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Original Article

A Comparative Study of Moral Courage, Moral Distress and Anxiety of Nurses Working in COVID-19 and Non-COVID-19 Wards

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ABSTRACT

Moral distress and generalized anxiety disorder (GAD) due to the moral challenges of dealing with COVID-19 can reduce the quality of nursing care. In such situations, nurses require moral courage to demonstrate proper moral performance. This study aimed to compare the levels of anxiety, distress and moral courage of nurses working in COVID-19 and Non-COVID-19 wards. The study was approved by the Ethics Committee of Zanjan University of Medical Sciences (Ethical code No.IR.ZUMS.REC.1399.171). This comparative cross-sectional study was conducted on 107 nurses working in COVID-19 and Non-COVID-19 wards in the teaching hospitals of Zanjan University of Medical Sciences, Iran, in 2020. Nurses were selected by convenience sampling method. Data were collected using demographic, Professional Moral Courage (PMC) scale, Iranian Moral Distress Scale (IMDS) and GAD scale and analyzed using independent t-tests, Chi-square, Mann-Whitney and Fisher's exact tests with $p\text{-value}<0.05$ in SPSS 16 software. Comparing the mean scores of generalized anxiety between nurses caring for COVID-19 and Non-COVID-19 patients, a statistically significant difference was found ($p<0.05$). However, there was no significant difference in the mean score of moral distress severity between nurses caring for COVID-19 and Non-COVID-19 patients ($p>0.05$). Similarly, no significant difference was found in the mean score of moral courage between the two groups caring for COVID-19 and Non-COVID-19 patients ($p>0.05$). The results showed that the level of generalized anxiety disorder in nurses of Non-COVID-19 wards is higher than COVID-19. This finding emphasized the distinct psychological impact of caring for patients with COVID-19. However, the level of moral courage and moral distress in the two groups of nurses did not differ significantly. These results imply that while the challenges related to generalized anxiety are more evident in the context of COVID-19 care, nurses in both patient groups face comparable levels of moral distress and exhibit similar levels of moral courage. Recognizing these nuanced aspects of nurses' well-being and resilience is essential for crafting focused support strategies and interventions in healthcare settings.

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Introduction

Nurses are among the largest groups of health service providers in societies (1). Numerous stressors have been identified in health care settings. However, the role of moral distress stressors in nursing has been marginally addressed. Nurses face complex ethical dilemmas arising from conflicts between right action and values (2). Moral challenges are more noticeable in the face of pandemics such as COVID-19, which spread rapidly around the world. During the COVID-19 pandemic, when we are faced with a shortage of resources and drugs and reduced capacity of healthcare workers, numerous questions are raised about compliance with standards and ethical care (3). The prolonged interaction of nurses with patients intensifies the necessity for ethical decision-making (4).

Jameton defines moral distress as a negative and unbalanced psychological feeling that occurs in individuals due to their inability to execute moral decisions (5). According to studies, approximately 36% of nurses are confronted with moral challenges every few days (6), which causes them to neglect the patient (7). More than 80% of the nurses surveyed in Poortaghi's study experienced moderate to high levels of moral distress, leading to dissatisfaction, stress and burnout and quitting their job as nurses (4). Accordingly, patients experience decreased quality of care and prolonged hospitalization. Furthermore organizations suffer staff loss and patient dissatisfaction (8). In COVID-19 wards, nurses face diverse challenges, including skepticism towards patient complaints, restrictions on their involvement in the treatment process, conflicting opinions with physicians regarding treatment, the absence of physicians in the ward, overcrowding, high workload, time constraints and shared rooms. These factors contribute to a disregard for patient privacy, moral distress and a decline in care standards for nurses caring for COVID-19 patients (7). Plentiful qualitative studies have been conducted to explain nurses' experiences in the face of ethical issues that include incompetence, anger, sadness and grief following experiencing moral distress (9-11).

In situations causing moral distress, nurses require moral courage to demonstrate appropriate performance. Nursing as an ethical practice requires courage to be moral, to take a tough stands for what is right and to live by one's moral values (12). When an individual is unable to perform a morally appropriate action, moral courage helps to strive to achieve the ultimate goal regardless of its consequences (13). In this situation, nurses need moral courage to deal with moral challenges (12). Sekerka et al. point out that when nurses face situations directly threatening patient care, they practice their moral courage (14). This feature preserves an individual's moral identity and belief framework and protects the individual from the consequences of moral distress (15). Dodek's study found that if individuals were courageous enough to follow moral principles, they would experience less moral distress. He also wrote that nurses lack sufficient courage to encounter moral challenges, which helps to create moral distress (16). Morally courageous individuals are aware of losing something in return for performing the right action (17). They may experience a threat to their reputation, embarrassment, anxiety, rejection at work and job loss. For nurses who demonstrate moral courage in their practice, commitment to patients is more important than concerns about their own risks (18).

Another significant global consequence of the COVID-19 outbreak is the general anxiety that affects everyone. Nurses are vulnerable to infection due to close contact with COVID-19 patients (19). Lack of personal protective equipment can also lead to illness while providing care to patients with COVID-19. Accordingly, decreased nursing workforce, increased workload and excessive fatigue will emerge among nurses (20). In this regard, some studies reported that nurses experience high levels of anxiety for themselves and their families during the pandemic (21-22).

Stress and anxiety are influential factors in nursing care and can reduce the quality of care and patient safety, leading to medical errors (20).

Nurses need moral courage to act morally right and strengthen their decision-making power in the face of moral challenges, particularly in this global crisis. Complications caused by moral

distress and anxiety of nurses affect their professional performance. Investigating the level of moral courage, moral distress and generalized anxiety disorders experienced by nurses during the COVID-19 outbreak can help increase the knowledge of health system policymakers for planning when other emerging diseases occur in the future. In the review of the available literature, no study was found comparing nurses working in covid-19 and Non-covid-19 wards. Therefore, the present study aimed to compare the levels of generalized anxiety disorders, distress and moral courage of nurses working in COVID-19 and Non-COVID-19 wards.

This study has received ethics approval from the ethics committee of Zanjan University of Medical Sciences (Ethical Code: IR.ZUMS.REC.1399.171). Informed consent was obtained from all participants in the study. The confidentiality of information and anonymity of individuals were observed during the study process. Ethical principles were considered in the use of references in this study (23).

1. Study Design

This multicenter, cross-sectional study was conducted among Iranian nurses over three months, from August to December 2020 (at the peak of the third wave in Iran), in teaching hospitals of Zanjan, Iran.

2. Participants

The study population included all nurses working in COVID-19 and Non-COVID-19 wards of Zanjan teaching hospitals.

According to Aminizadeh et al (17) and the following formula, the sample size was estimated to

N1=N2=54.

Nurses were selected by convenience sampling method.

Nurses who had at least a diploma in nursing and were willing to participate in the study were included.

3. Data Collection

The data collection tool consisted of a four-section questionnaire. The first section included demographic information that surveyed characteristics, including age, gender, marital status, education and work experience, income status.

The second section included the Moral Courage Questionnaire.

The Professional Moral Courage (PMC) scale (2009) was used to assess the moral courage of nurses participating in the study. This questionnaire was developed in 2009 by Sekarka et al. This questionnaire has 15 items scored on a 5-point Likert scale (from never to always) in five dimensions, including moral agency, multiple values, the endurance of threats, going beyond compliance and moral goals. Each dimension of the questionnaire has three items. The range of scores in each item is from 1 to 5. The scores ranged between 15 and 75. The average score in each dimension and in total was considered as the score of moral courage (24). Scores of 15-34 were considered as poor level, 35-55 as moderate level and 56-75 as good level of moral courage. The PMC scale has been translated by Mohammadi and Colleagues (2014) in Iran. They also confirmed its validity and reliability (CVI=0.81 & Cronbach's alpha=0.85). The reliability of the questionnaire in the present study was assessed by the internal consistency method and Cronbach's alpha was estimated (a=0.87) (25). Therefore, after obtaining permission from Mohammadi and colleagues, the same version of the questionnaire was used in the present study. Cronbach's alpha was measured again in the present research using a sample of 20 people which was obtained at 0.77, 0.83, 0.71, 0.7, 0.84 regarding the aspects of moral agency, multiple values, endurance of threats, going beyond compliance and moral goals, respectively. Furthermore, the total Cronbach's alpha coefficient was obtained at 0.78.

The third part of the data collection included the Iranian Moral Distress Scale Questionnaire (IMDS). In this study, the version of Aminizadeh et al.'s questionnaire was used, which was developed and validated by Shoorideh (17, 26-27). This Questionnaire includes 30 questions in the three dimensions of inappropriate competencies and responsibilities (questions 1-10), the dimension of errors (questions 11-21) and not respecting the ethics principles (questions 22-

30). This questionnaire is classified based on a 5-point Likert scale (not at all, low=1, medium=2, high=3, very high=4). The score range of this questionnaire is from 0 to 120. The moral distress score is obtained from the mean score of the questions. The intensity of moral distress is in the range of 0-5. A score of 2-1 indicates mild distress, 2.1-4 indicates moderate distress and 4.1-5 indicates severe distress. The reliability of this questionnaire was calculated using the internal consistency method and Cronbach's alpha coefficient of 0.96. The validity of the questionnaire has been confirmed with ICVI: 0.85 (26). The reliability of this questionnaire in the present study was assessed using the internal consistency method and Cronbach's alpha was calculated (a=0.95).

The fourth section of the data collection tool includes the Generalized Anxiety Disorder Questionnaire-IV (GAD-Q-IV), which is used to assess the level of generalized anxiety. The GAD-Q-IV was scored using a sum response total. This scoring system was developed to establish a score that would accurately reflect the DSM-IV diagnostic threshold for GAD diagnosis. To calculate the total score, affirmative responses were coded as 1 and negative responses were coded as 0. For example, Item 1 asked if the individual experiences excessive worry, Item 2 inquired about the intensity, frequency or distress caused by excessive worry, Item 3 assessed difficulty in controlling worry, Item 4 questioned worry about minor things and Item 6 inquired about worry frequency over the prior 6 months. Additionally, for Item 5, which sought a list of the most frequent worry topics, participants received 1 point for each topic listed, up to a maximum of 6 and this total was divided by 3. Similarly, for Item 7, participants earned 1 point for each physical symptom experienced, up to a maximum of 6 and this total was divided by 3. Finally, the circled numbers for Items 8 and 9 (i.e., degree of distress and interference) were each divided by 4 and these values were added together. As the questionnaire instructs individuals to skip remaining items if they do not endorse initial criteria, such skipped items were scored as 0. In total, this questionnaire consists of 9 questions, with a specificity of 0.82 and a sensitivity of 0.89. Total scores ranged from 0 to 12 and the cut-off point was considered ten or higher to indicate a current GAD (28). The translation of the questionnaire was conducted by Idrisi et al.

The validity and reliability of the translated version were assessed through confirmatory factor analysis and the final analysis focused on four items with the highest factor loading (29).

4. Data Analysis

Data analysis was performed using SPSS-16 software. Kolmogorov-Smirnov test was used to investigate the normal distribution of quantitative data. The significance level was considered less than 0.05 ($P < 0.05$). The variables of age, moral courage score and moral distress score in the dimension of Inappropriate competencies and responsibilities did not have a normal distribution ($P < 0.05$). Descriptive statistics, including mean and standard deviation for quantitative variables and frequency (percentage) for qualitative variables, were used. The frequency distribution of gender, marital status, work experience and generalized anxiety disorder variables in two study groups was compared using Chi-square test. Comparison of two groups in terms of education level and age was done using Fisher's exact test and Mann-Whitney test, respectively. The mean scores of moral courage, moral distress and generalized anxiety disorder were compared using Mann-Whitney and t-tests.

5. Results

5-1. Demographic Information of the Participants

The mean age of nurses in the group providing care for COVID-19 was and Non-COVID-19 patients was 31.05±6.7 and 29.33±6.22 years, respectively. In total, 54.7% of nurses caring for patients with COVID-19 and 64.8% of nurses caring for Non-COVID-19 patients had less than five years of work experience. The majority of participants in the study were female (66%) and married (54.7%). The two groups were homogeneous and similar in terms of demographic variables (Table 1).

Table 1: Comparison of frequency and mean (±SD) of demographic characteristics in the two groups 3.2 Moral courage

Characteristics		COVID-19 wards N (%)	Non-COVID-19 wards N (%)	Test
Gender	Female	35(66)	27(50)	P=0.093*
	Male	18(34)	27(50)	
Marital status	Single	24(45.3)	24(44.4)	P=0.999*
	Married	29(54.7)	30(55.6)	
Level of Education	Diploma of nursing	0	2 (3.7)	P=0.205**
	Bachelor of nursing	48(90.6)	43(79.6)	
	Master of nursing	5(9.4)	9(16.7)	
Work experience (year)	<5	29(54.7)	35(64.8)	P=0.397*
	5-10	12(22.6)	6(11.1)	
	10-15	5(9.4)	7(13)	
	>15	7(13.2)	6(11.1)	
		Mean±SD	Mean±SD	
Age (year)		31.05±6.7	29.33±6.22	P=0.164***

*Chi-square; **Fisher exact test; ***Mann-Whitney

The mean score in the group caring for COVID-19 and Non-COVID-19 patients was 59.66±8.28 and 60.46±6.06, respectively (from 15-75). The results of the Mann-Whitney test showed that the total score of moral courage and its dimensions were not significantly different in the nurses of the COVID-19 and Non-COVID-19 wards (P>0.05) (Table 2).

Table 2: Comparison of mean (±SD) of moral courage in the two groups

Dimensions	COVID-19 wards Mean±SD	Non-COVID-19 wards Mean±SD	Test*
Moral Agency	12.81±2.24	12.98±1.33	1338.5 P=0.555
Multiple Values	12.18±1.80	12.20±1.83	P=0.912
Endurance of threats	11.07±2.15	11.09±1.5	P=0.942
Going Beyond Compliance	11.5±2.17	11.53±1.71	P=0.582
Moral Goals	12.07±1.99	12.64±1.44	P=0.153
Overall Scale	59.66±8.28	60.46±6.06	P=0.983

*Mann-Whitney

5-2. Moral Distress

The total score of moral distress and dimensions of inappropriate competencies and responsibilities and not respect the ethics principles in the nurses of the COVID-19 and Non-COVID-19 wards did not have a statistically significant difference (P>0.05). The t-test showed that moral distress in dimension of errors is significantly higher in nurses of the Non-COVID-19 ward (P=0.039) (Table 4).

Table 3: Comparison of mean (±SD) of moral distress in two groups

Dimensions	COVID-19 wards Mean±SD	Non-COVID-19 wards Mean±SD	Test
Inappropriate competencies and responsibilities	1.33±0.8	1.49±068	P=0.208*
Errors Dimension	1.56±79	1.86±0.67	P=0.039**
Not respect the ethics principles	1.54±0.94	1.75±0.73	P=0.203**
Overall Scale	1.48±0.71	1.70±0.58	P=0.078**

*Mann-Whitney; **T-test

5-3. Generalized Anxiety Disorder

The chi-square test results show that the distribution of the frequency of generalized anxiety disorder in nurses of COVID-19 wards is significantly higher than Non-COVID-19. While, the results of the t-test showed that the mean score of generalized anxiety disorder in nurses of Non-CIVID-19 wards is higher than COVID-19, but this difference was not statistically significant (Table 4).

Table 4: Comparison of frequency and mean (SD) of generalized anxiety in two 4. Discussion

Dimensions		COVID-19 wards N (%)	Non-COVID-19 wards N (%)	Test
GA	Yes	34 (64.2)	24 (44.4)	P=0.041*
	No	19 (35.8)	30 (55.6)	
		Mean±SD	Mean±SD	
Total score		4.83±2.5	5.51±2.53	P=0.168**

*Chi-square; **T-test

The aim of this study was to compare the level of moral courage, moral distress and generalized anxiety disorder of nurses working in COVID-19 and Non-COVID-19 wards.

The generalized anxiety disorder score was lower in nurses caring for patients with COVID-19. In the study of Asadi et al., the level of anxiety in the nurses of Corona referral hospitals was reported to be moderate (19). COVID-19 was a source of great anxiety for all individuals and social groups. But it seems that people experience different levels of mental crisis, especially nurses who are directly facing this outbreak. Wang et al.'s study

on Chinese nurses showed that the prevalence of anxiety in nurses was low (30). The results of the current study were consistent with the study of Wong et al. It seems that the lack of negative emotion regulation strategies, such as self-blame, rumination and the high level of positive emotion regulation, such as acceptance and positive refocusing, cause less anxiety symptoms. Therefore, it can be said that people who have high emotional skills arrange their lifestyles in such a way that they experience less negative consequences. They are also skilled at building and maintaining high quality relationships. On the contrary, people who have low emotional regulation ability will have a weaker adaptation in the face of life stress and adaptation. As a result, they suffer from anxiety. The use of these strategies makes nurses evaluate events with a different perspective.

There was no significant difference in the severity of moral distress between nurses caring for COVID-19 and Non-COVID-19 patients. The results of the study by Sarkoohi et al. were in line with the findings of the present study (31). However, the study by Behbodi et al (32) and Miljeteig et al (33) showed that nurses directly involved in caring for patients with COVID-19 experienced more intense moral distress than nurses who were not directly involved. The findings substantiate that in Iran; more nursing staff is needed due to the shortage of nursing staff, particularly in clinical wards, increased workload, critical conditions of coronavirus disease, increased mortality rate and prolonged hospitalization. Nurses gradually adapted to this situation; thus, their constant presence at the patient's bedside necessitated the need for ethical decisions. Hence, nurses have more power to deal with ethical issues in their day-to-day therapeutic actions (34-35). Based on the different adaptation mechanisms that exist between people with the appearance of moral tensions in therapeutic environments, the way people face these situations is different; so, some people get depressed, despair and conflict. A few people have coped with these conditions, but unconsciously, under the influence of the hidden effects of moral distress, they experience job dissatisfaction and burnout.

The different results of the findings in different studies can be due to cultural differences in different societies and nationalities. Also, perhaps one of the reasons is that the degree of influence of these factors in creating stress depends on the type of work environment and the characteristics of the people themselves. Emotionally, they are more sensitive, they are more affected by the patients' conditions and distress occurs in them more intensely (36).

Based on the findings of Lazarin, which is in line with the results of the present study, he states that nurses normally enjoy providing services to patients, but the stressful conditions prevailing in the work environment are considered to be an obstacle to the implementation of care. Also, one of the cases where the effect of ethical issues it increases; maybe it is its repetition. The repeated exposure of nurses to their own ethical issues is an important factor in being influenced by them. Nurses have more ability to face ethical issues in their daily actions (37).

Among the dimensions of moral distress, only the errors had a significant difference between the two groups, so that this dimension was more in the nurses caring for Non-COVID-19 patients than in the group caring for COVID-19 patients. Guttormson et al study is consistent with our findings (38). However, Shourideh et al. have named the incomplete and insufficient treatment of patients by employees (due to improper allocation of responsibilities and competencies) and the unfair distribution of power among colleagues (after not observing ethical principles) as the most stressful factors in nurses (26), during the crisis period of the outbreak of COVID-19 seems due to the acute and complex conditions, the amount of medical errors and not reporting these errors was low in the research society.

In general, in critical departments, with the increase of nurses' authority, their moral distress increases. Therefore, considering that one of the most important factors in preventing and reducing moral distress is having moral courage. Therefore, one of the reasons for the high moral courage of nurses in critical departments is the ability to prevent and reduce their moral distress (39).

There was also no significant difference in the score of moral courage between nurses caring for COVID-19 and Non-COVID-19 patients. Consistent with the results of this study, Namadi et al (40) and Sharifpour et al (41) found in their studies that the ICU nurses' moral courage was not significantly different from non-ICU nurse. These differences in the results could be due to different cultural and organizational contexts, head nurses' and managers' levels of support, nurses' attitudes toward care, the importance of job preservation for employees and religious beliefs and values in the communities. The effect of these factors on creating courage is associated with the type of work environment and personal traits. Furthermore, the unexpected onset of coronavirus disease with high transmission and mortality rate has increased the nurses' sense of responsibility for an efficient and constructive presence to save the patient's life. Considering that moral courage is one of the inner and valuable characteristics of a human being, which is considered a virtue from a human, moral and professional point of view. Professionally, nurses mean support, promotion and maximization of health and ability, prevention of disease and Injury, facilitation of recovery, alleviation of pain and suffering through diagnosis and treatment, human responses and support are defined in the care of communities. Therefore, nurses are expected to be equipped with a virtue such as moral courage in fulfilling their professional commitment and meeting the patient's care needs, so that they can Manage this well (42).

Working in critical sectors requires skills such as self-confidence, decisiveness, creativity, critical thinking, compliance with professional ethics, risk-taking and decision-making in order to be able to carry out their activities effectively, so moral courage is high. Nurses are not far from waiting (43). AUltman believes that moral courage is learned with the passage of time and observing the courageous behavior of others. He states that with increasing work experience and frequent encounter with therapeutic challenges, the occurrence of courageous behaviors in nurse’s increases. It seems that nurses in the critical departments have the mentioned characteristics (44). There were two other limitations to the current research. Although all distributed questionnaires were returned to the researchers, some of the questionnaires had been defaced. Secondly, the nurses could have developed different perceptions of the main study variables at the time of completing the questionnaires due to specific conditions encountered in the workplace. However, such perceptions were beyond the control of the researchers.

Several studies have been conducted on the moral distress and courage of the nurses caring for patients with COVID-19. However, no study has compared nurses' moral courage and distress during the COVID-19 crisis. Consequently, the authors had access to a limited number of articles to compose a comprehensive discussion section and used other articles that measured the level of moral courage and distress in nurses caring for patients with a specific disease. Conducting further studies while considering the limitations of the present study and controlling the frequency of morally distressing situations in the study sections can produce a more accurate knowledge about the nurses' anxiety, moral distress and courage in the clinical setting.

Conclusion

The results showed that nurses caring for the patients with COVID-19 had low anxiety levels. In fact, they have tried to take care of patients well. Also, the results indicated that the severity of nurses' moral distress and their level of moral courage were no significant difference, respectively. Therefore, it seems necessary to provide nurses with psychological and financial support and training to deal with coronavirus anxiety during the current crisis. On the other hand, nurses' courageous behavior in the face of moral challenges reduces the severity of their moral distress. In order to spread these courageous behaviors, raising nurses' awareness of ethical principles, eliminating organizational barriers and encouraging nurses to participate in an open discussion about moral challenges are among the effective measures. In addition, despite the low levels of moral distress at the workplace, nurses are constantly confronted with it during their professional lives, which may negatively

affect their morale to provide care effectively for patients. Therefore, managers' close and thoughtful attention to using training programs on ethical issues to identify the symptoms of moral distress and encourage nurses to share their experiences of this concept seems necessary. It is recommended that, in future studies, the effectiveness of psychological interventions be compared in medical staff in-person and virtually. Applying the results of this research can pave the way for further research to investigate the factors reducing anxiety and moral distress and increasing moral courage in nurses.

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Authorship

Maryam Ebrahimabadi: Contributed to the conception and design, acquisition of data; Analysis and interpretation of data, drafting of the article, review of the article and find approval.

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Conflict of Interest Statement

The authors have no conflicts of interest associated with the material presented in this paper.

References

1. Hadian Jazi Z, Peyrovi H, Zareian A. Nurse's social responsibility: A hybrid concept analysis in Iran. Med J Islam Repub Iran. 2019; 33(1): 266-274.

2. Haahr A, Norlyk A, Martinsen B, Dreyer P. Nurses experiences of ethical dilemmas: A review. Nursing Ethics. 2019; 27(1): 258-272.

3. Emanuel EJ PG, Upshur R, Thome B, Parker M, Glickman A, Zhang C, et al. Fair Allocation of Scarce Medical Resources in the Time of COVID-19. N Engl J Med. 2020; 382(21): 2049-2055.

4. Poortaghi S, Ebadi A, Salsali M, Raiesifar A, Davoudi N, Pourgholamamiji N. Significant influencing factors and practical solutions in improvement of clinical nursing services: A Delphi study. BMC Health Services Research. 2020; 20(1): 1-10.

5. Jameton A. Dilemmas of moral distress: moral responsibility and nursing practice. AWHONN's Clinical Issues in Perinatal and Women's Health Nursing. 1993; 4(4): 542-551.

6. Hariharan S, Jonnalagadda R, Walrond E, Moseley H. Knowledge, attitudes and practice of healthcare ethics and law among doctors and nurses in Barbados. BMC Medical Ethics. 2006; 7(1): 1-9.

7. Bathaie FS, Ardeshir Larijani B, Farzadfar F, Nedjat S, Emami-Razavi SH, Kadivar M, et al. Provision of Healthcare Services for Children in Iran: Common Ethical Principles and Obstacles to Successful Implementation. Acta Medica Iranica. 2018; 56(7): 457-464.

8. Hasan Tehrani T, Seyed Bagher Maddah S, Fallahi-Khoshknab M, Ebadi A, Mohammadi Shahboulaghi F, Gillespie M. Respecting the privacy of hospitalized patients: An integrative review. Nurs Ethics. 2018; 1: 969733018759832.

9. Atashzade Shoorideh F, Ashktorab T, Yaghmaei F. Responses of ICU Nurses to Moral

Distress: A qualitative Study. Critical Care Nursing. 2012; 4(4): 159-168.

10. Araghian Mojarad F, Hosseini Karnami SH, Malekzadeh R, Assadi T, Khazaee-Pool M, Abedi G, et al. Nurses' Experiences of Moral Conflicts in the Educational and Medical Centers of Mazandaran University of Medical Sciences in 2019. Journal of Religion and Health. 2021; 9(1): 24-36.

11. Anami K, Dadkhah B, Mohammadi M. Moral distress of nurses in emergency department of Ardabil hospitals in 1395. Journal of Health and Care. 2019; 21(2): 166-174.

12. Numminen O, Repo H, Leino-Kilpi H. Moral courage in nursing: A concept analysis. Nursing Ethics. 2017; 24(8): 878-891.

13. Elpern EH, Covert B, Kleinpell R. Moral distress of staff nurses in a medical intensive care unit. American Journal of Critical Care: An Official Publication, American Association of Critical-Care Nurses. 2005; 14(6): 523-530.

14. Sekerka LE. Ethics is a daily deal: Choosing to build moral strength as a practice. London: Springer; 2015. p.1-259.

15. Black LM. Tragedy into policy: A quantitative study of nurses' attitudes toward patient advocacy activities. The American Journal of Nursing. 2011; 111(6): 26-35; quiz 6-7.

16. Dodek P, Norena M, Ayas N, Dhingra V, Brown G, Wong H. Moral distress in intensive care unit personnel is not consistently associated with adverse medication events and other adverse events. Journal of Critical Care; 2019; 53: 258-263.

17. Aminizadeh M, Arab M, Mehdipour R. Relationship Moral Courage to Moral Distress in Nurses the Intensive Care Unit. Journal of Medical Ethics and History of Medicine. 2017; 10(1): 131-140.

18. Mobley MJ, Rady MY, Verheijde JL, Patel B, Larson JS. The relationship between moral distress and perception of futile care in the critical care unit. Intensive & Critical Care Nursing. 2007; 23(5): 256-263.

19. Asadi N, Salmani F, Pourkhajooyi S, Mahdavifar M, Royani Z, Salmani M. Investigating the Relationship between Corona Anxiety and Nursing Care Behaviors Working in Corona's Referral Hospitals. Iranian Journal of Psychiatry and Clinical Psychology. 2020; 26(3): 306-319.

20. Moradzadeh A, Namdar Joyami E. Corona Nurses' Lived Experience of Moral Distress while Performing Organizational Duties. Quarterly Journal of Nersing Management. 2020; 9(3): 59-73.

21. Labrague LJ, De los Santos JAA. COVID-19 anxiety among front-line nurses: Predictive role of organisational support, personal resilience and social support. Journal of Nursing Management. 2020; 28(7): 1653-1661.

22. The Lancet. COVID-19: Protecting health-care workers. Lancet. 2020; 395(10228): 922.

23. Rickham PP. Human Experimentation. Code of Ethics of the World Medical Association. Declaration of Helsinki. Br Med J. 1964; 2(5402): 177.

24. Sekerka L, Bagozzi R, Charnigo R. Facing Ethical Challenges in the Workplace: Conceptualizing and Measuring Professional Moral Courage. Journal of Business Ethics. 2009; 89(4): 565-579.

25. Mohammadi S, Borhani F, Roshanzadeh M. Relationship between moral distress and moral courage in nurses. Journal of Medical Ethics and History of Medicine. 2014; 7(3): 26-35.

26. Shoorideh FA, Ashktorab T, Yaghmaei F, Alavi Majd H. Relationship between ICU nurses' moral distress with burnout and anticipated turnover. Nurs Ethics. 2015; 22(1): 64-76.

27. Shorideh FA, Ashktorab T, Yaghmaei F. Iranian intensive care unit nurses' moral distress: A content analysis. Nursing Ethics. 2012; 19(4): 464-478.

28. Newman MG, Zuellig AR, Kachin KE, Constantino MJ, Przeworski A, Erickson T, et al. Preliminary reliability and validity of the Generalized Anxiety Disorder Questionnaire-IV: A revised self-report diagnostic measure of generalized anxiety disorder. Behavior Therapy. 2002; 33(2): 215-233.

29. Edrissi F, khanzadeh M, bahrainian A. Structural model of emotional regulation and symptoms of generalized anxiety disorder in students. Clinical Psychology Studies. 2015; 5(20): 203-226.

30. Wang QQ, Fang YY, Huang HL, Lv WJ, Wang XX, Yang TT, et al. Anxiety, depression and cognitive emotion regulation strategies in Chinese nurses during the COVID-19 outbreak. Journal of Nursing Management. 2021; 29(5): 1263-1274.

31. Sarkoohijabalbarezi Z, Ghodousi A, Davaridolatabadi E. The relationship between professional autonomy and moral distress among nurses working in children's units and pediatric intensive care wards. International Journal of Nursing Science. 2017; 4(2): 117-121.

32. Behbodi M, Shafipour V, Amiri M. Comparison of Moral Distress Severity between Pediatric Ward and Pediatric Intensive Care Unit Nurses. Religion and Health. 2018; 6(1): 19-28. [Persian]

33. Miljeteig I, Forthun I, Hufthammer KO, Engelund IE, Schanche E, Schaufel M, et al. Priority-setting dilemmas, moral distress and support experienced by nurses and physicians in the early phase of the COVID-19 pandemic in Norway. Nursing Ethics. 2021; 28(1): 66-81.

34. Hamric A, Davis W, Childress M. Moral distress in health care professional. Pharos Journal of the Netherlands. 2006; 69(1): 16-23.

35. Hart T. Moral distress in a Non-acute care setting: the experience of registered nursing Ontario. Queen’s University. 2009; 40(2): 180-186.

36. Tuite AR, Bogoch II, Sherbo R, Watts A, Fisman D, Khan K. Estimation of coronavirus disease 2019 (COVID-19) burden and potential for international dissemination of infection from Iran. Annals of Internal Medicine. 2020; 172(10): 699-701.

37. Lazzarin M, Biondi A, Di Mauro S. Moral distress in nurses in oncology and haematology units. Nursing Ethics. 2012; 19(2): 183-195.

38. Guttormson JL, Calkins K, McAndrew N, Fitzgerald J, Losurdo H, Loonsfoot D. Critical care nurses’ experiences during the COVID-19 pandemic: A US national survey. American Journal of Critical Care. 2022; 31(2): 96-103.

39. Zhu N, Zhang D, Wang W, Li X, Yang B, Song J, et al. A Novel Coronavirus from Patients with Pneumonia in China, 2019. N Engl J Med. 2020; 382(8): 727-733.

40.Namadi F, Shahbazi A, Khalkhali H. Moral courage of nurses in educational and therapeutic centers of Uremia University of medical sciences. Nursing and Midwifery Journal. 2019; 17(7): 574-581.

41. Shafipour V, Esmaeili R, Heidari MR, Aghaei N, Saadatmehr SR, Sanagoo A. Investigating the level of moral distress and its related factors among nurses in mazandaran burn center. Journal of Mazandaran University of Medical Sciences. 2015; 25(126): 58-67.

42. Sadooghiasl A, Parvizy S, Ebadi A. Concept analysis of moral courage in nursing: A hybrid model. Nursing Ethics. 2018; 25(1): 6-19.

43. Aydogmus C, Camgoz SM, Ergeneli A, Ekmekci OT. Perceptions of transformational leadership and job satisfaction: The roles of personality traits and psychological empowerment. Journal of Management & Organization. 2018; 24(1): 81-107.

44. Aultman J. Moral courage through a collective voice. The American Journal of Bioethics. 2008; 8(4): 67-69.