Research Paper:
The Effect of Health Hardiness on Fear of COVID-19 in Nurses: Investigating the Mediating Role Tolerance of Emotional Distress

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ABSTRACT

Background: Nurses have the most level of communication with patients with COVID-19 who are always afraid of the disease and its consequences. Therefore, the present study aimed at investigating the effect of health hardiness on fear of COVID-19 in nurses with the mediating role tolerance of emotional distress.

Methods: The method of this research was descriptive-correlational. The statistical population of the present study consisted of all 351 female nurses of Imam Khomeini and Taleghani hospitals in Urmia in spring 2021. According to the target population, 205 nurses were selected based on Krejcie and Morgan's table and according to the available method. In this study, the Fear of COVID-19 Questionnaire developed by Ahorsu et al. [2020], the Health Hardiness Questionnaire designed by Gebhardt et al. [2001], and the Emotional Distress Tolerance Questionnaire developed by Simons and Gaher [2005] were used. Data were analyzed by Pearson correlation coefficient and stepwise regression.

Results: The findings showed that health hardiness and tolerance of emotional distress were involved in fear of COVID-19. Also, according to the values obtained, health hardiness had an effect of -0.364 on fear of COVID-19, and tolerance of emotional distress had an effect –of -0.178 on fear of COVID-19 [$p \leq 0.01$]. Health hardiness an effect equal to -0.528 on fear of COVID-19 with the mediating role of tolerance of emotional distress.

Conclusion: This study showed that cognitive factors in proportion to emotional factors have a greater effect on the fear of COVID-19 in nurses.

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1. Introduction

Coronavirus disease 2019 (COVID-19), after its onset in December 2019, had symptoms, including fever, cough, and difficulty breathing from mild to severe [1]. The disease affects many areas of the affected person's life due to the injuries, and even interpersonal communication in the family environment is overshadowed [2]. The psychological stress caused by this disease affects the health of medical staff, including nurses who are the first individuals communicating with these patients [3]. In addition to creating constant fear and anxiety for nurses, it affects family relationships and even quality of life [4, 5]. Fear is an instinctive and unpleasant emotion that is activated in situations where people feel threatened [6]. Fear has different symptoms, including heart palpitations, redness, severe sweating and causes a lot of anxiety for people [7]. Fear of COVID-19 in nurses in addition to causing harm to the individual can affect their work performance [8] because it reduces their motivation and cognitive ability; for example, hardiness and resilience can affect this level of excitement [9]. Health hardiness creates an inner attitude that affects people's coping strategies in different situations [10]. Health hardness refers to the extent, to which individuals emphasize a commitment to health-oriented practices, perceive their health as controllable, and consider health stressors as an opportunity for personal growth [11].

Health-related hardiness is a personality trait that makes people adapt to serious and chronic health problems with the components of control, struggle, and commitment [12]. Therefore, people who have more health hardiness will experience more stress tolerance [13]. Nursing distress tolerance in nurses includes their capacity to tolerate unpleasant experiences and internal states, such as fear, despair, and physical discomfort [14]. Emotional distress tolerance refers to the ability of nurses to tolerate negative emotions and emotional distress tolerance is an important function of emotional factors related to stressful conditions [15]; thus, increasing negative emotions is an important factor in reducing tolerance [16]. Tolerance of emotional distress in most cases is the desire to do something that relieves the experience of stress and these conditions can be reflected as nurses' poor work performance [17]. In this regard, Kassim et al. [18] showed that there is a relationship between psychological traumas and reduced cognitive impairments, such as hardiness in the degree of fear of corneal disease. Pera et al. [19] found that cognitive-emotional factors, such as emotional tolerance have a significant effect on anxiety and fear of COVID-19. In general, the rapid spread of fear of COVID-19 in the world put severe physical and psychological pressure on the medical staff of hospitals involved in the care of patients with fear of COVID-19 to the extent that the risk of developing the disorder increased in this group [20]. Meanwhile, nurses' health and mental health are endangered due to the high workload and special working conditions with this disease [21]. On the other hand, the lack of research in the country in the form of a model that carefully examines these cognitive and emotional factors in the fear of COVID-19 adds to the need for this research.

In order to gain a proper understanding of the effects of cognitive and emotional factors on the level of fear of COVID-19 in nurses, the aim of this study was to investigate the effect of health hardiness on fear of COVID-19 in nurses with the mediating role tolerance of emotional distress.

2. Methods

The present study was applied descriptive-correlational research. The statistical population of the present study consisted of all 351 female nurses of Imam Khomeini and Taleghani hospitals in Urmia in spring 2021. The sample size, according to the population size and based on the following equation and the values obtained from the previous study [18] and considering Σ=15.31, d2=6.552, α=1.96, and power=0.90, was equal to 205 people selected by simple random sampling.

According to the target population, 211 patients were selected based on Krejcie and Morgan's table and according to the available method. Inclusion criteria were as follow: nurses working in Imam Khomeini and Taleghani hospitals in Urmia, being married, and the consent to participate in the study. Exclusion criteriawere as follow: incomplete completion of questionnaires, doubts about having any of the inclusion criteria during the research, and dissatisfaction of the individual in any of the stages of the research.

In this study, the Fear of COVID-19 Questionnaire developed by Ahorsu et al. (2020), the Health Hardiness Questionnaire developed by Gibhardt et al. (2001), and the Emotional Distress Tolerance Questionnaire designed by Simmons and Gaher (2005) were used. The Fear of COVID-19 Questionnaire was developed by Ahurso et al. in Iran in 2020 with seven questions [22]. The answers are based on a five-point Likert, from strongly disagree (1) to strongly agree (5). The total score is from 7 to 35. A higher score indicates greater fear of the COVID-19. This scale has shown good psy-

Table 1. Demographic information of the samples

Variables	Subsets	Frequency	Frequency percentage
Age	25 to 35 years	124	58.76
	36 to 50 years	87	41.23
Education	Undergraduate Education	152	72.03
	Masters	59	27.96

Table 2. Descriptive indices and correlation between health hardiness and tolerance of emotional distress with fear of COVID-19

Variables	Mean	Standard deviation	1	2	3
Health hardiness	60.54	7.56	1		
Tolerance of emotional distress	33.82	4.25	**48.	1	
Fear of COVID-19	21.7	3.81	**34.-	**26.-	1

** significant at 0.01.

chometric properties. The construct and content validity was confirmed by the designer and the reliability was 0.82 by Cronbach's alpha method. In the present study, the reliability using Cronbach's alpha method was 0.76. The Health Hardiness Questionnaire was developed by Gibhardt et al. in 2001 with 24 questions [23]. The answers are based on a five-point Likert from strongly disagree (1) to strongly agree (5). The score range is 24 to 100, and a higher score indicates more rigidity. The construct and content validity was confirmed by the designer and the total reliability was 0.78 using Cronbach's alpha method. Torshabi and Bahrami [24] confirmed the validity of structure and content and its reliability was calculated by Cronbach's alpha method (0.68). Cronbach's alpha in the present study was 0.71. The Simmons and Gahr Emotional Distress Questionnaire was designed in 2005 with 15 questions [25]. Subjects respond to each statement on a 5-point Likert scale from strongly agree [5] to strongly disagree [1]. High scores in this questionnaire indicate a higher level of emotional distress tolerance in individuals. The construct and content validity was confirmed by the designer and the reliability was obtained between 0.72 and 0.82 using Cronbach's alpha method. Azizi et al. [26] confirmed the validity of the scale and its reliability was obtained by Cronbach's alpha method (0.80). In the present study, its reliability was obtained 0.74 using Cronbach's alpha method.

Statistical calculations: The collected data were analyzed using path analysis and SPSS software, v. 18 and Amos v. 23 (SPSS 18, Amos 23, USA, California, and Stanford University).

3. Results

According to demographic information, 124 people were in the age range of 25 to 35 years and 87 people were in the age range of 36 to 50 years. Also, 152 people had a bachelor's degree and 59 people had a master's degree. In data analysis, the normality of the data was first confirmed

Table 3. Fit indices derived from data analysis and variables

Test	Explanations	Acceptable Amounts	Achieved Amount
-	Relative Chi-square	>3	2.266
RMSEA	Root Mean Square Error	>0.1	0.031
GFI	Goodness of fit index	<0.9	0.998
NFI	Normed Fit Index	<0.9	0.990
CFI	Comparative fit index	<0.9	0.995
df	128	-	-

Table 4. Direct model estimation by maximum likelihood [ML3] method

Variables	b	β	R^2	t	Sig.
Health hardiness on fear of COVID-19	-0.364	-0.230	0.075	3.786-	0.01
Tolerance of emotional distress on fear of COVID-19	-0.296	-0.178	0.045	-3.346	0.01

Table 5. Direct estimation of the model by Bootstrap method

Variable	Value	Lower limit	Upper limit	Significance
Health hardiness on fear of COVID-19 with the mediating role of tolerance of emotional distress	-0.528	-0.662	-0.351	0.01

by examining statistical assumptions using elongation and skewness as well as the Kolmogorov-Smirnov test.

The results in Table 2 show the descriptive indicators of the variables of health hardiness, tolerance of emotional distress, and fear of COVID-19. It also shows a significant correlation between health hardiness and tolerance of emotional distress with fear of COVID-19 and specifically a significant negative correlation between health hardiness (-0.34) and tolerance of emotional distress (-0.26) with the fear of COVID-19. In the regression study, the linear defaults of the variables were confirmed and the necessary conditions were provided for the study of the regression model.

According to Table 3, the value of RMSEA is equal to 0.031; thus, it is less than 0.1 indicating that the mean square of the model errors is appropriate and the model is acceptable. In addition, the Chi-square value divided by the degree of freedom (2.266) is between 1 and 3, and the values of GFI, CFI, and NFI indices are approximately equal to and greater than 0.9, indicating that the measurement model of the research variables is an appropriate model.

According to Table 4, health hardiness and tolerance of emotional distress have a significant direct effect on fear of COVID-19. Specifically, health hardiness has an effect of -0.364 on fear of COVID-19, and tolerance of emotional distress has an effect of -0.178 on fear of COVID-19.

As in Table 5, the two indirect paths considered were significant and confirmed by the bootstrap method at the level of 0.01 according to the obtained values. Thus, health hardiness had an effect equal to -0.528 on fear of COVID-19 with the mediating role of Tolerance of emotional distress.

4. Discussion

The aim of this study was to investigate the effect of health hardiness on fear of COVID-19 in nurses with the mediating role tolerance of emotional distress. Also, tolerance of emotional distress had a role in the correlation between health hardiness and fear of COVID-19. These results are consistent with the findings of Kassim et al. [18] and Pera et al. [19] in the relationship between these variables in terms of the role of health hardiness and emotional distress tolerance in fear of COVID-19. Due to the similarity in the results, we can point out the common points of cognitive and emotional symptoms

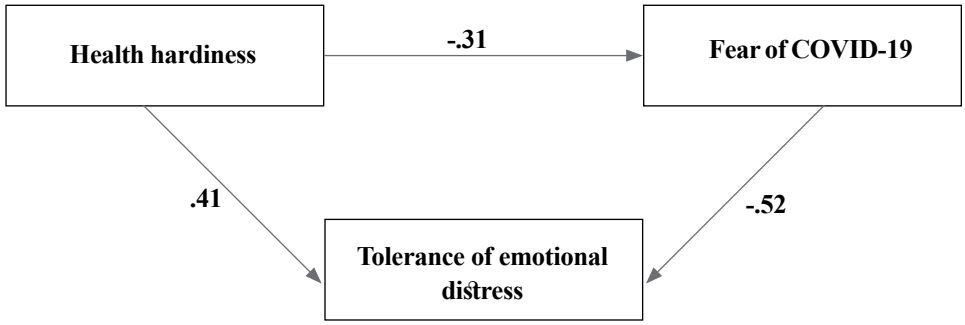

Figure 1. Final tested model along with standardized prediction statistics

in developing the disease. According to the theoretical foundations of cognition, fear as a negative emotion has the same common symptoms in individuals. There are differences in the ratio of the present research in the tools used and the temporal and spatial situation, but according to the logic of cognitive and emotional foundations in the studied variables, the obtained alignment can be confirmed. In general, in explaining these results, it can be stated that health hardiness improves the behavioral management, motivation, and commitment of nurses in performing their duties [27]. According to their work motivation, nurses follow the basic principles based on maintaining their health [28]. Taken together, these factors lead to effective coping strategies to improve emotional performance in nurses' fear of COVID-19.

The act of enduring emotional distress also works by increasing the number of people, understanding the situation, and positive problem-solving strategies in fear and anxiety [29]. Some of the practices indicated that [30] these conditions will improve their job performance and self-care behaviors. Health hardiness compared to the tolerance of emotional distress according to the predictive factor has a greater effect on the fear of COVID-19. This study showed that cognitive factors in proportion to emotional factors have a greater effect on fear of COVID-19 in nurses. It is suggested that in order to improve job performance and fear of COVID-19 in nurses, in addition to providing in-service courses to teach effective coping strategies, they should emphasize cognitive areas, such as problem-solving management in high-stress conditions.

Limitations of the research include assessing female nursing patients, limitation of the research samples to Imam Khomeini and Taleghani hospitals in Urmia in spring 2021, using correlation method, by which it is not possible to find the cause, using a questionnaire to collect data, and conducting the research at the time of fear of COVID-19; thus, the sampling process was difficult.

5. Conclusion

This study showed that there is a negative relationship between health hardiness and tolerance of emotional distress with fear of COVID-19. Also, tolerance of emotional distress has a role in the correlation between health hardiness and fear of COVID-19.

Ethical Considerations

Compliance with ethical guidelines

All ethical principles were considered in this article. The participants were informed about the purpose of the research and its implementation stages and signed the informed consent. They were also assured about the confidentiality of their information. Moreover, they were allowed to leave the study whenever they wish, and if desired. The results of the research would be available to them. This article has been registered in cooperation with the Office of Applied Research of Azerbaijan Gharbi (No.: 5009986).

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Authors' contributions

All authors equally contributed to preparing this article.

Conflict of interest

The authors declared no conflict of interest.

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