Original Article

# Experiences of Healthcare Providers in Providing Care for Patients with COVID-19: A Qualitative Study


## Abstract

**Background:** The COVID-19 pandemic put enormous pressure on healthcare providers and patients. Exploring the experiences of healthcare providers involved in this crisis can help prevent potential complications and manage similar crises in the future. This study aimed to explain the experiences of healthcare providers in providing care for patients with COVID-19. **Materials and Methods:** This study enrolled 20 healthcare providers from three hospitals who cared for patients with COVID-19 in 2021 in Isfahan, Iran. Purposive sampling method was used to select the participants. Data were collected by conducting face-to-face interviews with the participants. The place and time of the interview was arranged considering the willingness and comfort of the participants. Data were analyzed using inductive content analysis approach based on the criteria proposed by Graneheim and Lundman. **Results:** Analysis of the participants' narratives led to four categories, including unexpected exposure, spiritual health as an agent of victory over the disease, corona phobia as the cause of exhaustion and impaired concentration in healthcare providers, and proper management as the requirement of disease control. **Conclusions:** During crises caused by infectious diseases such as COVID-19, timely and appropriate planning, prediction and allocation of material, equipment, and human resources on the one hand, and attention to all aspects of employees' health, including spiritual health, and the use of various ways to enhance their motivation and provide comprehensive support for the personnel on the other hand, can lead to the delivery of high-quality patient care and effective control of the crisis.


**Keywords:** *COVID-19, health personnel, healthcare providers, life change events, life experiences, qualitative research*


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## Introduction

In December 2019, the new coronavirus, known as COVID-19, spread all around the world.[1] The World Health Organization declared the disease a global health emergency.[2] The coronavirus family causes a variety of diseases, such as the common cold, SARS, and MERS, with COVID-19 as the troublesome new member of this family in the 21st century.[3]

The COVID-19 pandemic came as a shock to the international community. The rapid spread of the virus showed how a biological and epidemiological issue could become a health, social, economic, and political issue.[4] Recognizing the experiences of the healthcare providers involved in this crisis can promote their health. By identifying these experiences, more effective interventions can be designed to improve their health.[5]

Previous studies have shown that healthcare providers, such as nurses, experienced high levels of stress, anxiety, and fear during the SARS and H1N1 epidemics. This was mainly due to a lack of accurate information about the infections, insufficient scientific guidelines for patient care, and a lack of personal protective equipment.[6] Moreover, nurses caring for MERS-Cove patients expressed immense fear, psychological damage, and distress over the deaths of patients and their colleagues.[7]

The study by Fathi *et al*.[8] indicated that healthcare workers had challenges in the areas of emotions, interpersonal and family relationships, work environment, and job difficulties. For this purpose, it is necessary to use strategies such as mental health professionals for healthcare workers and their families, adequate preparation before the outbreak in terms of equipment, personnel, necessary training about the



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disease and its process, and enhancement of the skills of healthcare workers.

Various studies in Iran and other parts of the world found that during the COVID-19 pandemic, healthcare workers were under immense pressure. Lack of awareness about the infection, its rapid spread, and high mortality rate were cited as reasons for this. Several studies have shown that healthcare workers suffered from post-traumatic stress disorder, severe depression, and anxiety during this pandemic.[9]

The results of a qualitative study in the city of Qom on the experiences of healthcare providers during the outbreak of COVID-19 found cases of experiencing mental problems and negative emotions, high work pressure, lack of psychological skills, lack of sufficient preparation in dealing with the disease, lack of specialized knowledge, reduction of interpersonal relationships, the stigma of the COVID-19 virus, disagreements and conflicts with family members, and failure and helplessness caused by the disease.[8] Another basic problem in effectively dealing with this disease is the shortage of specialists and healthcare providers, which has led to long mandatory working hours and the cancellation of many of their personal plans. Therefore, high work pressure and exposure to the risk of contracting the disease have also led to a double psychological burden for the healthcare providers and their families.[5]

Qualitative approaches are best suited to help society respond to this pandemic. These approaches allow us to extract and understand people's experiences of meaning-making and their sense of health and illness.[10] Qualitative methods play an important role in understanding pandemics such as COVID-19 among people affected by them and provide effective solutions and strategies for coping with the disease and controlling future pandemics. To comprehensively prepare for and respond to future pandemics, and to reduce morbidity, mortality, and the devastating psychological, familial, social, and health consequences that result, it is essential to examine and use the experiences of healthcare workers in different countries and settings. Understanding the similarities and differences between the experiences of individuals in different settings can provide valid evidence for the development of international guidelines applicable to all developing and developed countries. As qualitative studies that explore individuals' experiences in depth typically have smaller sample sizes, conducting multiple studies in different settings can enhance the transferability of research findings. Given that no study has been conducted on the experiences of healthcare workers in Isfahan, this study aimed to examine the experiences of the healthcare providers involved in the care of patients with COVID-19 during this pandemic in Isfahan, Iran.

## Materials and Methods

This qualitative research was conducted from April to August 2021 in Isfahan, Iran. Purposive sampling was used to identify the participants, and maximum variation was considered in the sampling process. The participants were 20 healthcare providers from three hospitals affiliated with Isfahan University of Medical Sciences who were providing care for patients with COVID-19. Data were collected through face-to-face interviews. By distributing a flyer in the hospital, the researcher openly asked all eligible healthcare workers to participate in the study. This advertisement included the study objectives, inclusion criteria, and ethical approval of the study. Inclusion criteria were healthcare providers who worked in internal medicine, emergency, and infectious disease departments and had the experience of caring for patients with COVID. Psychiatric complications such as depression and stress were exclusion criteria.

For those who expressed an interest in participating, the place and time of the interview were arranged according to their willingness and comfort. At the beginning of the interview, written contest was obtained from all participants. The interviews were recorded using a digital voice recorder. Initially, the interviews were unstructured, and then as the work progressed and several interviews were conducted, the interviews were semi-structured until data saturation was reached and the resulting classes were repeated. Each interview began with a general question: "Please talk about your experience of caring for patients with COVID-19." During the interviews, the researcher paid attention to the purpose of the interview, gave feedback, gained trust, and avoided imposing her own views. Non-verbal behaviors were also taken into account. Each interview lasted between 45 and 60 minutes. Data collection continued until data saturation was reached. Data analysis was performed simultaneously with the data collection, as data collection and analysis have an interactive effect on each other. Inductive qualitative content analysis was conducted using Graneheim and Lundman's method.[11] All interviews were transcribed verbatim. After reading the text several times, it was analyzed, words containing key concepts were highlighted, and codes were extracted. Coding was done inductively from the data. After merging similar codes, those representing a common concept were categorized into subcategories. The subcategories were compared and grouped into categories. Categories with similar concepts were grouped together to create the main categories.

The credibility of the data was confirmed by reviewing the transcripts of the interviews by the participants as well as by experts in qualitative and mental health. Dependability of the data was also ensured by the complete reporting of the research activities such as data collection, data analysis, and the provision of excerpts from the interview texts for each category. To confirm transferability, the extracted categories

were provided to a number of individuals who had the characteristics of the participants but did not participate in the research, and then the results of the research were compared with their experiences. For confirmability, the text of some interviews and the extracted codes were given to colleagues who were familiar with qualitative research analysis but did not participate in the research, and their agreement with the extracted meanings was assessed.

### Ethical considerations

This study was approved by the Ethics Committee of Isfahan University of Medical Sciences (code: IR.MUI.RESEARCH.REC.1399.303). All methods were carried out in accordance with relevant guidelines and regulations. Ethical considerations were also ensured by obtaining informed consent from the participants, giving them the option to withdraw from the study, and referring them to a psychiatrist if psychiatric complications were observed. The data sets generated and analyzed during the current study are not publicly available. All authors agree to the publication of this article.

## Results

The participants consisted of 20 healthcare providers from three hospitals affiliated with Isfahan University of Medical Sciences who were providing care for patients with COVID-19. They were selected from volunteers by using a purposive sampling method and considering the maximum variation in terms of age and expertise. The participants included 12 nurses, three midwives, and five physicians [Table 1].

The analysis of the participants' statements led to the extraction of four categories, 11 subcategories, and 246 merged codes. Four main categories were unexpected exposure, spiritual health as an agent of victory over the disease, corona phobia as the cause of exhaustion and impaired concentration, and proper management as the requirement of disease control [Table 2]. Before coding, an attempt was made to identify the main themes and messages of the texts by reading them repeatedly. Revealing the important and key terms led to the formation of primary codes, and then inferential codes were extracted from the researcher's understanding of the primary codes.

### Unexpected exposure

The sudden encounter with an unknown and frightening virus with severe complications and significant mortality in the 21st century was unexpected for everyone.

#### *Facing the unknown and the frightening virus*

Facing the unknown and the frightening virus was one of the main categories the healthcare providers encountered at the beginning of the pandemic. Fear and panic about the virus were higher in the early days of the outbreak, as new information about the morbidity and mortality of the virus was released every day. Moreover, people's lack of knowledge and information about the virus infection resulted in many visits to hospitals because they were shocked to face the COVID-19 outbreak. In this regard, one of the nurses said: *"The virus is highly contagious and extremely insidious. It isn't clear how it can infect the patient. The symptoms change with each new outbreak. The virus has changed several times, causing confusion and misguidance among healthcare providers. COVID-19 is a disease with multiple faces, the faces of which are recognized over time. Its manifestations and symptoms are so varied that it cannot be diagnosed quickly. In fact, changes in the symptoms of the disease have left everyone uncertain."* (P. 1, Nurse, General Ward).

Another physician said: *"This disease causes some problems for patients even after recovery. Symptoms have been permanent in some patients. Many patients were concerned that some symptoms could persist for months, affecting their ability to function in daily life. The same panic, caused by the probable chronic complications, impairs patients psychologically and reduces their quality of life."* (P. 5, physician, General Ward).

#### *Surprise and confusion in the war against the virus with multiple faces*

As expressed by the majority of healthcare providers, at the beginning of the outbreak, there was confusion about the behavior of the multiple-face virus, symptoms, care protocols such as admission of patients, distance between the beds, presence or absence of the patient companion, complications, and proper treatment protocols, but this surprise and confusion gradually subsided as more was known about the virus, and order was restored with the announcement of the protocols. Referring to the ever-changing nature of the virus, one of the ICU nurses said: *"The virus changes every day and demonstrates different symptoms in patients. Virus mutations are really frightening and stressful. In fact, since the beginning of the pandemic, several changes in the genome of the virus have been recorded, leading to changes in treatment protocols. This raises the question of whether the current treatments are effective, or we will see other types of symptoms in new patients. The virus targets humans with its constant mutations, and this unknown feature of the virus doubles the psychological pressure of healthcare providers."* (P. 3, Nurse Intensive Care Unit).

A physician said in this regard: *"Coronavirus is a complicated virus with multiple faces. Accordingly, one treatment protocol may works in one patient and fail in another. It seems that the behavior of the virus is not the same as the day before and varies from person to person."* (P. 8, physician, Intensive Care Unit).

### Spiritual health as a means of victory over the disease

The results showed that reliance on divine power and recourse, religious counseling, and the hope for spiritual

**Table 1: Demographic characteristics of the participants**

| Participants | Age (year) | Education | Occupational status | Work experience (years) | Place of employment | Interview duration (minutes) |
|---|---|---|---|---|---|---|
| P1 | 26 | Bachelor's degree | Nurse | 4 | General ward | 60 |
| P2 | 25 | Bachelor's degree | Nurse | 3 | Intensive care unit | 60 |
| P3 | 32 | Bachelor's degree | Nurse | 6 | Intensive care unit | 45 |
| P4 | 29 | Bachelor's degree | Nurse | 6 | Intensive care unit | 70 |
| P5 | 28 | Doctor of Medicine | Physician | 6 | General ward | 60 |
| P6 | 46 | Bachelor's degree | Nurse | 16 | Intensive care unit | 60 |
| P7 | 45 | Bachelor's degree | Nurse | 17 | Intensive care unit | 60 |
| P8 | 47 | Doctor of Medicine | Physician | 13 | Intensive care unit | 60 |
| P9 | 36 | Bachelor's degree | Responsible for medical records | 11 | General ward | 60 |
| P10 | 44 | Bachelor's degree | Nurse | 16 | Infectious disease wards | 65 |
| P11 | 46 | Bachelor's degree | Nurse | 17 | Intensive care unit | 60 |
| P12 | 28 | Bachelor's degree | Nurse | 6 | Intensive care unit | 60 |
| P13 | 49 | Bachelor's degree | Midwife | 25 | General Ward | 60 |
| P14 | 38 | Bachelor's degree | Nurse | 11 | General ward | 60 |
| P15 | 50 | Master degree | Hospital manager | 26 | Hospital | 70 |
| P16 | 36 | Bachelor's degree | Nurse | 12 | General ward | 75 |
| P17 | 38 | Bachelor's degree | Nurse | 13 | Intensive care unit | 60 |
| P18 | 30 | Bachelor's degree | Nurse | 6 | Infectious disease wards | 65 |
| P19 | 46 | Bachelor's degree | Nurse | 15 | Intensive care unit | 70 |
| P20 | 45 | Doctor of Medicine | Physician | 16 | Infectious disease wards | 60 |

**Table 2: Category and subcategory**

| Category | Subcategory |
|---|---|
| Unexpected exposure | 1- Facing the unknown and the frightening virus |
| | 2- Surprise and confusion in the war against the virus with multiple faces |
| Spiritual health as the agent of victory over the disease | 1-Reliance on divine power and recourse |
| | 2-Religious counseling to impro ve resilience |
| | 3-Spiritual rewards of helping the patient |
| Corona phobia as the cause of exhaustion and impaired concentration in healthcare providers | 1-Excessive visits to care centers because of corona phobia in the early stages of the disease |
| | 2-Delay in receiving routine care for other diseases and screening |
| | 3-Family stress |
| Proper management as the requirement of disease control | 1-Proper manpower planning, volunteer management, and outsourcing of non-intensive patient care for workload reduction |
| | 2-Attention to material and psychological motivational aspects and job security |
| | 3-Timely provision and distribution of personal protective equipment |

rewards from helping the patients promote a sense of hope and resilience in patients and healthcare providers. Therefore, special attention should be paid to spirituality and spiritual health. In this regard, one of the ICU nurses said: *"Spirituality, defined as the belief in a superior and holy governing power in life, is of great importance to the patient's health. Today, with the psychological problems caused by the coronavirus, it is necessary to address the role of spirituality in human health. The reason is that spiritual beliefs play a crucial role in creating a sense of hope, in adapting and coping with the suffering caused by illness, and in coping with the crises caused by life-threatening illnesses."* (P. 12 nurse, Intensive Care Unit).

### *Reliance on divine power and recourse*

Some participants believed that trusting God helped them resist despair and control anxiety and depression. Relying on God and believing that He is always attentive to people increased self-confidence and reduced stress of the participants. The participants claimed that communication with God through prayer and recourse to the Imams gave them the belief that their efforts would not be in vain. They managed things as much as they could, and when they could not, they relied on divine power and asked God to help them achieve their goals. One of the nurses working in ICU stated: *"A heartfelt belief in the presence of God was so effective in increasing inner peace that it relieved the staff's anxiety. Relying on God gave meaning to life events and freed us from aimlessness and confusion. It gave us hope to achieve the desired results and to make powerful decisions. Trusting in God, we were assured that God would make things easier for us and would not leave us alone."* (P. 12 nurse, Intensive Care Unit).

### *Religious counseling to improve resilience*

Given that spiritual health brings physical and psychosocial well-being, religious counseling can help to achieve resilience in the crisis by strengthening spirituality and

spiritual health. One of the nurses said: *"The conditions of the wards concerned the staff. Although some of these concerns were normal, sometimes they were so severe that they interfered with the daily functioning of the staff. Providing consultation with psychologists and religious specialists increased the resilience of healthcare providers. In these sessions, many fears and anxieties caused by COVID-19 were controlled by sharing and discussing them."* (P. 3 nurse, Intensive Care Unit).

### *Spiritual rewards from helping the patient*

According to the results, humanitarian actions, helping the patients, and the hope for spiritual reward can help improve spiritual health, tolerance, and motivation in providing care for patients in the crisis. Considering this attitude, one of the participants said: *"When we got tired of the work, we regained our enthusiasm and interest through developing the attitude that caring for helpless patients is one of the ways to get closer to God and achieve human perfection; doing so, we increased our tolerance and patience. In this pernicious disease, material rewards cannot compensate for the tedious work of the healthcare providers; but the hope for spiritual reward increased their strength and motivation in providing care for these patients."* (P. 9, Responsible for medical records, General Ward).

## Corona phobia as the cause of exhaustion and impaired concentration in healthcare providers

Healthcare workers were at the forefront of the fight against COVID-19 disease, making them the first to be infected with the virus. Moreover, healthcare workers had to wear heavy protective clothing that restricted their movement and made work more difficult than in normal conditions. All of these, together with the fear of transmitting the disease to family members, increased the risk of psychological disorders among healthcare providers. Therefore, they were very concerned about transmitting the disease to their family members.

### *Excessive visits to care centers because of corona phobia in the early stages of the disease*

With the onset of the COVID-19 pandemic, the fear and anxiety of contracting the disease led many people to visit emergency centers at the slightest suspicion of infection. In some individuals, this phobia and other related obsessive thoughts, especially following the infection or death of acquaintances, caused repeated visits to medical centers. This issue increased the workload and led to fatigue and burnout among healthcare providers. Reflecting on this phobia, one of the participants told us: "*Some had severe anxiety that caused them to breathe faster. This made them dizzy and fearful of shortness of breath. About half of those with this phobia are afraid to leave home because they think they will be infected outside. The first attack of this phobia in these people often occurred after the death of a relative infected with the COVID-19; thus, healthcare providers were burdened by too many emergency department visits from these individuals. The presence of a psychologist beside the healthcare providers seems to be necessary to treat such people in order to prevent their excessive referrals."* (P. 1, Nurse, General Ward).

### *Delay in receiving routine care for other diseases and screening*

The fear and anxiety of contracting the virus in public places, especially health centers, caused patients with chronic diseases to avoid seeking care and follow-up. These individuals only visited health centers out of necessity when they had acute and complicated conditions. On the contrary, other public health programs and screenings were postponed due to the urgency of treating COVID-19 patients and the high volume of visits to health centers during the multiple peaks of the pandemic. This situation led to patients being diagnosed too late or having to go to health centers for acute conditions. Under these circumstances, the increased workload on healthcare workers resulted in fatigue and impaired concentration and accuracy in patient care. One healthcare provider discussed this issue as follows: *"Because of the fear of the coronavirus, many patients delayed coming to the hospitals; they finally referred in a worse condition which increased our workload. Decreased referrals to medical centers due to this fear delayed routine screenings, and subsequent referrals indicated the onset of more acute illnesses. It should be noted that stress-induced heart attacks have increased during the pandemic. Psychiatric diseases have also grown, and increased the number of referrals for diabetes and high blood pressure are out of control."* (P. 20, physicians, Infectious disease wards).

In this regard, another participant said: *"The outbreak of coronavirus has exacerbated and increased the complications of many diseases. Special diseases such as chronic renal failure and cancer are among these diseases. These patients need to go to medical centers regularly, but for fear of being infected, they refuse to go to such centers during the pandemic."* (P. 20, physicians, Infectious disease wards).

Furthermore, because of focusing on the treatment of COVID-19 patients, medical facilities and equipment faced a shortage during the pandemic. Healthcare providers, medical and hospital facilities and equipment, and hospital beds were often used for COVID-19 patients and could not accommodate the needs of other patients. The outbreak of COVID-19 disrupted the timing of patients' visits to their physicians. In addition to the fear of contracting the virus in medical centers, many medical centers did not have sufficient facilities to maintain social distancing, and patients were less inclined to visit such centers. Replacing doctor visits with self-medication because of fear, delays in periodic visits, and late visits have exacerbated the condition of patients.

### *Family stress*

With the onset of the COVID-19 pandemic and the emergence of serious risks of infection, the anxiety and fear of staff about transmitting the virus to their family members, as well as the fear and anxiety of families about the transmission of the virus from patients to their loved ones, sometimes resulted in employees requesting to leave their jobs or transferring their sense of fear and anxiety to their families. These tensions and stresses, along with distancing from family members, led to mental distress, fatigue, burnout, and impaired concentration while caring for patients. Referring to this stress, one of the participants said: *"My own experience with the disease caused my family so much stress that they asked me to leave my job. One of my main concerns was reassuring my family and controlling their fears. However, my family and their health were of great importance to me, and when I was caring for a critically ill patient, I worried that I might become infected and bring the disease home with me."* (P. 13, midwife, General Ward).

A nurse also said in this regard: *"In order to reduce the possibility of the disease transmission, I went home less and I was worried that they would need my support."* (P. 14, Nurse, General Ward).

## Proper management as the requirement of disease control

Successful management of COVID-19 requires not only sufficient knowledge of the nature of this invasive virus but also correct and timely decisions by managers to control the disease.

### *Proper manpower planning, volunteer management, and outsourcing of non-intensive patient care for workload reduction*

Planning is one of the most influential concepts in management. In this regard, not only should the Incident Command System be continuously activated, but several factors also need to be considered when designing the actions of the Corona operational plan. These factors include ongoing situational awareness, needs assessment and estimation of increased demands, equipment and facilities management, capacity building in the areas of human resource and physical space, staff organization and recruitment, and volunteer management and outsourcing of non-intensive care patients. Referring to this management, one of the participants said: *"One of the strengths of the management was that in the hospitals where COVID-19 patients were hospitalized, frontline personnel with underlying diseases such as diabetes were transferred. Moreover, specialized training and staff empowerment reduced the rate of errors in the workplace."* (P. 15, Hospital Manager).

Another participant clarified the point as follows: *"In the early days of the pandemic, when the shortage of patient companions was a critical problem, volunteers were a great help. Because of the high number of patients and the heavy workload in the first days of the pandemic, we were really exhausted. The presence of volunteers was a great help in providing care for the patients."* (P. 14, Nurse, General Ward).

### *Attention to material and psychological aspects of motivation and job security*

During the difficult working conditions of the COVID-19 pandemic, it was very important for managers to focus on providing financial support to their personnel. The financial support not only alleviated the staff's financial worries but also motivated them to continue working under these difficult conditions. Employees were also more motivated to work when managers assured them of their job security during and after the pandemic. In this regard, one of the participants said: *"Defining a payment system and motivational management for the personnel involved in the crisis increased their motivation. At the very outset of the pandemic, many personnel resigned for the sake of their families, but others sacrificed themselves wholeheartedly, knowing that the situation was dangerous both for them and their families. Planning for the employment of the personnel who did not give up in these difficult circumstances was very promising."* (P. 16, Nurse, General Ward).

### *Timely provision and distribution of personal protective equipment*

One of the main concerns and tensions of nurses when providing care for patients with infectious diseases was how to protect themselves against the disease. Because the disease can be life-threatening, it is important to pay attention to protection and prevention. This issue was noted by one of the participants as follows: *"To perform their duties properly, healthcare providers must first ensure that the necessary facilities and equipment are provided to protect their health from infection. In my opinion, proper distribution of personal protective equipment by the authorities not only improves the health of healthcare providers but also promotes the quality of care they provide."* (P. 20, physicians, Infectious disease wards).

## Discussion

This qualitative study was conducted in Iran to gain insight into the experiences of healthcare providers involved in the care of COVID-19 patients during the pandemic. Our results indicated that confronting the unknown, scary virus and being surprised and confused in the fight against the multifaceted virus were the initial experiences of healthcare providers at the beginning of the pandemic. It was found that the complex and unknown nature of the disease in terms of its clinical manifestations, transmission, and unpredictable consequences on the one hand, and the destructive and lethal nature of the disease

on the other, were unexpected and put additional pressure on all members of society, especially healthcare providers. In another study in Iran, the shock caused by the arrival of the virus, the lack of a clear understanding of its nature and how to combat it, the complexities of diagnosis and treatment, the extent of transmission, and mortality and complications led to inadequate preparedness among healthcare providers to manage this crisis. This severe increase in perceived risk resulted in anxiety and concern among nurses.[12] Limited availability of information was reported as a challenge faced by midwives and nurses during the COVID-19 pandemic.[13] The rapid pace of changes and limited scientific understanding of the COVID-19 virus, ambiguities arising from changes in protocols and guidelines, the prescription of new medications, lack of approval of new drugs, and rapid changes in patient conditions led to uncertainty in daily practice, a tendency to employ unproven treatments, the use of more invasive methods, and delays in decision making.[14,15]

From the perspective of the participants in our study, spiritual health was a key factor in overcoming the disease. In this regard, a study by Galehdar *et al*.[16] reported that a sense of calm and comfort is achieved through prayer. The study emphasizes the importance of spiritual care for patients and the role of nurses in fulfilling this need. Seeking solace in religion is one of the coping strategies used by nurses and midwives.[13]

The participants in our study reported that the fear of COVID-19 in society has had adverse effects on their family and work lives. Another qualitative study in Iran also found that high workloads and the resulting negative emotions, as well as the difficulty of using protective equipment for long periods, made working conditions difficult for healthcare providers. Self-quarantine for the fear of transmitting the disease to family members, as well as feelings of guilt and remorse for the deaths of loved ones who contracted the disease from them, have also affected their lives.[15] Changes in work patterns, heavy workloads, and wearing personal protective equipment have been challenging for volunteer nurses in China.[17] Fear of transmitting the virus to their families was the most stressful factor for Palestinian healthcare providers during the COVID-19 pandemic.[18] High work pressure and exposure to the risks of the disease for healthcare staff and their families led to additional psychological burdens.[19] Based on nurses' experiences with previous epidemics such as Acute Respiratory Syndrome and Middle East Respiratory Syndrome, healthcare workers, especially nurses, were severely concerned that they or their families might be infected. Because of these concerns, many of them were less inclined to work during such epidemics or pandemics and demonstrated high levels of psychological dysfunction symptoms such as stress, anxiety, and even depression.[20]

According to the participants in our study, effective resource management plays a crucial role in controlling and managing the situation during a crisis. One of the main problems in coping with this disease is the lack of specialized personnel and healthcare providers, especially nurses, which has resulted in long working hours and exhaustion among healthcare providers. Attention to personnel from various aspects, including training, support, motivation, welfare, and financial aspects on the one hand, and careful and accurate planning for the fair allocation of resources and equipment along with the implementation of necessary policies to compensate for human resource shortages and workload on the other hand, can lead to the success of the organization.

The results of the study by Saffari *et al*.[21] in Tehran, which aimed to examine the experiences of nurses and staff in maintaining safety and preventing disease while caring for COVID-19 patients, indicated that personal protection, structural protection, and safety issues were the main concerns of the participants.

Providing physical protection equipment, psychological support, honesty between the organization and its employees, frequent communication, and encouragement of employees all influence their willingness to work in critical times.[22] In our study, healthcare workers referred to the lack of financial support, which was very low compared to the amount of work they did in the hospitals, and this could decrease the motivation of the healthcare staff. Higher payments, attention to job development, support for professional knowledge training, and granting honorary titles and awards for employees' dedication and sacrifice give individuals a greater sense of recognition and increase their motivation to perform their professional duties.[23] Proper allocation of human and material resources and equipment, appreciation and recognition of the profession, motivation, encouragement, and support are necessary to maintain the mental and physical health of employees.[24]

Conducting in-depth face-to-face interviews to deeply understand the participants' experiences is one of the strengths of this study. Regarding the limitations of the study, it can be mentioned that this study was conducted in three major public university hospitals in the city of Isfahan; therefore, the generalizability of the results to private hospitals or small public hospitals in rural areas is not feasible. Further investigation of the staff's experiences with a larger sample size from private and small public hospitals in rural areas is recommended.

## Conclusion

The COVID-19 pandemic was a severe and unexpected shock to the healthcare systems of all countries. The experiences of healthcare providers in caring for COVID-19 patients can help policymakers plan for comprehensive preparedness and response to future

epidemic crises and reduce individual, family, social, and healthcare complications. Therefore, it is essential to provide comprehensive and complete evidence from all countries, developed and developing. The results of our study indicated that rapid prediction and allocation of sufficient material, equipment, and human resources; focusing on the physical, psychological, and spiritual health of staff; and enhancing staff motivation are necessary for timely and appropriate crisis management.

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## Conflicts of interest

Nothing to declare.

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