Original Article

Burnout as a Consequence of Unavoidable Care Provision; Iranian Nurses' Experiences While Caring for Patients with COVID-19: A Qualitative Study

Abstract

Background: Nurses faced serious challenges during the COVID-19 pandemic. Exploring nurses' experiences in caring for patients with COVID-19 can help address their challenges and improve the quality of care provided to patients. This study aimed to explore the burnout experienced by Iranian nurses caring for patients with COVID-19 in Sirjan. **Materials and Methods:** This qualitative study was conducted in 2020 using the conventional content analysis method. Granheim and Landman's approach was used for data analysis. Ten nurses providing care to patients with COVID-19 were selected through purposeful sampling. Data were collected through in-depth semi-structured interviews and analyzed using MAXQDA software. **Results:** Data analysis revealed ten primary categories, three subcategories, and one theme (burnout as a consequence of unavoidable care provision) extracted from the data analysis. **Conclusions:** The COVID-19 outbreak and its challenges had a significant impact on nurses' mental health. Nurses were constantly concerned about their patients, their families, and their own well-being. A shortage of staff, equipment, and safe working conditions, along with organizational pressures, led to emotional exhaustion. Nurses also felt isolated due to negative reactions from their families, colleagues, and patients' families. These stressors had a cumulative effect, resulting in burnout that must be addressed by healthcare authorities to ensure the well-being of nurses and improve the quality of care provided.

Keywords: *Professional burnout, COVID-19, nurses, nursing care, qualitative research*

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Introduction

Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) emerged in 2019 in Wuhan, China, and led to a global pandemic.[1] Symptomatic treatment is carried out to control disease symptoms.[2] Healthcare professionals bear significant responsibility in this regard, and unfortunately, many frontline personnel sacrifice their health.[3] Many of them have become infected with the virus, and some have died, which has heightened psychological pressure on them.[3] According to a study, more than 50% of infected cases were among nurses.[4] Healthcare workers faced stressful conditions while dealing with the limited understanding of COVID-19, inadequate medication, and medical resources, as well as insufficient personal protective equipment.[5] Physicians and nurses experienced high levels of moral conflict and clinical stress when caring for critically ill and contagious patients.[6] The ethical issues reported during previous epidemics involved a conflict between maintaining professionalism and the risk of disease transmission.[7]

Previous studies have shown that during sudden natural disasters and infectious diseases, nurses often put aside their own needs to actively participate in providing care and make morally devoted contributions.[8] Studies have indicated that when nurses were in close contact with diseases, such as SARS,[9] MERS,[7] and Ebola,[10] they experienced feelings of loneliness, stress, fear, fatigue, sleep disorders, and other mental and physical health problems. A previous study has also revealed that nurses in small towns felt abandoned by their communities due to concerns about the contagiousness of the disease they were working with.[11] Nurses providing care during the COVID-19 pandemic have faced significant burdens,[12]

How to cite this article: Imani-Goghary Z, Bagherian B, Rafati F, Badrabadi N. Burnout as a consequence of unavoidable care provision; Iranian nurses' experiences while caring for patients with COVID-19: A qualitative study. Iran J Nurs Midwifery Res 2025;30:474-80.

Submitted: 01-Oct-2022. **Revised:** 03-Feb-2025. **Accepted:** 04-Feb-2025. **Published:** 24-Jul-2025.

Access this article online

Website: https://journals.lww.com/jnmr

DOI: 10.4103/ijnmr.ijnmr_308_22

Quick Response Code:

often stemming from heavy workloads, long hours, and working in a stressful environment.[13] Nurses who work in such demanding conditions may experience fatigue, burnout, and negative emotions,[14] all of which ultimately impact their professional effectiveness.

COVID-19 caused a global pandemic. Based on the results of previous studies, providing care to COVID-19 patients has had psychological, social, and physiological impacts on the nurses.[15,16] Despite insufficient safety measures, technical constraints, and limited supplies in hospitals, nurses around the world continue to fulfill their professional responsibilities while being in contact with infected patients, putting both their safety and that of their families at risk.[15] During the pandemic, staffing shortages in the health system emerged as another issue, leading to increased expectations on nurses and ultimately causing them to experience heavy workloads, sleep deprivation, exhaustion, and burnout.[5] On the other hand, critical conditions and staffing shortages in small cities, especially during a crisis, may cause nurses to feel unable to provide standard care to their patients, leading to role disillusionment.[11] To the best of our knowledge, despite several studies addressing the experiences and burnout of nurses during the COVID-19 pandemic,[15-17] there remains a dearth of research specifically focused on burnout in nurses in small cities in Iran. Compared to larger cities, these areas face limited health facilities and equipment, as well as a lack of human resources. Recognizing the experiences and effects of providing care in critical situations, such as epidemics on nurses, will help health centers choose appropriate methods to assist nurses and enhance the quality of care. Therefore, this study aimed to explore the burnout experienced by Iranian nurses caring for patients with COVID-19 in Sirjan.

Materials and Methods

This qualitative content analysis study was part of a larger study entitled "Exploring the lived experience of nurses caring for patients with SARS-CoV-2," which was conducted from January to September 2020 in Sirjan. Through purposeful sampling, a total of ten nurses caring for patients with COVID-19 participated in this study. The inclusion criteria were: (1) working in a hospital; (2) experience in providing care for at least 6 months to patients suspected or confirmed to have COVID-19; and (3) willingness to participate.

Data were collected through in-depth semi-structured interviews, with the interview guide developed following a pilot interview. Some interviews took place face-to-face at the nurses' workplaces, while others, due to limitations related to the COVID-19 pandemic, were conducted via phone calls by one of the authors (Z I-G). At the beginning of each interview, the interviewer provided an introduction and a brief explanation of the study's objectives. Once the participants' trust was gained and written informed consent was obtained, the interviews were conducted using the interview guide. Questions, such as "Would you please share your experience in caring for a patient with suspected or confirmed COVID-19"? "What challenges did you encounter during care?" and "What emotions did you experience during this time?" were asked, followed by more specialized questions related to the study's objectives. The interviews lasted between 45 and 60 min and explored the nurses' experiences and emotions while providing care to COVID-19 patients. Data collection and analysis occurred simultaneously, with interviews continuing until categories were identified and data saturation was achieved.

Data analysis was conducted following the completion of each interview. A researcher transcribed the interview verbatim, and the transcripts were then reviewed for accuracy and comprehensibility. The data were analyzed using conventional qualitative content analysis based on Graneheim and Lundman's guidelines.[18] MAXQDA software was utilized to manage the data analysis process. Initially, the transcripts were divided into condensed units of meaning. Next, meaningful units were identified by extracting words, sentences, and paragraphs relevant to the study's objectives. In the third phase, codes were derived from the condensed meaning units. These primary codes were then grouped to form primary categories and subcategories, which were further organized into categories based on similarities and differences. As the analysis progressed, the level of abstraction within the categories increased. Ultimately, a theme was developed to express the latent content of the interviews, reflecting the nurses' experiences and emotions in providing care for patients with suspected or confirmed COVID-19. Through these analyses, ten primary categories, three subcategories, and one main theme were identified.

Trustworthiness was established by ensuring confirmability, dependability, credibility, and transferability.[15] Confirmability was reinforced through meticulous recording and reporting of the research process and all activities to provide the ability to follow up. Credibility was enhanced by establishing sufficient interaction with participants, allocating adequate time for data collection, employing open-ended questions, making audio recordings, transcribing the interviews verbatim, and utilizing the constant comparative method for data analysis. The content of all transcripts underwent security measures, and random interview excerpts were re-examined to ensure dependability. To further enhance credibility, two random interpretations were shared with participants for member checking. Team analysis and peer review were also conducted. Transferability was assured by clearly delineating sampling techniques, inclusion criteria, participants' characteristics, data collection procedures, and data analysis process, and presenting detailed findings.

Ethical considerations

The ethics committee of the Sirjan School of Medical Sciences approved the study (IR.SIRUMS.REC.1399.009).

Participants were informed of the aim and process of the research before the interviews. Nurses participated voluntarily and signed written informed consent. The confidentiality of the information and the right to withdraw from the study were explained to the participants.

Results

A total of ten nurses with work experience ranging from 8 months to 26 years and an average age of 36.4 years participated in the study. The majority of the nurses (80%) were female, and 80% of them were also married. These nurses were selected from two hospitals: one affiliated with the medical science university and another with the social security organization, both located in Sirjan. The demographic characteristics of all participants are listed in Table 1.

A total of 335 primary codes formed ten primary categories and then three subcategories: infection-related psychological stressors, challenging working conditions, and loneliness. The main theme emerging from the data analysis was "burnout as a consequence of unavoidable care provision." In the following sections, we discuss the primary categories and subcategories [Table 2].

Burnout as a consequence of unavoidable care provision

The main theme of this study focuses on the experiences of nurses in caring for patients with COVID-19. As healthcare professionals, nurses are responsible for providing care under all circumstances and attending to the needs of their patients. This unavoidable care in emergencies results in high levels of stress for nurses. The continuous provision of care, combined with the constant demands placed on them, can lead to feelings of exhaustion, frustration, and overwhelm, ultimately resulting in burnout. The onset of the COVID-19 pandemic, along with the related working conditions and societal constraints, affected nurses' interactions with patients and further intensified burnout among nurses. This theme includes three subcategories: "Infection-related psychological stressors, challenging working conditions, and loneliness."

Infection-related psychological stressors

According to the data analysis, the primary categories "perceived threat to their own health," "perceived threat to others' health," and "the stress of deterioration in patients' health" were combined to form the "infection-related psychological stressors" subcategory. This subcategory refers to the emotional and mental strain experienced by nurses due to the threat and aftermath of COVID-19. These stressors arise from various factors, such as the fear of contracting the illness, concerns about the health of oneself or loved ones, uncertainty about the disease's progression, and the potential impact on their overall well-being.

A nurse working in the emergency department stated, "*We had bad conditions in the emergency department ... I was always stressed about being infected with the crowd of patients and attendants and ... I was really afraid. I constantly worried that my immune system was weak or weakened ... I felt pain somewhere in my body every day. My stress level increased, especially when I realized that one of my colleagues tested positive*" (P9).

Such statements indicate that nurses are indeed stressed due to the infection risk associated with COVID-19.

Nurses were also stressed about the risk of infection, not only for themselves but also for their families. As one participant stated, "*My mom takes care of my children ... she has hypertension, and I was afraid of transferring the virus to her ... If she got infected, everyone would blame me ... I constantly worried about being a COVID-19 carrier and transmitting it to her ... Some nights I had nightmares*" (P1).

According to the participants' statements, stressors extended beyond themselves and their families, as they also experienced them in the workplace. The deteriorating condition of patients was a significant source of stress for nurses. They often felt incompetent and burdened with guilt when they were unable to save patients' lives. A nurse working in the COVID-19 ward expressed this sentiment: "*We didn't think some patients would die, but when they did... it was unbelievable! Sometimes I came to the*

Table 1: Demographic characteristics of participants

Participant code	Age (year)	Gender	Ward	Experience in caring for COVID-19 patients (month)	Marital status
1	36	Female	Emergency	8	Married
2	39	Female	Acute respiratory care unit	7	Married
3	32	Female	Emergency	8	Married
4	42	Male	Acute respiratory care unit	7	Married
5	22	Female	ICU	7	Single
6	45	Female	Acute respiratory care unit	7	Married
7	48	Female	Acute respiratory care unit	6	Married
8	23	Male	Emergency	8	Married
9	37	Female	Emergency	8	Married
10	40	Female	ICU	8	Single

Table 2: Primary categories and subcategories of the theme "burnout as the consequences of unavoidable care provision"

Primary categories	Subcategories	Theme
Perceived threat to their own health	Infection-related psychological stressors	Burnout as a consequence of unavoidable care provision
Perceived threat to others' health		
The stress of deterioration in patients' health		
Organizational pressures	Challenging working conditions	
Shortage of a safe working place		
Shortage of nursing staff		
Shortage of personal protective equipment		
Paradoxical reactions of the family	Loneliness	
Annoying reaction of colleagues		
Paradoxical reactions of patients' families		

conclusion that we couldn't do anything more for a patient … Those who were intubated and mechanically ventilated did not get better. We were always worried about this" (P6).

Another nurse said: "*We had a young male patient who received oxygen through a nasal tube. As the patient's oxygen saturation decreased, we switched to a mask with a reservoir bag, but his oxygen saturation didn't rise above 80. Eventually, we had to connect him to BiPAP, which didn't improve his condition. During the morning shift, the patient deteriorated, experiencing severe dyspnea and respiratory arrest. We performed CPR and initiated mechanical ventilation. Over the next 24 hours, his condition worsened with severe ARDS,… I will never forget the tragic death of that patient and the stress we endured*" (P2).

Another nurse highlighted this stressor, stating: "*We were worried about infecting other patients. We had different patients with various diseases, some of whom didn't exhibit any symptoms of COVID-19 but were diagnosed accidentally. For instance, we conducted a CT scan to detect rib fractures for a patient involved in a car accident, and then we discovered that he had extensive lung damage related to COVID-19. Being close to other patients and the fear of inadvertently infecting someone else was horrifying*" (P8).

Consequently, when healthcare providers, especially nurses, encounter unexpected contagious diseases, they face various stressors that haunt their minds both at work and at home. This can have a detrimental impact on their physical and psychological well-being.

Challenging working conditions

Another significant factor contributing to fatigue and burnout among care provider nurses during the COVID-19 pandemic was challenging working conditions. The primary categories under this subcategory include "organizational pressures," "shortage of a safe working place," "shortage of nursing staff," and "shortage of personal protective equipment."

According to interviews, during the COVID-19 pandemic, medical centers rearranged staff roles in COVID-19 units, which the staff believed was unfair. Additionally, there were shortages of facilities, such as air conditioners, protective equipment, respirators, patient monitoring devices, and even physical space, which made the situation more difficult for nurses. For example, regarding organizational pressures, a participant working in the ICU said, "*I didn't like working in the COVID-19 unit, but I had to … They didn't accept my excuse*" (P2).

Another nurse expressed, *"I had just graduated and wanted to start working sooner. The nursing manager asked me to work in the COVID-19 ICU. I didn't accept at first, but I didn't have better options, so I eventually agreed. Then I was infected, and I regretted it"* (P5).

"Shortage of a safe working place" was another primary category that emerged during the analysis of transcripts. A participant working in the ICU of a public hospital said,

"*There wasn't enough room in that ward, and it hadn't been built for that pandemic situation. It lacked good air conditioning. We had only one room for resting, eating, and changing clothes, which was very crowded. Some staff members had been infected so far. Having a separate dining room would have been better; we suggested it, but the situation remained unchanged*" (P10).

As previously mentioned, inadequate nursing staff was another exacerbating factor in the workplace. A COVID-19 nurse stated, "*When one of our colleagues got infected, there was no replacement for them. Sometimes, nurses from other wards came to help, but they were unfamiliar with our routines, and it took time for them to learn the rules. In the meantime, we had to work even more. The large number of patients and long work hours led to exhaustion*" (P4).

The head nurse of the COVID-19 unit added, "*It was incredibly challenging; nurses became tired and didn't want to work overtime due to the high workload and stress, especially during emergencies. I scheduled enough nurses for the month, but if one nurse got sick or faced issues, others didn't want to work overtime. We were then forced to take nurses from other wards and consider forced overtime for everyone*" (P7).

The "shortage of personal protective equipment" was another challenging factor for the nurses. As shared by a participant, "*At the beginning of the pandemic, we faced a shortage of personal protective equipment. After a month, protective clothes were provided for us. Initially, there was limited protective equipment, and our primary concern was accessing a simple mask*" (P4). As mentioned by the participants, since hospitals were not prepared for epidemic conditions, the COVID-19 outbreak led to shortages of workplace facilities and nursing staff. This created difficult and problematic conditions for nurses.

Loneliness

According to the participants' statements, paradoxical reactions from others led to a sense of loneliness and isolation among nurses, which eventually resulted in fatigue and burnout. The primary categories under the loneliness subcategory included "paradoxical reactions of the family," "annoying reactions of colleagues," and "paradoxical reactions of patients' families."

According to the participants' statements, sometimes families displayed paradoxical reactions to the care of COVID-19 patients, which annoyed nurses. For example, one participant said, "*When the epidemic started, my family was opposed to my job and asked me to resign, but I resisted and explained that I strictly followed health protocols; eventually, they accepted. However, my husband's family didn't want to maintain any relationship with me*" (P10).

Another participant who worked in a hospital despite her family's opposition, said, "*When my COVID-19 test turned out positive, my family blamed me, and the situation worsened when my mom got a fever… They accused me of causing it. I felt guilty, and they further aggravated the situation*" (P5).

Nurses also complained about the negative reactions of their colleagues. A nurse stated, "*I experienced negative reactions, and responses from nurses and staff of other units; they believed nurses who worked in the COVID-19 unit were always carriers of the virus, They tried to change their behavior towards me, even though I wore a mask and observed social distancing*" (P2).

The paradoxical reactions of patients' families also hurt nurses. *"Patients' companions were worried that we would transfer the virus to their loved ones. They believed that close contact with nurses posed a risk of infection. Sometimes they didn't allow us admit the patient to the COVID-19 unit, so we had to convince them"* (P8).

Another participant said, "*Some families left the patients with suspected COVID-19 in the hospital … We had to call them if the patient needed something, but they didn't care and believed they should not have any connection with the patient*" (P3).

Accordingly, both society and families wanted nurses to help and care for patients. However, due to the fear of disease transmission, they tended to avoid close contact with nurses and sometimes behaved poorly. This issue affected nurses' social relationships and led to feelings of isolation and loneliness.

Discussion

This study aimed to explore burnout experienced by Iranian nurses caring for COVID-19 patients. The recent pandemic was a significant source of stress for individuals and groups; however, it was particularly challenging for medical personnel, who were at the forefront of combating the crisis. According to the findings of this study, burnout was an inevitable outcome. Nurses experienced burnout, fatigue, and isolation due to infection-related stressors, difficult working conditions, and the persistence of the pandemic, which intensified these issues. Other studies have also demonstrated that factors in the work environment and excessive workloads contributed to heightened stress and burden among frontline nurses battling the COVID-19 pandemic.[19,20] Consequently, this had detrimental effects on the overall quality and safety of patient care.

During the COVID-19 pandemic, nurses experienced significant stress and faced job-related concerns. Some of the stressors included the risk of their own infection with the coronavirus, the transmission of the infection to family members and other patients, and worries about patients' physical condition. Other studies consistent with the findings of this study pointed to various stressors. The contagious nature of the virus and public announcements of nurse deaths exacerbated the situation.[19] In a study by Karimi *et al*.[21] in Iran, the main sources of stress for nurses were being infected with the virus and transmitting it to their family members. In another study by Zhang, the possibility of transmitting the virus to family members was cited as the most common stressor for nurses.[19] The potential for spreading infection to colleagues in close contact with COVID-19 patients and the deterioration of patients' conditions were among the concerns, as these issues conflicted with nurses' professional responsibilities.[5] Death anxiety during epidemics among medical staff was often more about the death of others than their own.[22] In other studies, nurses' concern for their patients' deaths, especially if they died from the epidemic, has been noted.[23] In a study in Turkey, nurses reported feelings of fear, anxiety, heightened obsession, and development of depression-like symptoms.[24] Various studies have indicated that negative feelings are common among medical personnel, particularly nurses, during epidemics.[25,26] Research has shown that nurses experience significant stress during repeated or prolonged stressors, which can lead to burnout and fatigue.[21] Studies have also suggested that women are more likely to experience psychological challenges and perceived stress than men.[27] Considering that most participants in our study were women, they exhibited higher levels of vulnerability in adapting to changing living conditions.

Due to professional rules, nurses are obligated to work in any critical situation. At the beginning of the outbreak, many of them lacked sufficient knowledge about the disease. Additionally, they were hesitant to work in the COVID-19 unit due to stress and fear of infection, which contradicted the principles of voluntary care. Other studies have also highlighted knowledge as a facilitator for accepting care responsibilities.[28] Studies in China showed that over 300 medical personnel were infected with the coronavirus at the beginning of the pandemic when there was limited knowledge about prevention methods.[29] Previous studies during the MERS-CoV epidemic considered

the issue of nurses' intellectual structure in avoiding care for patients with the virus versus caring for other patients. Nurses working in COVID-19 units were perceived as carriers of the virus, and this stigma was another factor that contributed to nurses' stress.[7,30] The sentiments expressed by the participants in this study were consistent with these findings, reflecting the perception of severe stress experienced by nurses caring for COVID-19 patients.

Hospital wards were unprepared for the crisis, especially during the early days of the outbreak. Consistent with the findings of this study, issues such as inadequate isolation facilities, a shortage of nursing staff, and insufficient protective equipment were reported by other similar studies.[5,16] In this study, despite the preparations made, during the peak of the disease, problems related to workload and workforce shortages, along with the persistence of COVID-19, led to fatigue and burnout among nurses. Due to the nature of COVID-19, patients were unable to interact and communicate with nurses, which increased their workload, added stress, reduced self-esteem, and lowered the quality of care.[5] To address the staff shortage in the COVID-19 wards, nurses from other hospital departments were assigned to care for COVID-19 patients. However, these nurses lacked proper training for dealing with patients infected with COVID-19, which caused physical and mental harm to themselves and others.[31] According to Kang *et al*.'s study,[32] during the MERS epidemic, nurses experienced burnout due to high workload, changes in working conditions requiring caution in caring for suspected or infected patients, and concerns about personal protective equipment and work safety. In this study, a lack of a safe working environment, shortages of personal protective equipment, and nursing staff were identified as major challenges and sources of stress when caring for COVID-19 patients. Some nurses have even considered leaving their profession.

Quarantine aims to prevent the transmission of infectious diseases, but it can be distressing as it leads to separation from family and friends,[33] especially when it lasts for extended periods during the COVID-19 pandemic. According to our findings, negative reactions from family, colleagues, and society exacerbated feelings of isolation and loneliness, and the continuation of this situation caused fatigue and intolerance among our participants. Similar experiences of social stigma and reduced interpersonal relationships were reported by medical staff, particularly nurses who cared for patients during the epidemics.[26,34] A previous study examined the feelings of nursing students who were obligated to care for patients with COVID-19 and found that they also experienced a sense of loneliness.[35] The findings of this study align with those of other studies that have shown the high levels of stress and conflict experienced by nurses, as well as the negative reactions from their families.

The study emphasizes the need for social support for nurses, including support from family, relatives, colleagues, and others. Public awareness about virus transmission and the critical situation is also necessary. Nurses often live with other family members, so they need to take precautions to reduce the risk of infecting others during pandemics. This can involve interventions such as staying in a separate room, changing clothes immediately after entering the house, and taking a shower[36] to minimize the possible transmission of the virus to themselves and their family members. A limitation of this study was the collection of some data via phone calls due to restrictions related to the COVID-19 pandemic.

Conclusion

The central role of nurses is to provide care to promote the health of patients. When patients' conditions deteriorate, when adverse patient events occur, or when there is a fear of infecting their own families, nurses experience a significant burden of stress, fatigue, and burnout, especially when these stressors persist over time. The sudden and unplanned outbreak of the COVID-19 pandemic put a strain on the healthcare system, leading to challenges in providing necessary equipment and space, ultimately resulting in harm to medical staff. Furthermore, due to the contagious nature of the disease, not only nurses but also the entire community experienced worry and anxiety. This led to negative reactions toward those with the highest potential exposure to the coronavirus—nurses—which affected their social relationships. Despite these challenges, nurses continued to provide care as required by their professional and organizational responsibilities, which was unavoidable and could lead to burnout as the pandemic continued.

Interventions such as providing emotional support, including counseling services and mental health resources, are essential to help nurses navigate the heightened stress during a global health crisis. Adequate personal protective equipment, staffing resources, and access to training and education are crucial for protecting nurses' physical and mental well-being while enabling them to effectively carry out their duties. Furthermore, increasing societal understanding of the challenges and sacrifices faced by nurses on the frontlines during crises can create a more supportive environment for nurses, reducing stigma, enhancing workplace morale, and increasing overall resilience in the face of potential future crises.

Acknowledgments

This study is a result of a study approved by the Sirjan School of Medical Sciences (registration code: 990SIR02). The authors would like to express their gratitude to participants for their willingness to participate in this study.

Financial support and sponsorship

Sirjan School of Medical Sciences

Conflicts of interest

Nothing to declare.

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