Research supports the protective role of self-compassion against the psychological consequences of COVID-19.<sup>[11-15,34-37]</sup> Compassion helps

people understand that much of what goes on in our minds is not designed by us and therefore not our fault. Clarifying this aspect when people are anxious or depressed, tired, or feel out of control has a key role to play in eliminating feelings of worthlessness, uselessness, and inadequacy. Compassion helps people realize that most of life's problems, and even how to respond to them, are not their own choice or planning, and that they are not to blame for them. Compassion helps people accept suffering under the influence of compassion and face it of our own free will, but do not drown in it. One of the consequences of helping clients is that it leads to the transformation of compassionate motivation.

Many people get caught up in threatening patterns of thinking, such as worrying about the future, rummaging through past actions, and self-blame about aspects of themselves. Compassionate thinking and reasoning involves training the mind to deliberately engage in compassionate, supportive, and helpful ways of thinking about yourself, other people, and the situations in which you find yourself. This can include guiding thinking. In fact, while helping clients understand what compassionate thinking looks like, it is also useful to compare compassionate thinking with threat-based thinking. Compassionate behavior is doing (along with wisdom) actions and behaviors that help us alleviate the suffering of ourselves and others, and as a result, this process helps you to grow, prosper, and prosper.

## Limitation and suggestion

There are many limitations in interpreting and generalizing the results of our study. First, data collected solely on the basis of self-report scales may be subject to poor self-reporting and reminder errors. Subsequent research can use more objective measures to determine the individual experience of COVID-19 burnout. Second, this study uses a cross-sectional and correlational scheme that does not allow causal interpretations and inferences. Due to the use of correlation design, it is suggested to use experimental designs with more control to better understand the factors.

## Conclusion

Covid-19 leads to burnout. Burnout is a serious mental health issue with severe pathological consequences. On the other hand, the results of the present study showed that anxiety syndrome is an effective factor in COVID-19 burnout that can be mediated by the construct of compassion. Compassion-focused therapy and acceptance and commitment-based therapy have been suggested as a treatment option, according to which compassion helps people with COVID-19 burnout to become better aware of their moment-by-moment

experience and better tolerate their distressing and painful experiences and learn ways to compassion with themselves in the face of emotional distress.<sup>[28]</sup> Therefore, it is suggested that further research investigates and examines the effectiveness of these interventions as a mediating role of compassion.

### Acknowledgments

We appreciate students at Ahvaz city, who participated in this study. We wish them all the best in their future career in our beloved country.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

### References

1. Yıldırım M, Geçer E, Akgül Ö. The impacts of vulnerability, perceived risk, and fear on preventive behaviours against COVID-19. *Psychology, health & medicine*. 2021 Jan 2;26(1):35-43. <http://doi.org/10.1080/13548506.2020.1776891>.
2. Arslan G, Yıldırım M, Tanhan A, Buluş M, Allen KA. Coronavirus stress, optimism-pessimism, psychological inflexibility, and psychological health: Psychometric properties of the Coronavirus Stress Measure. *International Journal of Mental Health and Addiction*. 2020 Jun 4:1-7. doi: 10.1007/s11469-020-00337-6.
3. Talaee N, Varahram M, Jamaati H, Salimi A, Attarchi M, Kazempour Dizaji M, Sadr M, Hassani S, Farzanegan B, Monjazebi F, Seyedmehdi SM. Stress and burnout in health care workers during COVID-19 pandemic: Validation of a questionnaire. *Journal of Public Health*. 2020 Jan 1:1-6. doi: 10.1007/s10389-020-01313-z.
4. Yıldırım M, Solmaz F. COVID-19 burnout, COVID-19 stress and resilience: Initial psychometric properties of COVID-19 Burnout Scale. *Death Studies*. 2020 Sep 10:1-9. doi.org/10.1080/07481187.2020.1818885.
5. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, et al. The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *Lancet* 2020;395:912-20. doi.org/10.1016/S0140-6736(20)30460-8.
6. Marčinko D, Jakovljević M, Jakšić N, Bjedov S, Mindoljević Drakulić A. The importance of psychodynamic approach during COVID-19 pandemic. *Psychiatr Danub* 2020;352:15-21. doi.org/10.24869/psyd.2020.15.
7. Peterson U, Demerouti E, Bergström G, Samuelsson M, Asberg M, Nygren A. Burnout and physical and mental health among Swedish healthcare workers. *J Adv Nurs* 2008;62:84-95. <http://doi.org/10.1111/j.1365-2648.2007.04580.x>.
8. Cheli S, Cavalletti V, Petrocchi N. An online compassion-focused crisis intervention during COVID-19 lockdown: A cases series on patients at high risk for psychosis. *Psychosis*. 2020 Jul 19:1-4. doi.org/10.1080/17522439.2020.1786148.
9. Weiner L, Berna F, Nourry N, Severac F, Vidailhet P, Mengin AC. Efficacy of an online cognitive behavioral therapy program developed for healthcare workers during the COVID-19 pandemic: The REduction of STress (REST) study protocol for a randomized controlled trial. *Trials* 2020;21:870. doi: 10.1186/s13063-020-04772-7.
10. Irons C, Beaumont E. The compassionate mind workbook: A step-by-step guide to developing your compassionate self. Robinson; 2017 Sep 14.
11. Coyne LW, Gould ER, Grimaldi M, Wilson KG, Baffuto G, Biglan A. First things first: Parent psychological flexibility and self-compassion during COVID-19. *Behavior analysis in practice*. 2020 May 6:1-7. doi: 10.1007/s40617-020-00435-w.
12. Smith GD, Ng F, Li WH. COVID-19: Emerging compassion, courage and resilience in the face of misinformation and adversity. *Journal of clinical nursing*. 2020 May;29(9-10):1425.
13. Mohammadpour M, Ghorbani V, Khoramnia S, Ahmadi SM, Ghvami M, Maleki M. Anxiety, self-compassion, gender differences and COVID-19: Predicting self-care behaviors and fear of COVID-19 based on anxiety and self-compassion with an emphasis on gender differences. *Iran J Psychiatry* 2020;15:213-9. <https://doi.org/10.18502/ijps.v15i3.3813>.
14. Li, A.; Wang, S.; Cai, M.; Sun, R.; Liu, X. Self-Compassion and Life-Satisfaction among Chinese Self-Quarantined Residents during COVID-19 Pandemic: A Moderated Mediation Model of Positive Coping and Gender. *Pers. Individ. Dif.* 2020,170,0457. doi.org/10.3390/ijerph 18041474.
15. Braus M, Morton B. Art therapy in the time of COVID-19. *Psychol Trauma* 2020;12:S267-8. 10.1037/tra0000746. Epub 2020 Jun 1.
16. Barnard LK, Curry JF. Self-compassion: Conceptualizations, correlates, & interventions. *Rev Gen Psychol* 2011;15:289-303. <https://doi.org/10.1037/a0025754>.
17. Hasking P, Boyes ME, Finlay-Jones A, McEvoy PM, Rees CS. Common pathways to NSSI and suicide ideation: The roles of rumination and self-compassion. *Archives of Suicide Research*. 2019 Apr 3;23(2):247-60. doi.org/10.1080/13811118.2018.1468836.
18. Fresnics AA, Wang SB, Borders A. The unique associations between self-compassion and eating disorder psychopathology and the mediating role of rumination. *Psychiatry Res* 2019;274:91-7. doi.org/10.1016/j.psychres.2019.02.019.
19. Muris P, Petrocchi N. Protection or Vulnerability? A Meta-Analysis of the Relations Between the Positive and Negative Components of Self-Compassion and Psychopathology. *Clin Psychol Psychother* 2017;24:373-83. doi.org/10.1002/cpp.2005.
20. Hofmeyer A, Taylor R, Kennedy K. Fostering compassion and reducing burnout: How can health system leaders respond in the Covid-19 pandemic and beyond? *Nurse Educ Today* 2020;94:104502. doi: 10.1016/j.nedt.2020.104502.
21. Ruiz-Fernández MD, Ramos-Pichardo JD, Ibáñez-Masero O, Cabrera-Troya J, Carmona-Rega MI, Ortega-Galán ÁM. Compassion fatigue, burnout, compassion satisfaction and perceived stress in healthcare professionals during the COVID-19 health crisis in Spain. *J Clin Nurs* 2020;29:4321-30. doi.org/10.1111/jocn.15469.
22. Sung CW, Chen CH, Fan CY, Su FY, Chang JH, Hung CC, Fu CM, Wong L, Pei-Chuan Huang E, Lee TS. Burnout in medical staffs during a coronavirus disease (COVID-19) pandemic. Available at SSRN 3594567. 2020 May 1. doi.org/10.2139/ssrn.3594567.
23. Kline RB. *Principles and Practice of Structural Equation Modeling*. 4<sup>th</sup> ed. New York: Guilford Publications; 2015.
24. Nikčević AV, Spada MM. The COVID-19 Anxiety Syndrome Scale: development and psychometric properties. *Psychiatry research*. 2020 Oct 1;292:113322. doi.org/10.1016/j.psychres.2020.113322.
25. Pommier E, Neff KD, Tóth-Király I. The development and validation of the Compassion Scale. *Assessment*. 2020 Jan;27(1):21-39. doi.org/10.1177/1073191119874108.
26. Hu LT, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Struct Equ Model Multidiscip J*. 1999;6:1-55. doi.org/10.1080/10705519909540118.
27. Tandon T, Dubey AK, Dubey S, Arora E, Hasan MN. Effects of COVID-19 pandemic lockdown on medical advice seeking and medication practices of home-bound non-COVID patients. *J Educ Health Promot* 2021;10:28.
28. Nejhadadgar N, Azadi H, Mehedi N, Toghroli R, Faraji A. Teaching adults how to prevent COVID-19 infection by health

- workers: The application of intervention mapping approach. *J Educ Health Promot* 2021;10:24.
29. Sharma D, Sharma N, Sharma P, Subramaniam G. Review of investigational drugs for coronavirus disease 2019. *J Educ Health Promot* 2021;10:31.
  30. Bikdeli B, Talasaz AH, Rashidi F, Sharif-Kashani B, Farrokhpour M, Bakhshandeh H, *et al.* Intermediate versus standard-dose prophylactic anticoagulation and statin therapy versus placebo in critically-ill patients with COVID-19: Rationale and design of the INSPIRATION/INSPIRATION-S studies. *Thromb Res* 2020;196:382-94.
  31. Morgantini LA, Naha U, Wang H, Francavilla S, Acar Ö, Flores JM, Crivellaro S, Moreira D, Abern M, Eklund M, Vigneswaran HT. Factors contributing to healthcare professional burnout during the COVID-19 pandemic: A rapid turnaround global survey. *PloS one*. 2020 Sep 3;15(9):e0238217.
  32. Qiu J, Shen B, Zhao M, Wang Z, Xie B, Xu Y. A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: Implications and policy recommendations. *Gen Psychiatr* 2020;33:e100213.
  33. Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, Ho RC. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International journal of environmental research and public health*. 2020 Jan;17(5):1729.
  34. Mousavi-Asl E, Khanjani S, Mahaki B, Mohammadian Y. Disordered eating: The psychometric properties of the Persian version of the eating attitudes test-8. *J Educ Health Promot* 2020;9:307.
  35. Khanjani S, Asmari Y, Mousavi Asl E, Ashouri A. Relationship of non-suicidal self-injury behaviors with mental pain in soldiers: The Mediating Role of Self-Compassion. *Journal of military medicine*. 2020 Apr;22(4):363-72.
  36. Mousavi Asl E, Dabaghi P, Taghva A. Screening borderline personality disorder: The psychometric properties of the Persian version of the McLean screening instrument for borderline personality disorder. *J Res Med Sci* 2020;25:97.
  37. Foroughi A, Khanjani S, Mousavi Asl E. Relationship of concern about body dysmorphia with external shame, perfectionism, and negative affect: The mediating role of self-compassion. *Iranian Journal of Psychiatry and Behavioral Sciences*. 2019 Jun 30;13(2).