RESEARCH ARTICLE

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Investigating the Anxiety Caused by COVID-19 and its Relationship with the Self-efficacy and General Health in Iranian Nurses

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Abstract:

Background: Since its outbreak, the COVID-19 pandemic has taken a heavy toll on the public, particularly among healthcare workers, causing excessive mortality and health problems. The present study seeks to determine the anxiety caused by COVID-19 and its impact on nurses' self-efficacy as well as their general health in Shahroud University of Medical Sciences affiliated hospitals.

Materials and Methods: This is a cross-sectional study conducted in 2023. Our sample consists of 133 nurses working in hospitals affiliated with Shahroud University of Medical Sciences. A questionnaire was used to measure the anxiety caused by COVID-19 as well as its impact on nurses' self-efficacy and general health. The collected data were then analyzed using Chi-square tests, Pearson's correlation coefficient, and logistic regression at a 5 percent significance level.

Results: In this study, 106 nurses (79.7%) were female. The mean score of anxiety caused by COVID-19 was 12.0 ± 7.7 while the mean self-efficacy score and the mean health score were 47.4 ± 12.3 and 20.6 ± 8.0, respectively. Also, 88 (66.2%) nurses had normal general health status, while 45 (33.8%) had mild general health problems. In addition, 91 people (68.4%) suffered from low self-efficacy, whereas 42 people (31.6%) were high in self-efficacy. Pearson's correlation coefficient stressed a positive and significant linear relationship between anxiety score and self-efficacy score ($r=0.33$, $p<0.001$). As expected, there was a positive and significant linear relationship between anxiety score and general health ($r=0.39$, $p<0.001$). The results from the multivariate regression analysis emphasize that gender, anxiety, general health, and marital status have a significant impact on the sense of self-efficacy.

Conclusion: Given the low sense of self-efficacy among nurses and its implications for public health, it is suggested that the top managers of the university should adopt new approaches to collaborative management in order to improve the self-efficacy among nurses. The relevant officials are also advised to apply methods to appreciate nurses' positive performance and to provide appropriate feedback on their skills and capabilities. Further, to realize better public health and enhanced self-efficacy, policymakers should take steps to ensure social and emotional support for nurses and to upgrade their knowledge and skills.

Keywords: Anxiety caused by COVID-19, Self-efficacy, General health, Nurses, COVID-19, Anxiety.

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1. INTRODUCTION

Since its outbreak, the COVID-19 pandemic has taken a heavy toll on the public, particularly among healthcare workers and nurses working in hospitals, causing excessive mortality and health problems [1-3]. Due to their direct contact with patients, nurses have been exposed to the infection, placing coworkers and family members at risk [4]. Lack of resources, lack of sleep, longer shifts, high-pressure work environment and risks associated with exposure to the virus are major factors that have resulted in higher levels of stress and anxiety in nurses [5, 6]. The nature of the COVID-19 disease has caused severe reactions such as fatigue, anxiety due to possible infection, depression, and psychological abnormalities in nurses [7-9], thereby affecting their well-being and sense of self-efficacy [10, 11].

Nursing is one of the most stressful jobs, given that nurses care for and interact directly with patients [5, 6, 12]. Nurses often complain about excessive workload, job stress, fatigue, and lack of free time. These issues have resulted in lower work efficiency and worsened physical, mental, and social health, urging nurses either to quit or change careers [13]. As mentioned earlier, nurses' well-being, which is at risk due to their job and work environment, directly affects their self-efficacy and performance. As such, any disorder in their performance can have a significant impact on patient care. This highlights the need to ensure nurses' general health as well as their self-efficacy [13-15]. The result of a study in one of the universities in the north of Iran has shown that 42 percent of nurses suffer from general health disorders [16].

Defined as a constructive ability that effectively organizes human cognitive, social, emotional, and behavioral skills to achieve various goals, Self-efficacy is regarded as an important factor for successful individual performance and task fulfillment [17-19]. The higher the level of self-efficacy of a person, the stronger the confidence and belief in one's abilities and capacities, the better his performance [20, 21]. As highlighted by some studies, self-efficacy enhances the individual's self-esteem in providing optimal services in complex conditions [22-25]. In addition, self-efficacy can play a role in controling negative emotions and thoughts, preventing stress and secondary public health problems [26]. Moreover, self-efficacy enables accurate assessment of situations and facilitates the search for efficient ways of dealing with problems and obstacles [27]. It also increases concentration and self-control [28, 29]. Low self-efficacy is associated with anxiety and feelings of helplessness, while high sense of self-efficacy is associated with a higher level of positive emotions (people with high sense of self-efficacy evaluate distressing stimuli more as a challenge than a threat and strive to accomplish their goals by accepting challenges and setting goals) [30-32].

Some studies have provided evidence that suggests a positive relationship between anxiety and self-efficacy [33] and general health [1, 34]. The results of some studies- both foreign and domestic- indicate high levels [9, 35, 36] to moderate levels of stress [1, 2, 33, 37] caused by Corona among nurses. The result of a study in Morocco showed that 49.3% of employees had moderate to very severe levels of anxiety caused by coronavirus [38]. Also, the results of some studies emphasize a negative relationship between anxiety caused by COVID-19 and both general health [1] and self-efficacy [33].

As mentioned, the nursing profession is potentially stressful in nature. In the meantime, the emergence of the COVID-19 pandemic and its rapid global spread has caused an influx of patients infected with this virus to hospitals, culminating in heavier work pressure for nurses [39]. Given the importance of this issue, the present study was conducted with the aim of determining the stress caused by Corona and its relationship with the sense of self-efficacy and general health among nurses working in Shahroud University of Medical Sciences affiliated hospitals in 2023.

2. METHODS

This is a cross-sectional study conducted in 2023. The sample consists of 133 nurses working in hospitals affiliated with Shahroud University of Medical Sciences. Given the number of nurses working in these two hospitals and their names, which were collected from the recruitment offices, 135 people were randomly selected and the number was proportional to the number of employees in each hospital. 81 people in Imam Hossein (AS) Hospital and 52 people in Bahar Hospital completed the questionnaires. Being employed and willing to answer the research questions were the inclusion criteria.

In this study, 3 questionnaires, including Corona Disease Anxiety Scale [40], self-efficacy [41], and general health [42], were used to obtain data. The questionnaires include a number of demographic questions (age, sex, work shift, work experience, level of education, marital status, number of children, spouse's occupation, spouse's education level, income satisfaction and interest in the career, place of residence, name of the department in the hospital).

2.1. Corona Disease Anxiety Scale (CDAS)

The Persian version of this tool has 18 items and 2 components and has been validated in Iran by Alipour *et al*. [40]. Items 1-9 measure psychological symptoms, and items 10-18 measure physical symptoms. Each question is scored on a scale of 0 to 3, so the overall score ranges between 0 and 54.

2.2. Sherer Self-efficacy Scale

Developed by Scherer *et al*. [41], this scale includes 17 items scored from 1 to 5. The maximum score is 85, and the minimum score is 17, where higher scores indicate stronger self-efficacy. The questionnaire includes three subscales: willingness to initiate behavior, willingness to expend effort, and persistence in the face of adversity. A cut-off score of 58 was used to dichotomize people into high and low self-efficacy groups [41]. The Persian version

of the Self-efficacy questionnaire in Iran has been validated by Barati and its reliability has been reported at 79% [43].

2.3. General Health Questionnaire (GHQ)

GHQ has 28 questions, and each question is scored from 0 to 3. Thus, the overall score ranges between 0 and 84. The lower a person's score, the better his mental health [42]. This questionnaire has somatic symptoms subscales, anxiety, and sleep disorder subscales, social function disorder subscales, as well as depression symptoms subscales. Based on the total score, people are divided into four categories: no symptoms (scores 0 to 22), mild symptoms (scores 23 to 40), moderate symptoms (score 41 to 60), and severe symptoms (scores 61 to 84) [42].

After explaining the research objectives, the questionnaires were delivered to the nurses by trained interviewers and collected upon completion. This study has been reviewed by the Council of Ethics in Medical Sciences Research and approved by the ethics code IR.SHMU.REC.1401.036. As an anonymous survey, the questionnaires did not collect names and specifications, and people were free to participate in the study. The collected data were then entered into SPSS 16 software and were analyzed using ANOVA and Chi-square tests, Pearson's correlation coefficient, and multivariate regression at a 5 percent significance level.

3. RESULTS

Out of 135 distributed questionnaires, 133 (98.5%) questionnaires were completed and returned. Almost 80 percent of respondents were female (106 nurses). In our study, 60.9% of respondents (81 persons) worked in Imam Hossein Hospital, while 39.1% (52 people) worked in Bahar Hospital. In respect to other variables, 118 (88.7%) nurses had a bachelor's degree, and 91 (68.4%) were married. Of them, 19 respondents (14.3%) had a second job, and only 14 (10.5%) of them were satisfied with their current income. The work experience of 61 (45.9%) nurses

was less 10 years. While 48 respondents (36.1%) had occupied in internal departments (infectious, neurology, internal medicine and pediatrics), 34 nurses (25.6%) were worked in surgical departments (general surgery, gynecology, orthopedics, and urology), and the remaining 38.3% (N=51) worked in intensive care units (CCU, ICU, and emergency department).

The mean score of anxiety caused by C OVID-19 was 12.0±7.7, which indicated nurses experienced a low level of Covid-related anxiety. The mean score of self-efficacy was 47.4±12.3, which was regarded as a low mean self-efficacy score. The mean score of general health was 20.6 ± 8.0. Also, 88 (66.2%) nurses had normal general health status, while 45 (33.8%) had mild general health problems. In addition, 91 people (68.4%) suffered from low self-efficacy, whereas 42 people (31.6%) were high self-efficacy (Table 1).

As displayed in Table 2, the chi-square test highlights that work experience, gender, marital status, and Job interest have a significant impact on self-efficacy. Thus, nurses with at least 15 years of work experience had weaker self-efficacy. Also, male nurses had a higher self-efficacy than females. Self-efficacy was higher among single nurses than married ones. The results revealed that nurses who were very interested in their jobs were more likely to suffer from a lower sense of self-efficacy. We found no evidence to suggest a significant relationship between the self-efficacy on the one hand and age, having a second job, income satisfaction, work shift, and department on the other hand.

Also, Table 3 summarizes the results of the relationship between demographic characteristics and nurses' general health status. The results suggest a positive relationship between general health and marital status, with married nurses enjoying a higher-than-normal general health level. We found no evidence to suggest a significant relationship between general health on the one hand and work shift, work experience, age groups, gender, income satisfaction, having a second job, job interest, and department on the other hand.

Table 1. Mean and standard deviation of age, work experience, anxiety, self-efficacy and general health in Iranian nurses.

Variables	Mean ±SD	Minimum	Maximum
Age (year)	36.2±6.8	24	52
Work experience (year)	10.4±5.8	0	29
Anxiety Caused by COVID-19	12.0±7.7	0	48
Psychological symptoms	8.8±4.7	0	27
Physical symptoms	3.3±3.6	0	22
Self-Efficacy	47.4±12.3	24	66
Willingness to initiate behavior	19.8±4.9	10	27
Willingness to expand effort	17.4±4.5	6	24
Persistence in the face of adversity	10.2±3.6	4	16
General Health	20.6±8.0	7	44
Somatic symptoms	6.4±3.4	1	18
Anxiety and sleep disorder	5.6±3.7	0	16
Social function disorder	5.5±4.5	0	19

(Table 1) contd.....

Variables	Mean ±SD	Minimum	Maximum
Depression symptoms	3.3±3.1	0	13

Table 2. The relationship between demographic factors and general health with self-efficacy in Iranian nurses.

Variables	self-efficacy Status		General Health Problem	
	Low (%) n=91	High (%) n=42	Normal (%) n=88	Mild (%) n=45
Age (year)		-	-	-
<30	15(55.6)	12(44.4)	16(59.3)	11(40.7)
30-40	40(65.6)	21(34.4)	40(65.6)	21(34.4)
>40	36(80)	9(20)	32(71.1)	13(28.9)
X^2 statistic (p value)	5.09 (0.07)		1.08 (0.58)	
Work experience (year)		-	-	-
<10	35 (57.4)	26 (42.6)	35(57.4)	26(42.6)
10-15	26 (66.7)	13 (33.3)	31(79.5)	8(20.5)
>15	30 (90.9)	3 (8.1)	22(66.7)	9(33.3)
X^2 statistic (p value)	11.22 (0.004)		5.20 (0.07)	
Gender	-	-	-	-
Male	13 (48.1)	14 (51.9)	18(66.7)	9(33.3)
Female	78 (73.6)	28 (26.4)	70(66)	36(34)
X^2 statistic (p value)	6.44 (0.01)		0.004 (0.95)	
Marital status	-	-	-	-
Single	22 (52.4)	20 (47.6)	20 (47.6)	22 (52.4)
Married	69 (75.8)	22 (24.2)	68 (74.7)	23 (25.3)
X^2 statistic (p value)	7.31 (0.007)		9.43 (0.002)	
Having a second job	-	-	-	-
Yes	12(63.2)	7(36.8)	11(57.9)	8(42.1)
No	79(69.3)	35(30.7)	77(67.5)	37(32.5)
X^2 statistic (p value)	0.28 (0.59)		0.68 (0.43)	
Income satisfaction	-	-	-	-
Satisfied	13(92.9)	1(7.1)	10(71.4)	4(28.6)
Relatively satisfied	35(66)	18(34)	34(64.2)	19(35.8)
Dissatisfied	43(65.2)	23(34.8)	44(66.7)	22(33.3)
X^2 statistic (p value)	4.34 (0.11)		0.28 (0.78)	
Job interest	-	-	-	-
Very Low	4(50.0)	4(50.0)	4(50.0)	4(50.0)
Low	24(39.3)	37(60.2)	45(73.8)	16(26.2)
High	63(98.4)	1(1.6)	39(60.9)	25(39.1)
X^2 statistic (p value)	51.8 (<0.001)		3.29 (0.35)	
Work shift	-	-	-	-
Rotational	52(66.7)	26(33.3)	47(60.3)	31(39.7)
Fixed	39(70.9)	16(29.1)	41(74.5)	14(25.5)
X^2 statistic (p value)	0.27 (0.60)	-	2.94 (0.09)	-
Department	-	-	-	-
Internal medicine	32 (66.7)	16 (33.3)	37(77.1)	11(22.9)
Surgical	24 (70.6)	10 (29.4)	21(61.8)	13(38.2)
Special care units	35 (68.6)	16 (31.4)	30(58.8)	21(41.2)
X^2 statistic (p value)	0.14 (0.93)		4.08 (0.13)	

Table 3. Multivariable logistic regression model for assessing the predictors of self-efficacy in Iranian nurses.

Variables	β	SE	Wald Test	P value	OR	95% CI
Anxiety score	1.36	0.036	14.28	<0.001	1.15	1.07-1.23
General health (normal *vs.* mild)	-1.43	0.56	6.52	0.01	4.17	1.39-12.48

(Table 5) contd.....

Variables	β	SE	Wald Test	P value	OR	95% CI
Gender (male *vs.* female)	1.08	0.50	4.64	0.03	2.95	1.10-7.88
Marital status (single *vs.* married)	1.11	0.47	5.48	0.02	3.03	1.20-7.64
Constant	-4.14	0.87	22.82	<0.001	0.02	-

Pearson's correlation coefficient stressed a positive and significant linear relationship between anxiety score with score of self-efficacy (r=0.33, p<0.001) and general health score (r=0.39, p<0.001).

Multiple Regression Analysis was used to investigate the relationship between self-efficacy level in nurses and demographic factors, anxiety as well as general health. The regression results underline that gender, anxiety, and general health, as well as marital status, have a positive impact on self-efficacy. More specifically, for a one-unit increase in the anxiety score, the chance of high self-efficacy increases by 15%, compared to the chance of low self-efficacy. Those with normal general health status were 4.2 times more likely to feel high self-efficacy than those with mild symptoms of general health problem. Moreover, Men were 2.95 times more likely to have a high self-efficacy than women. Furthermore, Single people were 3 times more likely to have higher self-efficacy than married people (Table **3**).

4. DISCUSSION

The mean score of self-efficacy was 47.4 ± 12.3. However, a previous study carried out using a similar questionnaire in 2015 among healthcare workers at Shahroud University of Medical Sciences obtained a mean self-efficacy score of 62.3 ± 9.2, which was not only strikingly greater than our estimated figure but also implied a higher level of self-efficacy, given the cut-off score of 58 used in both studies. The extended scope of the mentioned research, as well as the fact that it was conducted before the COVID-19 pandemic, are possible reasons for such a high score [44]. Meanwhile, another study carried out in Iran obtained a mean self-efficacy score of 46.7 ± 3.8 among nurses, which bears a close resemblance to our findings [21]. Further, a study carried out in Spain using the General Self-Efficacy Scale (GSES) questionnaire with a score range of 10 to 40 obtained a self-efficacy score of 29.6 ± 3.7, which represents an average level of self-efficacy for nurses, though being lower than our estimated score [33]. The difference can be explained by the inherent difference in samples, cultural differences, and different questionnaires used, not to mention the different score ranges employed in our study (17-85) against that of the above study (10-40). Also, a study conducted in Peruvian hospitals estimated a mean self-efficacy score of 48.28±12.97 for healthcare workers using a questionnaire with different score ranges (10 to 70) [45]. The difference in results can be explained by factors such as cultural discrepancies, different types of questionnaires, and. Self-efficacy is a subjective matter, and it may be affected in different situations, work atmospheres, and individual well-being. Failure to pay particular attention to self-efficacy cannot only cause further problems in the healthcare system but also reduce the quality of nursing services. Nurses with low self-efficacy are not able to prove their capabilities at work, which can result in a negative attitude towards oneself and one's profession, as well as loss of interest in work and lower job satisfaction. In contrast, the work atmosphere and health status of personnel can effect on self-efficacy of personnel. Therefore, the relevant officials are required to take appropriate measures in order to improve the self-efficacy among nurses. This further highlights the role of nursing managers in devising successful and creative initiatives to address low self-efficacy among nurses [46, 47].

The mean anxiety score caused by COVID-19 was 12.0 ± 7.7, which is considered low level. A study on Iranian nurses conducted with a questionnaire similar to ours in 2020 reported the mean anxiety score caused by CCOVID-19 to be 17.7 ± 10.5, which is higher than our obtained results. The high score can be attributed to the fact that the study was conducted in the early years of the outbreak of COVID-19 in Iran [10]. Also, a study conducted in Morocco reported the mean anxiety score among employees to be 10.5 ± 9.1, and found that 49.3% of employees suffered from moderate to very severe anxiety, which does not confirm our results [38]. Moreover, in another study conducted in northeast Iran in 2019, the mean anxiety score caused by COVID-19 was reported to be 8.83 ± 6.50, which is lower than our results [48]. The variation in results is justified by the different environments and tools adopted. Further, a study conducted in two hospitals for the management of COVID-19 patients in Kerman city in 2019, estimated a mean anxiety score of 21.39 ± 9.80 [37], which is higher than our findings. The higher mean anxiety score obtained can be explained by the time frame of the study as well as the type of hospitals where the COVID-19 patients were admitted. In addition, two studies conducted in China and Serbia reported the mean anxiety score among nurses to be 9.97 ± 6.11 [49] and 10.19 ± 9.44, respectively [50], which are lower than our estimated results. In an Iranian study the anxiety caused by COVID-19 reported as amoderate level, which is higher than our result [2, 9]. Another study conducted in Iran reported the mean anxiety score caused by COVID-19 to be 17.74 ± 11.05, which is higher than our finding [40]. Also, a study conducted in Spain reported the mean anxiety score of nurses to be 10.46 ± 4.31, which implied a moderate level of anxiety among nurses, though being lower than our findings [33]. Variation in the results can be justified by the different questionnaires and different score ranges used in both studies, (0-54) against (0-21). The results of studies in China showed that a small percentage of nurses suffered from anxiety caused by COVID-19, which is in line with our results [36, 51]. The results of a study in Iran in 2021 revealed that most of the healthcare workers

suffered from medium to high levels of anxiety caused by COVID-19, which is not consistent with our results [52]. The results of a study conducted in Jordan indicated that anxiety caused by COVID-19 was prevalent among most nurses, which does not confirm our results [35]. In a systematic review, the prevalence of anxiety caused by COVID-19 was reported to range between 34.2% and 57.7%, which is higher than our estimated result [53]. Also, results of a study in Germany suggested that 19% of nurses suffered from anxiety, which is higher than our findings [54]. Within 4 years after the outbreak of the COVID-19 pandemic and due to measures taken such as COVID-19 vaccination and application of more effective treatment methods, compared to the pre-pandemic era, as well as health system enhanced resilience, daily life activities have returned to normal. This justifies the variation in our results as well as the low anxiety level caused by COVID-19 among nurses.

The mean general health score was 20.65±7.96, which suggests that the study population did not have any general health problems. In a study conducted on healthcare workers in Shahroud before the outbreak of COVID-19 pandemic, the mean general health score was reported to be 28.24 ± 11.14 [44], which is higher than our estimated results. This difference in result can explained by the fact that the previous study sample was composed of healthcare workers in both comprehensive health centers (28 centers) and hospitals (2 hospitals), whereas our sample consists only of nurses working in university-affiliated hospitals.

While we detected a significant relationship between general health and marital status, we found no evidence of a relationship between general health on the one hand and work shift, work experience, age, gender, income satisfaction, having a second job, job satisfaction, and sector. A study conducted before the outbreak of COVID-19 in Shahroud found a significant relationship between general health and gender, which is not consistent with our results [44]. However, it observed no relationship between general health and age, work experience, and education, which confirms our results [44].

Pearson's correlation coefficient stressed a linear relationship between anxiety, self-efficacy, and general health. Studies conducted in China and Poland suggested a positive and significant correlation between anxiety and self-efficacy, which is consistent with our results [32, 49]. Also, another study detected a negative and significant correlation between general health scores and COVID-related anxiety [55]. Moreover, a study carried out in Iran in 2021 observed a relationship between anxiety caused by COVID-19 and general health, which is in line with our results [52]. Further, a study in Turkey found evidence of a negative relationship between anxiety and self-efficacy [56]. In addition, another study conducted in universities of southern Iran observed a significant negative correlation between the sense of self-efficacy and general health [34]. Given the low anxiety level among nurses, anxiety is not considered a serious issue and thereby

cannot cause dysfunction or self-efficacy-related disorder. Rather, it improves self-efficacy due to greater sensitivity. A study conducted in Peru found evidence of a negative relationship between anxiety and the sense of self-efficacy among healthcare workers [23]. Variation in results can be attributed to cultural and geographical discrepancies, the time frame of the study (2020), the scope of the research, and the inclusion of all healthcare workers, as well as different questionnaires used (10 questions with a score range of 0-60).

The results from multivariate regression analysis emphasize that gender, anxiety score, general health status as well as marital status have a significant association with the sense of self-efficacy, which is in line with some studies conducted in hospitals in northern Iran [46]. A cross-sectional study among Iranian nurses, which used a different questionnaire (10 questions with a score range of 10-40), stressed that age, gender, and work experience have a significant impact on self-efficacy, which, in accordance with our results in related to sex though age and work experience relationship are not compatible with our study [57]. The results of a study carried out in Italy emphasized a significant relationship between gender and self-efficacy, which is consistent with our results. Also, their analysis did not detect any relationship between department, education, and work experience on the one hand and self-efficacy on the other hand, which is consistent with our results [9]. Furthermore, a study conducted in Australia revealed no significant relationship between marital status and self-efficacy among nurses [47], which is in line with our results. Also, a study conducted in China highlighted a correlation between Anxiety and self-efficacy, which is consistent with our results [49]. Further, another study in Chinese hospitals demonstrated a negative correlation between anxiety and self-efficacy among nurses, which does not corroborate our results [58]. Furthermore, an Italian study reported a negative correlation between self-efficacy and anxiety, which does not support our results [9]. Additionally, studies on Iranian nurses and healthcare providers highlighted a significant correlation between general health and self-efficacy, which is consistent with our results [44, 57]. Variations in results are justified by cultural and geographical differences, as well as different types of ideological and healthcare systems across countries.

5. LIMITATIONS OF THE STUDY

Given the cross-sectional nature of the study and lack of prior research studies on the topic before the outbreak of COVID-19, the causal relationship between self-efficacy, general health, and anxiety caused by the COVID-19 might involve reverse causality problem. Also, conclusions drawn from our study may not be generalizable to the general population at large, especially due to the fact that the scope of the study was limited to one university. Good design, coverage of all affiliated hospitals of the Shahroud University of Medical Sciences, appropriate sample size as well as standard questionnaire design are among the

major advantages of our study. In addition, by extending this cross-sectional study to a longitudinal study, one can determine the evolutionary path of psychological and occupational consequences of COVID-19 as well as its predictors throughout the COVID-19 pandemic.

CONCLUSION

Given the low self-efficacy status among nurses and its association with general health, it is suggested that the top managers of the hospitals should adopt new approaches to collaborative management in order to improve the self-efficacy among nurses. The relevant officials are also advised to apply appreciate a method to develop nurses' positive performance and to provide appropriate feedback on their skills and capabilities. Also, they can help nurses overcome personal issues by teaching methods to improve performancesuch as problem solving, promotion of process and organizational behavior. Further, to realize better general health and enhanced self-efficacy, policymakers should take steps to ensure social and emotional support for nurses and to upgrade their knowledge and skills.

AUTHORS' CONTRIBUTIONS

It is hereby acknowledged that all authors have accepted responsibility for the manuscript's content and consented to itssubmission. They have meticulously reviewed all results and unanimously approved the final version of the manuscript.

LIST OF ABBREVIATIONS

CDAS   =   Corona Disease Anxiety Scale

GHQ   =   General Health Questionnaire

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study was approved by the Ethical Review Board of Shahroud University of Medical Sciences with the code IR.SHMU.REC.1401.036.

HUMAN AND ANIMAL RIGHTS

All procedures performed in studies involving human participants were in accordance with the ethical standards of institutional and/or research committees and with the 1975 Declaration of Helsinki, as revised in 2013.

CONSENT FOR PUBLICATION

Informed consent was obtained from the participants.

STANDARDS OF REPORTING

STROBE guidelines were followed.

AVAILABILITY OF DATA AND MATERIALS

The data and supportive information are available within the article.

FUNDING

None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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