Critical Care Nurses' Experiences During the COVID-19 Pandemic: A US National Survey

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Background Given critical care nurses' high prepandemic levels of moral distress and burnout, the COVID-19 pandemic will most likely have a tremendous influence on intensive care unit (ICU) nurses' mental health and continuation in the ICU workforce.
Objective To describe the experiences of ICU nurses during the COVID-19 pandemic in the United States.
Methods Nurses who worked in ICUs in the United States during the COVID-19 pandemic were recruited to complete a survey from October 2020 through early January 2021 through social media and the American Association of Critical-Care Nurses. Three open-ended questions focused on the experiences of ICU nurses during the pandemic.
Results Of 498 nurses who completed the survey, 285 answered the open-ended questions. Nurses reported stress related to a lack of evidence-based treatment, poor patient prognosis, and lack of family presence in the ICU. Nurses perceived inadequate leadership support and inequity within the health care team. Lack of consistent community support to slow the spread of COVID-19 or recognition that COVID-19 was real increased nurses' feelings of isolation. Nurses reported physical and emotional symptoms including exhaustion, anxiety, sleeplessness, and moral distress. Fear of contracting COVID-19 or of infecting family and friends was also prevalent.
Conclusions Intensive care unit nurses in the United States experienced unprecedented and immense burden during the COVID-19 pandemic. Understanding these experiences provides insights into areas that must be addressed to build and sustain an ICU nurse workforce. Studies are needed to further describe nurses' experiences during the COVID-19 pandemic and identify effective resources that support ICU nurse well-being. (*American Journal of Critical Care.* Published online October 27, 2021.)

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The COVID-19 pandemic has strained frontline health care workers (HCWs),[1] and news reports highlight the extreme stress placed on critical care HCWs in particular.[2] Increased stress on critical care nurses during the COVID-19 pandemic is multifactorial. Critically ill patients with COVID-19 often have high illness severity with acute respiratory distress syndrome, multiorgan failure, and high mortality (22%-62%).[3] Moreover, early in the pandemic nurses experienced system-level stressors from lack of personal protective equipment (PPE),[4,5] shortage of ventilators,[5] and limited or no family visitation for patients.[2] Nurses' stress also stems from the fear of becoming infected or infecting their own family members.[1,5]

National nurse leaders have expressed concern about the long-term impact of the COVID-19 pandemic on ICU nurses.[6,7] Even before the pandemic, ICU nurses reported higher levels of moral distress,[8] burnout,[9,10] and posttraumatic stress symptoms[11] than other HCWs. The COVID-19 pandemic will most likely have a tremendous influence on ICU nurses' mental health and potentially their continuation in the workforce. Although the experiences of nurses in other countries,[12-16] nurse managers,[17] nurses from 1 ICU,[18] and HCWs in general[19-21] have been reported, at the initiation of this survey, we found no published studies that described the national ICU nurse experience in the United States. To fully support ICU nurses currently and after the pandemic, it is of critical importance that we explore nurses' perspectives about working in ICUs during this time. The purpose of this study was to describe the experiences of critical care nurses during the COVID-19 pandemic in the United States.

The COVID-19 pandemic may affect ICU nurses' mental health and their continuation in the workforce.

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Methods

Study Design and Recruitment

This descriptive study focusing on the ICU nurse experience is part of a larger survey evaluating the mental health impact of the COVID-19 pandemic on ICU nurses in the United States. A national sample of nurses who worked in US ICUs during the COVID-19 pandemic were recruited for the parent study from early October 2020 through early January 2021. American Association of Critical-Care Nurses (AACN) members were recruited through the AACN weekly e-newsletter. The e-newsletter included a link to a AACN web page that described the study and provided a hyperlink to the electronic survey. The study was also advertised on Facebook. Researchers shared the survey link on social media (Twitter) and with colleagues.

At the end of the survey, individuals could enter their name and email address on a separate web page to be entered in a drawing for a gift card. Names and emails were not linked to survey responses. Ten randomly selected participants received gift cards.

Ethical Considerations

The Marquette University institutional review board approved the study. The survey landing page provided the study purpose, inclusion criteria, risks and benefits, voluntary participation, and researcher contact information. Completion of the survey indicated consent. Within the survey, participants received contact information for the Disaster Distress Helpline, which is available 24 hours a day, 7 days a week, and provides counseling for individuals experiencing emotional distress related to a disaster.

Measures

Sample characteristics collected in the survey included respondent characteristics, work setting, and challenges during the pandemic (eg, PPE shortages). The ICU nurse experience of the COVID-19

pandemic was elicited with 3 open-ended items: (1) What do you want people to know about your experience during the COVID-19 pandemic? (2) Please describe the greatest challenges you faced caring for COVID-19 patients. (3) Please describe any positive things you observed or experienced during COVID-19.

Analysis

Participant and work characteristics were analyzed with descriptive statistics. Responses to open-ended questions were analyzed with inductive content analysis.[22,23] Three authors independently read the responses to get an overview of the data, identify meaningful text, and propose preliminary codes. After meeting as a team to agree upon preliminary coding, the authors each revisited the data to identify themes, subthemes, and supportive quotations. Results from all authors were then combined and reviewed. All authors agreed upon results that were representative (internal validity and credibility) of participants' responses in the data set.[24] Transferability was enhanced with rich descriptions of sample characteristics and selection of quotes that best represented the overall themes.[24]

Results

Of 498 nurses who completed the survey, 285 answered the open-ended questions. Participants were primarily staff nurses (93.7%) (Table 1), and 87.4% worked on COVID-19–designated units. Participants experienced shortages of PPE (76.5%) and ventilators (20.4%). Forty-eight percent of respondents worked on units that did not allow any family visitation for patients. Only 17.9% of participants felt fully supported by hospital administration during the pandemic (Table 2).

Four major themes emerged from the open-ended responses: burden of COVID-19, failure of the health care system, COVID-19 is real, and positive experiences and outcomes. Themes and subthemes are presented in Table 3. The numbers in parentheses after quotes in the following paragraphs represent the unique numbers assigned to each participant.

Burden of COVID-19

Intensive care unit nurse participants reported multiple burdens of the COVID-19 pandemic within 10 distinct subthemes (Table 3).

Absent Patient Family. Intensive care unit nurses reported the impact of absent families. They described extreme distress about reports of patients dying alone and deep empathy for ICU patients' families. As 1 participant shared, "I am very disturbed about patients dying without their loved ones around them . . . the devastation that I feel when I think about loved ones checking into the hospital and being taken away by hospital staff and never seeing them again." (038) Nurses played a critical role in ensuring that no patient died alone. "Contrary to media reports, no one dies alone." (279)

The burden of caring for patients at the end of life without family present was also shared: "It is a tremendous burden to carry the families' love for the patients as they die alone" (276) and "The hardest part is holding the hand of a dying person who got terminally extubated while their family stands outside crying." (034)

Feeling Helpless. The poor outcomes of critically ill patients with COVID-19 resulted in participants

Table 1
Workplace and respondent characteristics (N=285)

Characteristic	No. (%)[a]
Region of United States (n=285)	
Midwest	155 (54.4)
Northeast	40 (14.0)
Southeast	39 (13.7)
West	25 (8.8)
Southwest	21 (7.4)
Other (eg, Mid-Atlantic, South Central)	5 (1.8)
Nursing position (n=285)	
Staff nurse	267 (93.7)
Nurse manager/supervisor	7 (2.5)
Nurse practitioner	5 (1.8)
Other (eg, care coordinator, faculty, educator, clinical nurse specialist)	6 (2.1)
Type of hospital (n=283)	
Community hospital	138 (48.8)
University medical center	101 (35.7)
Nonacademic teaching	17 (6.0)
Veterans Affairs or military	11 (3.9)
County	5 (1.8)
Other (eg, type unclear, travel nurse at multiple sites)	11 (3.9)
Age, y (n=285)	
20-30	105 (36.8)
31-40	84 (29.5)
41-50	40 (14.0)
51-60	40 (14.0)
>60	16 (5.6)
Female sex (n=285)	247 (86.7)
Highest nursing degree (n=285)	
Bachelor's	211 (74.0)
Master's	24 (8.4)
Associate	40 (14)
Diploma	7 (2.5)
Doctorate (PhD or DNP)	3 (1.1)
Years of ICU experience, median (range) (n=271)	8 (0-40)
CCRN certification (n=285)	100 (35.1)

Abbreviations: ICU, intensive care unit; DNP, doctor of nursing practice.

[a] Except for years of ICU experience.

Table 2
Workplace characteristics during COVID-19 pandemic (N=285)

Workplace characteristic	No. (%)
Worked on COVID-19–designated unit (n=285)	249 (87.4)
No. of patients assigned during pandemic (n=285)	
1-2	267 (93.7)
3-4	7 (2.5)
≥5	5 (1.8)
Shortage of equipment/supplies	
Experienced shortages of PPE (n=285)	218 (76.5)
Experienced shortage of ventilators (n=284)	58 (20.4)
Changed units during pandemic (n=249)	69 (27.7)
Patient's family allowed to visit (n=284)	
Yes	5 (1.8)
No	138 (48.6)
Under some circumstances (eg, end of life)	141 (49.6)
Supported by hospital administration during pandemic (n=285)	
Yes, fully supported	51 (17.9)
Yes, partially supported	129 (45.3)
No	105 (36.8)

Abbreviation: PPE, personal protective equipment.

reporting feelings of helplessness: "We are watching people die slowly. No matter what we do, again and again and again, despite our best efforts, they die. It makes you feel like you're failing, it's miserable." (030)

Witnessing Suffering. Witnessing patient and family suffering during every shift had a strong emotional impact for participants: "Having to watch patients who are completely mentally intact call their loved ones and tell them goodbye as they go on a ventilator unsure if they will ever come off. That has been the most haunting and morally distressing thing . . . to watch that play out shift after shift." (123) Witnessing suffering contributed to nurses' stress: "The patients are so sick that we are unable to make them comfortable. Seeing the constant struggle and decline in the patient is very stressful and heartbreaking." (273)

Unlike Anything Experienced Before. Nurses described the experience of working as an ICU nurse during the pandemic as being unlike anything they had ever witnessed before: "In my over 30 years of caring for people in ICU and ER [emergency room], I could never have imagined in my worst nightmares the utter devastation that I have seen . . . with COVID." (268)

Emotional and Psychological Impact. Participants described the impact of being an ICU nurse working with COVID-19 patients and feelings of moral distress, fear, and anxiety. Nurses reported overwhelming distress every day: "Moral distress happens nearly every day working in an ICU." (001) Many experienced multiple symptoms that were beyond anything they had experienced before: "It was the most disturbing, physically, emotionally, and mentally exhausting experience I've ever had in my life" (138) and "Words cannot describe the exhaustion and fear and frustration." (282) For some, the impact of the pandemic did not occur immediately: "For the first several months I didn't think much of it . . . until I had a traumatic code . . . did I start experiencing anxiety, fear, sleeplessness, and dizziness." (123)

Table 3
Themes and subthemes

Theme	Subtheme
Burden of COVID-19: Distress and harm experienced by nurses during the pandemic	Absent patient family Feeling helpless Witnessing suffering Unlike anything experienced before Emotional and psychological impact Fear for family and loved ones Did not sign up for this Regret becoming a nurse Lack of social support COVID-19 impact doesn't end
Failure of health care system: Failure to support or provide resources for nurses	Inadequate leadership support Unsupported by health care team Inadequate staffing and supplies
COVID-19 is real: Feelings of frontline workers when the public did not believe COVID-19 reality or no longer cared about the consequences for health care workers	None
Positive experiences and outcomes: Positive outcomes or benefits of the pandemic	Appreciative families and communities Finding strength in teamwork Personal and professional transformation Recognition of nurses Nothing positive

Fear for Family and Loved Ones. Concern for family and friends was frequently shared by participants: "To be petrified that when I go home, I am a danger to my family and potential harm to them." (076) This led some to question being a nurse: "It's very stressful and I feel uncertain about the effectiveness of PPE and my family's safety as I care for patients with COVID 19. . . . I have to continue to work and I am proud to be a nurse but if I lose someone it will not be worth it." (173)

Did Not Sign Up for This. Working during a pandemic was not what participants anticipated when they became a nurse: "People say we signed up for this. No, I never agreed to risk my life or my family to help others. I'm no soldier nor cannon fodder. I am a nurse." (022) Nurses questioned the description of nurses as heroes: "Health care workers are NOT heroes. We are human and we are scared." (075)

Regret Becoming a Nurse. The pandemic led some nurses to question their choice of profession: "This has been the most challenging year of nursing, and I've doubted my resilience quite a few times. Sometimes I've wished that I never became a nurse, which is the hardest part of all." (043)

Lack of Social Support. Some nurses reported a lack of understanding, from either family or the community, for the work that they were doing during the pandemic: "There are no words to express what we have had to do and see. There's no way to make people understand or care." (092) This lack of support increased distress for some nurses: "This has been physically and emotionally wrecking, especially as a new nurse. My family does not understand what I have seen and they do not support me or understand my distress. Lacking [a] support system has been the worst part of it all." (093)

COVID-19 Impact Doesn't End for Nurses. Participants wrote about the long-term effects of the pandemic. Nurses expressed that they will be forever changed by the events: "We can't unsee what we have witnessed. It stays with us" (042) and "I know I will never be the same person, nurse, mom or friend." (194) The long-term effects will be felt by organizations as well: "Our unit has been upended and our workflow has changed entirely. . . . Things will truly never go back to the way they were in our hospital." (009)

Failure of Health Care System

Participants reported failures of leadership, teamwork, and resources (Table 3).

Inadequate Leadership Support. Participants felt a global lack of support at all levels: "The pandemic exposed the magnitude of failures in health care, and lack of both federal government leadership and hospital leaders cost so many their precious life." (013) Nurses felt that they were expendable: "Nurses are dispensable in the eyes of administration." (232) Nurses also felt they received no help or recognition: "We needed proper PPE; they lied to us constantly . . . about the reality of the situation. They did nothing to step up and help. No bonus, no thank you, no encouragement, just threats of losing our jobs if we didn't comply or if we spoke up." (091)

Unsupported by Health Care Team. Nurses reported inequity in risk and exposure to patients with COVID-19: "[P]hysicians [were] unwilling to go into the patient's room." (282) This inequity undermined health care team dynamics: "[W]e were not all in this together. . . . We are at the bedside while physicians are writing notes stating 'to limit the exposure to COVID-19 this . . . assessment was conducted from outside the room.'" (029)

> Nurses working in critical care in the United States during the COVID-19 pandemic experienced an immense burden unlike anything they had previously faced.

Inadequate Staffing and Supplies. Participants identified inadequate staffing and supplies, partly because of nurses leaving the ICU: "Lack of nurses due to critical care nurses leaving. This summer we had 6 critical care nurses covering for 25 beds while we were all trying to train another nurse." (094) The burden on nurses was increased by physicians without previous ICU training: "Not enough staff. Not enough supplies . . . or even critical care doctors. Often an endocrinologist or rheumatologist was covering our makeshift ICUs and I was teaching them . . . what vent changes to make based on ABGs [arterial blood gases]." (031)

COVID-19 Is Real

Participants expressed their emotional responses to members of the public not believing information about the pandemic or following public health guidelines. This lack of support increased nurses' stress and burden: "It's hard enough to care for COVID patients, to see so much death, but to have to constantly validate the existence of COVID in my community is even worse. Seeing people living their lives like nothing is happening is a slap in the face to the ones who have died." (128)

Positive Experiences and Outcomes of the COVID-19 Pandemic

Participants recognized some positive aspects of the pandemic both personally and professionally.

These aspects included appreciation from family and the community, finding strength in teamwork, personal and professional transformation, and recognition of nurses.

Appreciation From Family and Community. Nurses found positive aspects of the pandemic in the support and appreciation received from patients' families and the community. "Local public support has been wonderful and humbling." (264) "People's willingness to chip in and help out however they could weather [sic] it by making cloth masks . . . or ear-saving . . . mask holders. Many local restaurants, in the early days, sent food to the hospital, which felt healing to the soul and body." (050)

Finding Strength in Teamwork. Although some participants wrote about lack of teamwork, many participants identified the immense value and support derived from fellow nurses and the health care team: "I got to see our unit and our hospital pull together for the greater good, and I felt like I was part of something important." (017) This teamwork was a source of strength: "I couldn't survive without my coworkers. Somehow, we get each other through the bad staffing, the death, the questioning of our abilities, skills, and intelligence. Every day I've survived at work is due to the support of my coworkers." (105)

Personal and Professional Transformation. Participants found ways to maintain hope during the pandemic, holding on to each victory or patient success, even if rare: "The very few patients who make it out alive is an honest victory!" (064) Nurses also identified both personal and professional transformation during the pandemic, such as increasing their skills ("I believe it has made me a better nurse" [109]) and revealing their strength ("I had emotional and physical strength that I didn't know I had" [269]).

Ongoing assessment and intervention are needed to support ICU nurses' mental and physical well-being.

Recognition of Nurses. Participants described ways the pandemic has elevated recognition of nurse's role in the health care system: "The nursing profession is finally viewed as more than just the nurse who plays cards with the doctor's stethoscope." (166) The characteristics of nurses were also highlighted: "Nurses are made up of resilient human beings who have so much love and care to give to all of humanity. That is what keeps me going." (032)

Nothing Positive. Although many participants wrote about positive experiences related to the pandemic, some nurses felt that nothing good can or will come from this experience: "Literally nothing. I would have never become an ICU nurse if I knew this was what it would come to." (080).

Discussion

Nurses working in critical care in the United States during the COVID-19 pandemic experienced an immense burden unlike anything they had previously faced. Nurses' burden was increased because of the lack of effective treatment, poor patient prognosis, and lack of family presence. Perceived inadequate leadership support and inequity within the health care team further increased nurses' burden. Additionally, lack of consistent support from the community to slow the spread of COVID-19 or even recognition that COVID-19 was a real phenomenon increased nurses' stress and feelings of isolation. The physical, emotional, and psychological impact reported by nurses included exhaustion, anxiety, sleeplessness, and moral distress. Fear of contracting COVID-19 and potentially infecting family and friends was prevalent. The overall experience of the COVID-19 pandemic led some nurses to question their decision to become a nurse. The experiences reported by US nurses in this study mirror reports from other countries.[12-16]

Despite the challenges faced by critical care nurses during the pandemic, many identified positive aspects associated with the experience, similar to the results of other studies.[12,16] Nurse respondents found that teamwork and support from other ICU nurses and HCWs allowed them to continue working through the ongoing challenges. Some participants found strength in focusing on the patients who recovered. Nurses recognized that they had more resilience than they would have anticipated before the pandemic. Additionally, participants found benefit in the increased recognition of nurses' role in health care.

Although some nurses reported positive experiences related to the COVID-19 pandemic, the responses overwhelmingly point to the negative impact, raising potential concerns about large numbers of nurses leaving critical care or the nursing profession. Compared with other HCWs, nurses have reported higher levels of anxiety and depression.[21] Ongoing assessment and intervention are needed to support ICU nurses' mental and physical well-being. Interventions that help nurses make sense of their experiences are urgently needed. Health care workers have identified interest in self-guided counseling, individual counseling/therapy, and clinician support groups to help them cope.[21] Teamwork and interpersonal connection with colleagues seem to be protective; further study

is needed to understand the relationship between teamwork and individual well-being. The perceived lack of administrative support, with some participants identifying a global lack of support, is concerning. Nurse managers may bear the burden of supporting frontline nurses yet may not have the unit and organizational resources needed during times of crisis.[17]

A potential limitation of this study is response bias. Respondents may have been experiencing more or less stress than those who did not respond. The sample had a high percentage of nurses from the Midwest, which may reflect a different experience than elsewhere in the country. Most participants were nurses in adult ICUs, which is most likely because of the higher prevalence of severe illness in adults than in children during data collection. Because of our recruitment methods, we were unable to calculate response rate.

Conclusions

Limited information about US ICU nurses' experiences during the COVID-19 pandemic is available. This study provides insights into key areas that health care leaders must address to sustain an ICU nurse workforce. Continued study of nurses' experiences during the COVID-19 pandemic and the ongoing challenges that follow the pandemic is warranted, particularly regarding nurses' perceptions about effective resources that support their well-being and their ability to perform their job.

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REFERENCES

1. Jervis R. 'Death is our greeter': doctors, nurses struggle with mental health as coronavirus cases grow. *USA Today.* May 3, 2020. Updated May 5, 2020. Accessed May 4, 2020. https://www.usatoday.com/story/news/nation/2020/05/03/coronavirus-death-count-has-doctors-struggling-mental-health/3063081001/
2. Washburn L. 'If you think too much, you cry': nurse shares what it's like to care for the sickest coronavirus patients. *USA Today.* March 28, 2020. Updated March 29, 2020. Accessed May 4, 2020. https://www.usatoday.com/story/news/nation/2020/03/28/nurses-caring-covid-19-patients-ventilators-tell-what-its-like/2925359001/
3. Murthy S. Gomersall CD, Fowler RA. Care for critically ill patients with COVID-19. *JAMA.* 2020;323(15):1499-1500.
4. Bernstein L, Boburg S, Sacchetti M, Brown E. Covid-19 hits doctors, nurses and EMTs, threatening health system. *Washington Post.* March 17, 2020. Accessed May 4, 2020. https://www.washingtonpost.com/health/covid-19-hits-doctors-nurses-emts-threatening-health-system/2020/03/17/f21147e8-67aa-11ea-b313-df458622c2cc_story.html
5. Clinicians report high stress in COVID-19 response. Society of Critical Care Medicine. May 5, 2020. Accessed May 6, 2020. https://sccm.org/Blog/May-2020/SCCM-COVID-19-Rapid-Cycle-Survey-2-Report
6. Goodyear C. COVID-19: how nurse managers can mitigate nurse PTSD. American Association of Critical-Care Nurses. April 3, 2020. Accessed May 4, 2020. https://www.aacn.org/blog/covid-19-how-nurse-managers-can-mitigate-nurse-ptsd
7. Thew J. COVID-19 is affecting critical care nurses. What nurse leaders need to know. *Health Leaders.* April 8, 2020. Accessed May 4, 2020. https://www.healthleadersmedia.com/nursing/covid-19-affecting-critical-care-nurses-what-nurse-leaders-need-know
8. Rushton CH, Batcheller J, Schroeder K, Donohue P. Burnout and resilience among nurses practicing in high-intensity settings. *Am J Crit Care.* 2015;24(5):412-420.
9. Moss M, Good VS, Gozal D, Kleinpell R, Sessler CN. An official Critical Care Societies collaborative statement—burnout syndrome in critical care health-care professionals. *Chest.* 2015;150(1):17-26.
10. Young JL, Derr DM, Cicchillo VJ, Bressler S. Compassion satisfaction, burnout, and secondary traumatic stress in heart and vascular nurses. *Crit Care Nurs Q.* 2011;34(3):227-234.
11. Mealer M, Burnham EL, Goode CJ, Rothbaum B, Moss M. The prevalence and impact of post traumatic stress disorder and burnout syndrome in nurses. *Depress Anxiety.* 2009;26(12):1118-1126.
12. Cui S, Zhang L, Yan H, et al. Experiences and psychological adjustments of nursing who voluntarily supported COVID-19 patients in Hubei Province, China. *Psychol Res Behav Manag.* 2020;13:1135-1145.
13. Galehdar N, Kamran A, Toulabi T, Heydari H. Exploring nurses' experiences of psychological distress during care of patients with COVID-19: a qualitative study. *BMC Psychiatry.* 2020;20(1):489.
14. Kackin O, Ciydem E, Aci OS, Kutlu FY. Experiences and psychosocial problems of nurses caring for patients diagnosed with COVID-19 in Turkey: a qualitative study. *Int J Soc Psychiatry.* 2021;67(2):158-167.
15. Karimi Z, Fereidouni Z, Behnammoghadam M, et al. The lived experience of nurses caring for patients with COVID-19 in Iran: a phenomenological study. *Risk Manag Healthc Policy.* 2020;13:1271-1278.
16. Sun N, Wei L, Shi S, et al. A qualitative study on the psychological experience of caregivers of COVID-19 patients. *Am J Infect Control.* 2020;48(6):592-598.
17. White JH. A phenomenological study of nurse managers' and assistant nurse managers' experiences during the COVID-19 pandemic in the United States. *J Nurs Manag.* 2021;29(6):1525-1534.
18. Gordon JM, Magbee T, Yoder LH. The experiences of critical care nurses caring for patients with COVID-19 during the 2020 pandemic: a qualitative study. *Appl Nurs Res.* 2021;59:151418.
19. Firew T, Sano ED, Lee JW, et al. Protecting the front line: a cross-sectional survey analysis of the occupational factors contributing to healthcare workers' infection and psychological distress during the COVID-19 pandemic in the USA. *BMJ Open.* 2020;10(10):e042752.
20. Sharma M, Creutzfeldt CJ, Lewis A, et al. Health-care professionals' perceptions of critical care resource availability and factors associated with mental well-being during coronavirus disease 2019 (COVID-19): results from a US survey. *Clin Infect Dis.* 2021;72(10):e566-e576.
21. Schechter A, Diaz F, Moise N, et al. Psychological distress, coping behaviors, and preferences for support among New York healthcare workers during the COVID-19 pandemic. *Gen Hosp Psychiatry.* 2020;66:1-8.
22. Erlingsson C, Brysiewicz P. A hands-on guide to doing content analysis. *Afr J Emerg Med.* 2017;7(3):93-99.
23. Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. *Qual Health Res.* 2005;15(9):1277-1288.
24. Elo S, Kyngäs H. The qualitative content analysis process. *J Adv Nurs.* 2008;62(1):107-115.