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Research Article

Exploring the Experiences of Nurses in Providing Care to Patients with COVID-19: A Qualitative Study in Iran

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Abstract

AIM: This study aimed to explore the experiences of nurses in providing care to COVID-19 patients.
METHOD: This qualitative study was conducted with the content analysis approach between June and Agust 2020 in Iran. Fourteen nurses working in COVID-19 wards were selected via purposive sampling. The data were collected via semi-structured interviews and the Graneheim and Lundman content analysis method was adopted for the data analysis.
RESULTS: The experiences of nurses in providing care to COVID-19 patients were divided into four categories "a scarcity of knowledge about COVID-19 patient care," "changes in daily life," "patient care challenges," and "occupational burnout."
CONCLUSION: The results of this study can be used by managers when facing crises similar to COVID-19 so that by paying attention to the challenges of caring for patients identified in this study, they can make the necessary preparations for caring for patients during other pandemic crises and plan the necessary measures accordingly. Also, to maintain and promote the quality of nursing care, it is crucial to ensure the adequate provision of resources for patient care, such as utilizing personal protective equipment and mechanisms that offer financial and emotional support to nurses.
Keywords: COVID-19, nurses, qualitative research

Introduction

In December 2019, several cases of novel coronavirus infection were reported in Wuhan, Hubei Province, China, and the disease rapidly spread at local and global levels. On January 30, 2020, the World Health Organization (WHO) declared the coronavirus epidemic a global public health emergency (World Health Organization, 2020a). The disease was later officially named COVID-19, and on March 11, 2020, the WHO declared the disease a pandemic (World Health Organization, 2020b). The outbreak of COVID-19 in Iran, combined with the consequences of the international sanctions imposed by the United States and the limited access to COVID-19 vaccines, has caused serious problems for Iranians (Chegini et al., 2021). Based on the Iranian Ministry of Health and Medical Education statistics, 131,033 people have died due to COVID-19 up to December 18, 2021 (Ministry of Health and Medical Education, 2020).

The pandemic has caused extensive problems in healthcare centers, such as the shortage of beds, heavy workload due to the healthcare staff's own infection and the resultant labor shortages, high oxygen consumption, and a shortage of medication and medical equipment, which have markedly impacted various dimensions of the mental and physical health of healthcare providers, especially nurses (Ambrosi et al., 2020).

Nurses have always played a key role in infection prevention, control, management, and generally, public health (Smith et al., 2020). Today, nurses have become one of the main healthcare providers for COVID-19 patients in the fight against the pandemic. COVID-19 patient care has created new challenges for nurses, including physical and mental harms, mainly pneumonia, bronchitis, and acute respiratory syndrome, which are actually signs of infection and may require hospitalization (Beeching et al., 2020).

Some studies have quantitatively and qualitatively examined nurses' experiences in previous epidemics and reported issues such as lack of organizational support (Im et al., 2018), challenges of working with personal protective equipment (PPE)

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(Kang et al., 2020), and physical ramifications (e.g., insomnia and headaches) (Lam & Hung, 2013). Other documented issues include nurses' fear of infection for themselves, their relatives, and their friends (Ornell et al., 2020), sense of helplessness in the face of an unknown disease, hopelessness, depression, anxiety, and post-traumatic stress (Pappa et al., 2020).

A cross-sectional study of healthcare workers in China during the COVID-19 outbreak from February 10 to 20, 2020, showed that about 164 out of the 512 staff (32.03%) who provided direct patient care contracted COVID-19 themselves. The prevalence of anxiety was about 12.5% in this group (C.-Y. Liu et al., 2020). Another study on physicians and nurses in Wuhan, China, at the outset of the COVID-19 outbreak showed that healthcare workers experienced a high level of depression, anxiety, insomnia, and pain. Other studies have also discussed the seriousness of psychological problems among healthcare staff and the importance of providing psychological assistance to them (Lai et al., 2020).

Research has demonstrated that nurses face serious challenges in providing care to COVID-19 patients that also cause extensive problems for themselves. It is essential to identify the different dimensions of nurses' experiences in providing care to COVID-19 patients. Previous studies have only discussed the physical and psychological impact of COVID-19 on nurses and have neglected the other dimensions of their experiences. Furthermore, the majority of the studies on this subject are quantitative, while qualitative studies can be more appropriate for the discovery and identification of nurses' experiences and challenges of providing care to COVID-19 patients. One of these challenges in all healthcare systems throughout the world during epidemics is to consider all the dimensions involved in the fight against the epidemic, including human workforce, rapid diagnosis, effective treatment, care, and follow-up, supplying medications and medical equipment, and public training (Catton, 2020; Ferreira Fernandes da Silva et al., 2013). Meanwhile, the emergence of unknown epidemics complicates the situation.

Understanding nurses' experiences of providing care to COVID-19 patients can help identify the nature of the disease, the course of the disease in hospitalized patients, and the patients' healthcare needs involving nurses. Therapeutic strategies and care practices for COVID-19 are constantly evolving. For instance, at the outset of the pandemic, the mode of transmission used to be contact with surfaces and touch, but later, the attention shifted to respiratory transmission and wearing masks to prevent transmission. Therapeutic strategies also used to involve certain oral antivirals, such as hydroxychloroquine or favipiravir, while remdesivir was more prescribed in the next phase.

The existence of contradictory information during the COVID-19 pandemic caused different challenges in patient care, especially for nurses. On the other hand, one of the most important reasons for conducting studies during a pandemic is to use the learned lessons during this period and prepare for future events, so this study aimed to explore the experiences of nurses in providing care to COVID-19 patients according to Iran's health system.

Research Questions

The research questions in this study were as follows:

1. What is the experience of nurses in caring for patients with covid-19?
2. What are the most important challenges for nurses in caring for patients with covid-19?
3. What are the most important consequences of caring for patients with covid-19 among nurses?

Method

Study Design

The study was a qualitative design.

Sample

The participants in the study were 14 nurses working in the COVID-19 wards. Sampling was done in a purposeful way and continued until data saturation was reached. Data saturation occurred when no new concepts and subcategories were added to the previous data after the last two interviews. Maximum diversity was ensured in the demographic variables (such as age, sex, and work experience), and 14 nurses were eventually interviewed and their experiences were assessed. Table 1 presents participants' details.

Understanding the challenges of caring for patients with COVID-19 requires the use of a method that can discover the depth of nurses' experiences in caring for patients and explain the meanings of these experiences. Based on this, qualitative studies focus on the experiences of the participants about a phenomenon, to know the dimensions and characteristics of that phenomenon. According to the purpose of

Table 1.
Demographic Characteristics of Study Participants (n=14)

Number	Age (Year)	Sex	Work Experience (Year)	Marital Status	Interview Time (Minutes)
P1	33	Man	11	Single	20
P2	42	Female	6	Married	23
P3	45	Female	29	Married	21
P4	40	Female	15	Married	27
P5	40	Female	16	Married	30
P6	37	Female	14	Married	33
P7	42	Female	14	Married	28
P8	42	Female	18	Married	25
P9	40	Female	16	Married	23
P10	36	Man	14	Married	28
P11	42	Female	17	Married	25
P12	36	Man	15	Single	40
P13	35	Man	12	Married	33
P14	32	Female	11	Single	35

the study, this qualitative study was conducted from June to August 2020 using the qualitative content analysis approach, which is useful for evaluating people's perceived experiences about a common phenomenon (Hsieh & Shannon, 2005). The research setting was composed of two hospitals in Tehran, Iran, including a state-run university hospital and a private non-university hospital, both of which had active COVID-19 wards.

Data Collection

The main method of data collection was semi-structured interviews. In this type of interview, the researcher designs only a few preliminary questions to start the conversation with the participant, and other questions are asked by the researcher in the continuation of the interview based on the participant's answers. The interviews began with a brief explanation of the participants' personal characteristics and work experience by themselves and with this open-ended question "Please explain a typical workday for you in the COVID-19 ward that involves taking care of COVID-19 patients" and continued with probing questions such as "Please get into more detail" to access the depth of the respondents' experiences. The time and place of the interviews were set in a quiet location in the hospital upon coordination with the participants and based on their preference. The first interview was conducted with a nurse who had been working in the COVID-19 ward since the outset of the pandemic in Iran.

All the interviews were audio-recorded with participants' permission and immediately transcribed and coded. The Graneheim and Lundman content analysis method was adopted for the data analysis (Graneheim & Lundman, 2004). Based on this method, first, each interview was read several times to reach a unified understanding of it. The important sentences were then highlighted to determine the initial codes or semantic units in the transcripts concerning participants' experiences of providing care to COVID-19 patients. Next, similar semantic units were extracted to enhance their semantic clarity and were labeled as categories and sub-categories. Continuous data analysis was carried out simultaneously with the data collection. New pieces of data were added during the data collection process until saturation was reached.

Strauss and Corbin's (2015) method was used to examine the rigor of the data, which combines the criteria proposed by other researchers. In this study, the researcher tried to gain participants' trust and understand their experiences through prolonged cooperation, contact, and engagement with them. Data validation methods were used to resolve any ambiguities in the coding by asking the participants to re-write the transcripts (member check). To this end, the researcher gave part of the interviews and codes to the participants to share their perceptions about them. Confirmability was also established in order to ensure the systematic and unbiased collection of the data. Members' consensus about the interviews, codes, classification of the similar codes, the extracted categories, and comparison of the researcher's understanding and the participants' intention was also established. The reliability of the data was ensured by prompt transcription, peer check, and the review of the whole data.

Ethical Considerations

The study was approved by the ethics committee affiliated to the University of Social Welfare and Rehabilitation Sciences on 6/22/2020, approval number "IR.USWR.REC.1399.106". The participants signed an informed consent form prior to their participation. They were assured of the confidentiality of their data and reserved the right to withdraw from the study at any stage. Also, in order to maintain the confidentiality and privacy of the participants, the interviews were conducted in a safe and suitable environment according to the choice of the participants who felt comfortable and safe.

Results

Of the 14 participants, 4 were male and 10 female; 11 were married and 3 were single; 4 were head nurses and 10 were nurses. The participants had a mean age of 38.7±3.89 years and a work experience of 6–20 years. The data analysis led to the extraction of 422 initial codes, which were reduced to 132 open codes after merging the similar or duplicate codes based on their overlaps. In a more general analysis, the codes were classified based on their similar features, ultimately leading to the four categories of "a scarcity of knowledge and awareness about patient care," "changes in daily life," "patient care challenges," and "occupational burnout." Table 2 presents these results in brief.

A Scarcity of Knowledge and Awareness About COVID-19 Patient Care

The nurses' experiences showed that they did not possess adequate knowledge for taking care of COVID-19 patients due to the novel nature of the disease. In this study, the nurses did not have enough information about the transmission routes of the disease and how best to protect themselves from infection. Based on their experience, the lack of credible and accurate sources of information was another issue. The nurses did not know what care plan to design and implement for COVID-19 patients and had to provide care merely based on their prior knowledge and experiences.

Table 2.
The Categories and Sub-categories Extracted From the Data

Category	Subcategory
A scarcity of knowledge and awareness about COVID-19 patient care	A scarcity of knowledge Fear of the disease Ambiguity in the disease diagnosis Invalid data sources
Changes in daily life	Family conflicts Hopelessness Threatened health Negative thoughts
Patient care challenges	Overwhelming care Limited resources Interacting with the patients' companions Limited interaction with the patients
Occupational burnout	Poor work environment Job difficulty Limited sources of support

Participant 9 said,

> *"In the early days of the epidemic, I didn't even know how to deal with this disease and the patients. I didn't know what it was and what to do for it."*

Participant 5 noted,

> *"Not knowing the pathology of the disease and its transmission routes made me confused. I had lots of questions about the illness but had no answers; sometimes I studied about it."*

The other dimensions of this category included the absence of credible information sources to raise the awareness and specialized knowledge about how to provide care to these patients and inject their medications.

Participant 1 mentioned,

> *"The absence of accurate information and credible sources and the excessive propaganda on the social media confused me and the other nurses."*

Changes in Daily Life

In this study, the daily life of the nurses had changed during the pandemic and while working in COVID-19 wards. The nurses' experiences showed that their daily life had been greatly transformed as a result of having to take care of COVID-19 patients since the beginning of the pandemic. Some of the most important changes in the nurses' daily life included changes in family relationships, tensions between family members, despair, and thinking about divorce and death.

Participant 7 stated,

> *"I'm afraid and anxious all the time that I might transmit the disease to my family and parents."*

Participant 3 noted,

> *"My spouse and his family keep blaming me for working in the COVID-19 ward. They asked, 'What if you transmit it to us?' That's why I stopped seeing my husband's family."*

Change in the rhythm of daily activities was another subcategory in the experience of the nurses working in COVID-19 wards, which included change to the sleep and rest pattern or allergies to some COVID-19 medications.

Participant 10 stated,

> *"Working in the COVID-19 ward practically affected everything. There was no time to rest; we couldn't eat on time; I couldn't go to sleep even after the shift was over."*

Patient Care Challenges

According to the experiences of the nurses in this study, providing care to COVID-19 patients has exacerbated some of the prior challenges of care delivery and created new challenges as well. The nurses' experiences showed that providing care to COVID-19 patients is associated with challenges that make the delivery of care more difficult than usual. These challenges were experienced as limited resources for providing care to the patients, such as limited medications and PPE, a severe shortage of nursing workforce due to their own infection, excessive overtime hours, and heavy workloads. The poor teamwork spirit on the part of some of the doctors and nurses and the patients' and companions' lack of information made patient care overwhelming for these nurses.

Participant 9 stated,

> *"Unfortunately, doctors weren't really available and they didn't visit the patients, and most of the work pressure was put on our shoulders. Order was given over the phone all the time."*

The nurses noted their constant movement between the wards and the speed of changes in the patients' clinical conditions. According to Participant 8,

> *"As a head nurse, I was concerned everyday about the personnel's absenteeism, sick leaves, or quitting, which were big challenges for us at the beginning of the pandemic."*

The nurses also recounted the constant use of PPE, the poor ventilation in COVID-19 wards, and the long work hours in these wards.

According to Participant 2,

> *"Wearing coverall scrubs in the morning and evening shifts, the hot weather, and the poor ventilation in the isolation room and even the ward make delivery of care to patients very difficult. I think the difficulty of this work lies mostly in these items."*

The other challenges of providing care to COVID-19 patients included the patient companions' lack of cooperation with the hospital and making unusual demands, such as constant visits to their patients or presence by their bedside.

According to Participant 3,

> *"One of the worst things that happened during the shifts was the conflicts with the patients' companions. They didn't realize that no visits were allowed in the ward. They had unreasonable requests, which led to fights and cursing."*

Occupational Burnout

Occupational burnout was another dimension of the nurses' experiences in COVID-19 wards. Having to provide long-term care and heavy workloads did not leave these nurses with enough time to rest, and they mentioned this issue as a major contributor to occupational burnout.

According to Participant 4,

"Sadly, there was no space for resting or eating, which should preferably be outside the COVID-19 ward."

Because of the various pressures they experienced in providing care to COVID-19 patients, the nurses sometimes reacted with anger and aggression during their work shifts.

According to Participant 10,

"I'm usually a calm person. I don't know why, but since the beginning of the pandemic, I've become very aggressive. I lose my temper quickly. It could be due to my work pressure."

The nurses recounted the limited or lack of emotional, psychological, and financial support as a factor affecting occupational burnout. They are expected to be supported by the authorities in a special way or undergo constant psychological evaluations.

Participant 6 noted,

"We lost a colleague of ours to COVID—a personnel of this same ward. What did the authorities do? What support did they give to that member's family? What will they do for us? I doubt it's anything. Why should I stay in this ward where a thousand things could happen to me?"

Participant 10 also mentioned,

"They didn't give us any financial support or incentive, not even once; they just expect things to be in order and the job to get done. Forget about the money! Why didn't they ever offer us any psychological counseling?"

Discussion

This study was designed to explore nurses' experiences of providing care in COVID-19 wards. Xun Hou et al. (2021) pointed out that the main challenges faced by physicians and nurses in dealing with COVID-19 revolved around their educational needs and knowledge and also technical skills in patient care. A study based on the Delphi method highlighted the importance of providing effective training and introducing credible scientific resources to promote physicians' and nurses' knowledge and performance (Hou et al., 2021).

The nurses' main experience was "a scarcity of knowledge and awareness about COVID-19 patient care." These experiences included the lack of specialized knowledge about COVID-19 patient care or the patients' care needs and how to prioritize care. The nurses were faced with this absence of specialized knowledge and information about COVID-19 on a daily basis, emerging in areas such as limited information about the disease medications, fear of disease transmission and infection due to this lack of knowledge, and the absence of credible information sources (Chan et al., 2020).

"Changes in daily life" comprised the next category extracted from the nurses' experiences of providing care in COVID-19 wards. These changes manifested as psychological symptoms such as fear and anxiety, impact on physical health, and reactions such as quitting the nursing profession. These reactions were due to the nurses' fear of contracting the disease or transmitting it to their families. Due to their close contact with COVID-19 patients, nurses are vulnerable to infection and can transmit the virus to their colleagues and families. The nature of this disease also meant more severe stressful reactions, such as fatigue, anxiety, and depression. In line with this finding, Nemati et al. (2020) also reported that nurses experience a great deal of anxiety about their own and their families' infection with COVID-19 (Nemati et al., 2020).

The present study revealed that nurses who take care of COVID-19 patients experience great stress, fear, anxiety, obsessive-compulsive disorder (OCD), and mourning, which is similar to the results of studies in China (Q. Liu et al., 2020; Sun et al., 2020) and Turkey (Kackin et al., 2021). The nurses also experienced family challenges, such as restricted relationships with their family members and separation from them, including their children. Separation from the family and restricted contact with the spouse and children are major challenges facing nurses working in COVID-19 wards that make patient care more difficult and demoralize nurses (Gunawan et al., 2021). Similarly, Nie et al. (2020) noted that 45% of the nurses working in COVID-19 wards suffer tremendously from the separation from their families and their restricted contact with them, which affects the quality of nursing care and even the patients' recovery (Nie et al., 2020).

"Patient care challenges" comprised another concept obtained from the analysis of the data. These challenges include the difficulty of care due to limited healthcare resources, such as labor shortages and limited access to PPE, the limited cooperation of healthcare team members such as physicians and allied health professionals. A secondary theme in the current study was "limited healthcare resources," especially the shortage of PPE. Similarly, nurses in the study by Karimi et al. (2020) discussed the role of contextual deficiencies such as lack of supportive equipment, PPE, facilities, and trained personnel as well as unacceptable programs and contracts, and poor environmental conditions (Karimi et al., 2020). Similar challenges were reported by nurses in Iran in the study by Sharififar et al., including the absence of a unified treatment protocol, long work shifts, and the lack of training (Sharififar et al., 2020). The study by Liu et al. (2020) in China showed that healthcare providers face a shortage of PPE, unreasonable work programs, heavy workloads, and poor communication during the COVID-19 pandemic (Q. Liu et al., 2020).

"Occupational burnout" was another concept experienced by the nurses working in COVID-19 wards based on the present findings. The surveyed nurses experienced occupational burnout in the form of poor work environments, numerous occupational stresses and pressure, lack of job satisfaction, and limited sources of support. A cross-sectional study by Hu et al. (2020) in Wuhan, China, revealed that nurses experience numerous mental health challenges in providing care to COVID-19 patients, such as occupational burnout, anxiety, depression, and fear (Hu et al., 2020).

He et al. (2020) examined the experiences of nurses who worked in COVID-19 wards and had themselves contracted the disease too. They reported the most important concern of these nurses as the lack of social support, especially from the healthcare system managers. Nurses endured extensive work pressure yet reported isolation and a lack of social support as their most difficult experiences of working in COVID-19 wards (He et al., 2021).

The limited provision of support to nurses working in COVID-19 wards is one of the underlying factors reducing the quality of nursing care during the pandemic that can also lead nurses to quit their job and thus exacerbate the nursing labor shortage. Veitch (2020) reported that nurses need full support from healthcare organizations during the COVID-19 pandemic. If nurses do not receive a wide range of support during these critical times, it would be practically impossible to combat COVID-19. Nursing managers should therefore fully support their personnel both financially and emotionally (Veitch & Richardson, 2020).

This study has faced some limitations; this study was conducted in Iran health system and based on the culture and values of this society, and the experiences of the participants in this study cannot be generalized to other health care providers with different cultures. In addition, this study was conducted during the first and second waves of the COVID-19 epidemic, so the experiences of nurses during different waves of the COVID 19-epidemic and due to its changing nature are different. On the other hand, the human experience is dynamic, and nurses' occupational and work environments change with different conditions. Therefore, it is suggested to conduct other studies with a qualitative approach in other health system to explore the experiences of nurses.

Conclusion and Recommendations

Nurses' experiences in providing care to COVID-19 patients were divided into the four categories of "a scarcity of knowledge and awareness about patient care," "changes in daily life," "patient care challenges," and "occupational burnout." Updating the existing knowledge on healthcare provision to COVID-19 patients, paying attention to the changes in nurses' physical and mental health due to the COVID-19 pandemic, reducing the excessive workloads, and ensuring the provision of ample support to nurses constitute the implications of this research for practice.

Gaining experience from pandemic crises such as COVID-19 is one of the most important applications of research in this field. Therefore, the results of this study can be used by managers when facing crises similar to COVID-19, so that by paying attention to the challenges of caring for patients identified in this study, they can make the necessary preparations for caring for patients during other pandemic crises and plan the necessary measures accordingly. Paying attention to these challenges from the beginning of facing pandemic events can lead to maintaining nurses' care ability and reducing their job burnout.

Ethics Committee Approval: The study was approved by the ethics committee affiliated to the University of Social Welfare and Rehabilitation Sciences on 6/22/2020, approval number "IR.USWR.REC.1399.106".

Informed Consent: Written informed consent was obtained from nurses who participated in this study.

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