COVID-19 pandemic and death anxiety among intensive care nurses working at the Hospitals Affiliated to Tehran University of Medical Science

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ABSTRACT

Introduction: The unpredictable challenges and conditions of COVID-19 can cause mental health problems. In such a situation, one of the most important psychological problems is the fear and anxiety of death. Death anxiety can affect the quality of patient care services and the job satisfaction and mental health of nurses. Methods: This is a descriptive cross-sectional study in which 110 nurses working in the intensive care units of hospitals affiliated to the Tehran University of Medical Sciences were selected by the convenience sampling method from April to September 2016. The data collection tools used in the study include a demographic questionnaire and a Templer death-anxiety questionnaire. Findings: The results showed that the level of death anxiety in nurses working at COVID-19 intensive care units is associated with age, working hours per week, childbearing, several patients needing end-of-life care, cases of direct participation in resuscitation operations, cases of patient death observations, and satisfaction with personal protective equipment (P < 0.05). Conclusion: Increasing the nurses’ awareness of the critical situations of COVID-19, management measures, improving the working environment, social support, and increasing personal protective equipment seem to be the effective factors in protecting the intensive care unit nurses against COVID-19 and reducing death anxiety.

Keywords: COVID-19, mental health, personal protective equipment, severe acute respiratory syndrome coronavirus

Introduction

The health and life of humans have been threatened by various infectious diseases at different times,¹² leading the researchers to study and control their effects. The most recent case was reported in December 2019 in Wuhan, China. This infectious disease originated from a new and genetically modified virus of the coronavirus family called COV-SARS-2, which was later named COVID-19 disease.³⁴ The World Health Organization (WHO) declared SARS-CoV-2 as a global pandemic on March 11, 2020. COVID-19 epidemic is the main health and economic catastrophe of the current time. Since its inception in Asia, the virus has spread to all regions and caused many casualties.⁵ Despite relentless efforts to identify infected people and to establish effective treatment protocols, the mortality rate from...
The increasing prevalence of COVID-19 has led to a large number of research on its negative impact on communities. However, most of the research is related to the clinical profile of infected patients and the genomic characteristics of the virus. This study aimed to determine death anxiety in nurses working in intensive care units related to COVID-19.

### Materials and Methods

This is a descriptive cross-sectional study in which 110 nurses working in the intensive care units of hospitals affiliated to the Tehran University of Medical Sciences were selected by a convenience sampling method from April to September 2016. The inclusion criteria of this study included having an associate's degree or higher in nursing, working in an intensive care unit with at least one year of work experience, having no refractory illness in himself or first-degree relatives, and not having a mental illness. To select the research samples, the researcher referred to the intensive care unit several times. Each time, while observing the self-protection criteria, the researcher visited the nurses and explained the purpose of the study. A written informed consent was obtained after the nurses agreed to participate in the study. Then, the contents of the questionnaire and how to complete it were explained to the participants and the confidentiality of their information was assured through coding the questionnaire. Considering the appropriate clinical conditions in the ward, sufficient time was allocated to complete the questionnaire. The data collection tool included a two-part questionnaire that was completed as a self-report. The demographic information questionnaire included age, gender, marital status, number of children, specific disease history, shift work, number of patients cared for per shift, satisfaction with personal protective equipment, study rate to increase knowledge about the disease, number of end-of-life care patients, number of direct participants in resuscitation operations, and the number of deaths observed in the last six months. Besides, a Templer questionnaire was used to measure the level of death anxiety. The questionnaire included 15 yes/no questions, in nine of which one point was considered for choosing the correct answer and in six questions, one point for choosing the wrong answer. The total score of the questionnaire varies between 1 and 15 and higher scores indicate more death anxiety. According to the obtained scores, death anxiety was classified into three levels of mild anxiety (0–6), moderate anxiety (7–9), and severe anxiety (10–15). Templer has reported the reliability of the overall scale to be 0.83. Moradipour et al. reported a coefficient of 0.78 for the test–retest reliability of the scale. Data were analyzed using the SPSS19 statistical software.

### Results

A total of 110 nurses working in the intensive care unit were studied, of whom 43 were single and 67 were married, 42 had children and 68 had none. The age of nurses ranged from 22 to 50 with a mean age of 31.47 ± 2.1 years. 63 participants had work experience between 1 and 10 years and 37 had more than 10 years. Mild and severe anxiety levels were identified in 34 (30.9%) and 76 (69.1%) nurses, respectively. Based on the variables studied in nurses working in the intensive care unit, the mean and standard deviation of death anxiety are expressed in Table 1. The results showed that there was no statistically significant association between the mean score of death anxiety and any demographic variables studied in this study (p > 0.05). The results also showed that the level of death anxiety among the nurses working at COVID-19 intensive care units is associated with age, working hours per week, childbearing, some patients needing end-of-life care, cases of direct participation in resuscitation operations, cases of patient death observations, and satisfaction with personal protective equipment (p < 0.05).

### Discussion

The present study aimed to investigate the relationship between the COVID-19 pandemic and death anxiety in nurses working in the intensive care units of hospitals affiliated to Tehran University.
The results of this study showed that the level of death anxiety in nurses working at the COVID-19 intensive care units was associated with age, working hours per week, childbearing, number of patients needing end-of-life care, cases of direct participation in resuscitation operations, cases of patient death observations, and satisfaction with personal protective equipment and this association is gender-independent. Following the first report of COVID-19 infection on March 11, 2020, despite relentless efforts to identify infected individuals and establish effective treatment protocols, the sudden outbreak of the disease led to catastrophic consequences and imposed a heavy burden on social order, economic activity, and health systems worldwide. While trying to fulfill their professional responsibilities, health care providers are also trying to prevent themselves from becoming infected with the virus. Due to the admission of patients with critical conditions in the intensive care units, the nurses working in these wards usually experience high levels of fatigue, stress, and anxiety. Previous studies (before the outbreak of COVID-19)[18-20] and novel studies (after the outbreak of COVID-19)[12,21,22] have referred to some predictors of mental disorders including hard working conditions, prolonged shift works, insufficient rest, job dissatisfaction, marital status, and financial problems.

Chen et al. conducted a study on mental health care for medical staff in China and reported that most of the nurses working at the Corona Central Hospital who had irritable and distressing symptoms expressed fear of spreading the virus to their families and a lack of protective equipment. Besides, the nurses felt the inability to deal with critically ill patients and those who were unwilling to be quarantined in the hospital.[23] Sarbooozi et al. reported a moderate level of depression, anxiety, and stress in nurses working in COVID 19-related wards at 9 Dez Hospital Torbat-e Heydarieh and found that the level is significantly associated with age, employment status, and satisfaction with personal protective equipment.[24]

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**Conclusion**

Nurses are regarded as the main element of care in the treatment team and are on the frontline in dealing with the COVID-19 pandemic. However, working in such an environment causes prolonged continuous stress among nurses. In this regard, increasing the nurses’ knowledge of the critical situations of COVID-19, management measures, improving the working environment, social support, and increasing the personal protective equipment seem to be the effective factors in preventing death anxiety among intensive care unit nurses.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patients have given their consent

| Variable | Death anxiety | P |
|----------|---------------|---|
| Age      |               |   |
| 22-35 (65 people) | 7.9±2.6 | <0.05 |
| 35-50 (43 people) | 9.8±3.1 |    |
| Marital status |       |   |
| Single (43 people) | 7.8±4.8 |    |
| Married (67 people) | 7.4±3.2 |    |
| Having children |       |   |
| Yes (42 people) | 11.1±5.7 | <0.05 |
| No (68 people) | 8.7±4.6 |    |
| Work experience in ICU | |   |
| 1 to 10 years (63 people) | 9.9±4.1 |    |
| More than 10 years (37 people) | 9.7±4.3 |    |
| Average working hours per week | |   |
| <36 h | 8.7±3.1 | <0.05 |
| >72 h | 12.9±1.8 |    |
| Satisfaction with personal protective equipment | |   |
| Moderate | 10.1±4.9 | <0.05 |
| Weak | 11.7±3.8 |    |
| End-of-life care | |   |
| - | 9.2±3.1 | <0.05 |
| Direct participation in resuscitation operations | |   |
| - | 10.7±5.1 | <0.05 |
| Observing the death of patients | |   |
| - | 11.2±5.8 | <0.05 |
Belash, et al.: COVID-19 pandemic and death anxiety among intensive care nurses

for their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest
There are no conflicts of interest.

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