

# Nurses' Experiences During the COVID-19 Pandemic in Iran: A Qualitative Study

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## Research Article

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# Abstract

## Background

The nurses are at the forefront of patient care during an infectious disease pandemic, and play a key role in treating and preventing the upward trend. Hence, it is crucial to consider their experiences in designing action plans to combat coronavirus disease 2019 (COVID-19). Since there is not enough data in this regard, the current study aimed to investigate the nurses' experiences in caring for patients with COVID-19 in Iran.

## Methods

Taking a conventional content analysis approach, this qualitative research included 20 nurses working in the public hospitals affiliated to Tabriz University of Medical Sciences, Iran. To collect data, semi-structured interviews were conducted and analyzed using MAXQDA10 software.

## Results

Data analysis revealed four main themes including 'duality in the form of care', 'bewilderment and ambiguity in care planning', 'workload', and 'positive image with social isolation'.

## Conclusion

Findings indicated that the nurses provide nursing care in stressful conditions while confronting various paradoxes. The results could lead to a clear understanding among the country's healthcare managers and policymakers to take appropriate measures to support the nurses and improve nursing care quality during the COVID-19 pandemic.

## Background

Coronavirus disease 2019 (COVID-19) was first reported in December 2019 in people with a lung infection in Wuhan, China(1). On March 11, 2020, the World Health Organization (WHO) declared it a pandemic(2). According to the WHO's official figures on March 8, 2021, more than 113 million people have been infected with the disease worldwide, and the death toll has exceeded 2.5 million. Iran's share of this statistic is more than 1.8 million people infected and more than 62,000 deaths(3).

The widespread outbreak of COVID-19 has put all healthcare systems under pressure, creating unprecedented demand for healthcare providers worldwide(4). The COVID-19 pandemic has led to complex and unpredictable conditions in every country's health system(5). The disease's symptoms are

changing, and their severity has increased periodically, challenging healthcare providers' duties to protect their health and that of the community(6, 7).

During a pandemic of infectious disease, healthcare professionals, especially nurses, are at the forefront of patients' care(8). Nurses are the health team's prominent professionals who are in direct contact with the community members, and they play a crucial role in treating and preventing the upward trend of the disease(9). In such situations, they have many important tasks and functions such as clinical care, counseling, follow-up of the correct implementation of treatment, patients' training, and training disease prevention methods(10). Hence, the nurses can play an essential role in controlling and preventing the virus and its complications(11).

According to the studies, it is of particular importance to consider the nursing staff's experiences in providing care to design operational plans to combat COVID-19(12). Providing care to patients with COVID-19 is a new experience for nurses. In addition to increasing the workload, it has also made them frightened or anxious(13, 14). According to the literature, there is not enough data about the nurses' experiences in caring for patients with COVID-19 in Iran. Hence, a qualitative research may provide important insights into the nurses' experiences in caring for COVID-19 patients.

## **Methods**

### **Study design**

Since the purpose of this study was to identify nursing challenges in caring for COVID-19 patients after a transitional shock period, the current qualitative research was carried out using a conventional content analysis approach. Content analysis is a qualitative research method in which data is described in a conceptual form in order to develop knowledge, gain new insight, and develop the practical guidance (15).

### **Participants and Setting**

Using purposive sampling method, this study was conducted on 20 nurses caring for COVID-19 patients admitted to public hospitals affiliated to Tabriz University of Medical Sciences, Iran. Collecting data continued until the data was saturated and no new data was obtained (interview 17). Three more interviews were conducted to confirm the data saturation. In the last three interviews, the data analysis led to the emergence of repetitive codes and no new code was obtained. The decision on data saturation was made through reviewing the codes by the research team and two other experts.

### **Data Collection**

Due to the fact that face-to-face interviews were risky during the pandemic for the researcher and nurses, data were gathered using semi-structured, in-depth telephone interviews with 20 eligible nurses. Analysis was conducted iteratively and in parallel with interviews such that as themes emerged, they were incorporated into interview schedules to gather more comprehensive information. Thus, as the study

progressed, interviews became semi-structured and an interview guide was used to ensure that all topics were addressed. The interviews lasted for 45-60 minutes (mean=52 minutes). Recruitment of the participants was performed through professional communications by holding a meeting with gatekeepers, as well as sending invitations and emails in which the objectives of the study had been described. Before starting the interview, the researcher explained the interview process including arrangements for audio-recording and transcription and obtained written informed consent from all participants. At the beginning of each interview, after a few warm-up questions, the participants' demographic information was collected, and then the interview began with a general question.

There were two main questions as follows:

1. What concerns did you have while working with a confirmed or suspected COVID-19 patient?
2. What problems did you have in the ward or the hospital?

Also, during the interview, some probing statements were made to encourage participants to provide more information and clarify their responses. Examples include: "Could you please explain it in more detail?", "What does [x] mean?", and "Could you give an example?" Towards the end of each interview, further questions were asked such as: "Do you think there's anything untouched?" Recruitment and interviews continued until the data was saturated (i.e., no new themes emerged from the analysis). All interviews were recorded using a voice recorder. In one case, the participant was reluctant to allow audio-recording; thus, written notes were taken. Data collection lasted for approximately seven months, and the entire study was conducted from April to October 2020.

## **Data Analysis**

Taking a conventional content analysis approach, the data was analyzed using the steps proposed by Zhang & Wildemuth (16). First, the transcript of each interview was read several times by the researcher to gain familiarity with the data and to develop a preliminary understanding of the related concepts. Then, the data was coded into the semantic units (at words, sentence, and paragraph levels). The semantic units were compressed and amalgamated while their content was maintained. Finally, using continuous comparison, evaluation, feedback, and interpretation, the codes were compiled to form the categories and subcategories. MAXQDA10.0R250412 software was used to manage the data.

## **Rigor**

In this study, to assure the trustworthiness of the data, criteria including credibility, dependability, transferability, and confirmability, as proposed by Lincoln and Guba, were used (17). To ensure the credibility of the data, the researcher had a long-term relationship with the participants, which aided trust and openness. During the study, the interview transcripts, the semantic units, and the extracted codes were presented to the participants to control their consistency with their experiences. All reasonable attempts were made to ensure that the participants, as a group, had maximum diversity in terms of their experience, length of service, age, and gender. Dependability was determined through review of data and

coding by a co-worker. Two external examiners with a PhD degree in nursing, who had experience in qualitative research, were asked to review the interview transcripts, the initial coding, and the categories. Any disagreements were discussed in a meeting, and a consensus was achieved among the research team about the correct coding. Regarding transferability, the characteristics of the research population and the research process were described clearly and accurately so as to make it possible to follow the research path and the key decisions be made in the analysis. The confirmability of the data was established by the researchers actively putting aside their own thoughts and assumptions about the topic, accurate recording of the research procedure and documentation, refraining from deep review of texts. This was all assisted by input from the rest of the research team.

## **Finding**

In this study, 20 nurses (age range: 25-49 years) were interviewed in-depth. Findings related to the individual and professional characteristics of the participants are presented in Table 1. Data analysis revealed four themes and eight categories. The themes were: 'duality in the form of care', 'bewilderment and ambiguity in care planning', 'workload', and 'positive image with social isolation' (Table 2)

### **Duality in the Form of Care**

Nursing care for patients with COVID-19 had two spectrums of marginal care and empathy and cooperation. On the one hand, several factors such as the unknown nature of the disease for patients, fear of getting infected, etc. changed the focus of nurses to the marginal factors. On the other hand, factors such as the voluntary presence of treatment staff and nursing students, people's appreciation of the treatment staff, etc. caused empathy and cooperation among the medical staff, especially nurses.

#### ***Marginal Care***

Analysis of the findings of this study showed that with the prevalence of COVID-19 in Iran and hospitalization of patients in wards, many factors caused more attention of treatment staff to be directed towards cases outside the care and treatment of patients. During the beginning days of the outbreak, the treatment staff were not notified of hospitalized patients with COVID-19 due to political issues as well as controlling the peace of the society.

After the hospitalization of COVID-19 patients, due to fear of the disease, a number of staff refused to provide care and treatment to these patients in the wards.

*"... mostcolleagues had the fear and anxiety of going to bedside with coronavirus patients..."* (Participant No. 2).

#### ***Empathy and Cooperation***

Participants in the study stated that nurses from other wards, and even other hospitals, volunteered to attend the wards where patients with COVID-19 were admitted to care for them.

*“Nurses in other wards called me saying that they would like to work in our ward to care for COVID-19 patients, or students even wanted to work in the COVID-19 ward ...”* (Participant No. 3).

The nurses compassionately performed caring activities for the patients with COVID-19 despite being aware of the poor facilities and lack of equipment (masks, gauntlets, and gloves).

*“It is true that our masks and protective clothing are non-standard, but this is not a reason to leave patients. I myself go to the patients and feed them, give them their medicines on time, and I am not worried about getting infected ...”* (Participant No. 6).

## **Bewilderment and Ambiguity in Care Planning**

The COVID-19 pandemic has killed many people around the world with multiple mutations and despite the availability of several COVID-19 vaccines, controlling the transmission chain is very difficult. This category had two subcategories including ‘the leakage of incorrect information’ and ‘lack of scientific information’.

### **Leakage of Incorrect Information**

The results of data analysis showed that due to the limited scientific information on COVID-19, a lot of false information was shared on social media about the treatment and care of patients with COVID-19. Some fraudulent people took advantage of this opportunity by commercializing their equipment and commodities in the form of traditional medicine, or so called ‘Islamic Medicine’.

*“Once, one of my friends called me and said that it is true that soda is effective in treating COVID-19. I was really shocked and upset ...”* (Participant No. 14).

### **Lack of Scientific Information**

The results of data analysis showed that due to the unknown nature of the disease, different treatment and care procedures were performed, some of which resulted in serious side effects.

*“Early in the disease, there were many problems because doctors were somewhat incapable of treating the disease, which made it difficult for us nurses to care...”* (Participant No. 5).

## **Workload**

Normally, the workload of nurses in Iran is assumed to be very high. After the outbreak of COVID-19 in Iran, this workload increased due to the increased psychological burden in the living and working environment of nurses, as well as the high care load in COVID-19 patients. This category had two subcategories including ‘change in lifestyle’ and ‘perceived care pressure’.

### ***Chang in Lifestyle***

The results of data analysis showed that the nurses preferred to self-quarantine themselves in a different environment (not their own homes) to prevent the transmission of the disease to their family members and the community. Being away from the family led to stress in family members, a drop in the education of children, and fear of continuing the situation in the future.

*"My son's teacher complained about his incomplete homework..."* (Participant No. 4).

*"The family also suffered from stress and anxiety and prayed a lot for us..."* (Participant No. 15).

### ***Perceived Care Pressure***

The data showed that nurses were dissatisfied with wearing personal protective equipment due to their non-standard and inconvenient design.

*"The hospital provided poor quality equipment to work with patients ..."* (Participant No. 3).

The lack of a separate and distinct room outside the COVID-19 ward for rest and nutrition, excessive sweating in the personal protective equipment kit and dehydration were among the nurses' major complaints.

*"Wearing clothes and masks was so hard for us; we felt as if we were dead..."* (Participant No. 7).

Anorexia in patients with COVID-19, excessive thirst for water and oxygen, diarrhea, and death of young patients without a history of the disease were other issues that increased the pressure and workload of nurses.

*"I was very upset when I saw that a conscious patient had problem with ventilation and that he still had problem with giving too much oxygen ..."* (Participant No. 19).

### **Positive Image with Social Isolation**

Nurses were supported by the community and praised in the media; they were called 'health defenders' at the beginning of the COVID-19 outbreak. However, when they appeared in the community, people distanced themselves from the treatment staff. The two subcategories in this category were 'society supporting' and 'general avoidance'.

### **Society Supporting**

The results of data analysis showed that nurses were encouraged and supported by family, friends, and the community.

*"Since the start of COVID-19 crisis, the family continues to support me. This may be due to the sanctity of the field and the difficulty of our work, because I felt it myself."* (Participant No. 9).

Messages of thanks were sent to nurses in the form of letters, telephone messages, or on social media in different parts of the country. Nationwide, the community members and officials erected billboards thanking nurses as health defenders.

*"I was really proud of all these thanks messages ..."* (Participant No. 1).

## **General Avoidance**

Our results showed that nurses faced different reactions from people.

*"They only chant slogans, but it is not practiced in the society! Suppose that we are going somewhere while maintaining social distance by wearing mask and gloves; but when people find out that we are nurses, they behave as if we are an infected individual."* (Participant No. 11).

Participants also reported that some of their relatives and friends cut off communication and telephone calls with them due to being in contact with COVID-19 patients.

*"Unfortunately, some relatives and friends stopped travel with me. They think as if it is only the healthcare staff that are infected with the virus! Maybe the virus cannot be transmitted in taxis and public places! As soon as they realize that I am a nurse, they stay away from me..."* (Participant No. 6).

Some of the participants expressed that they had to provide a false residence address in the patient registration system of the Ministry of Health when they were infected with the virus due to people's improper behaviors.

*"When I got infected with the virus, I did not provide my correct home address because they came from the health center to disinfect the building, stairs, and other places. I was afraid that our neighbors would react badly to me..."* (Participant No. 16).

## **Discussion**

In this study, it was shown that patients with COVID-19 were initially unknown for a variety of reasons, including the lack of diagnostic kits in all cities, lack of readiness, and lack of necessary infrastructure. Many countries were shocked by the rapid spread of the virus in late 2019 and early 2020 (18, 19), and they were not prepared to deal with the virus due to a lack of facilities and infrastructure (20, 21), which was consistent with the findings of this study.

The nurses in this study stated that despite the risk of infection and the possibility of transmission to their family members, they were at the forefront of the fight against COVID-19, and nurses from other wards of hospitals and even nursing students came to the battlefield to help them. Several similar studies stated that a large number of nurses in different countries, in response to this serious and unprecedented health crisis, lovingly came to the forefront of the fight against the virus and cared for patients with COVID-19 (13, 22, 23).

The spread of unscientific information about COVID-19 treatment in social media, as well as the lack of scientific information about care and treatment procedures in Iran caused confusion among nurses in the provision of care programs. In a study, Catton stated that it is important to use the latest knowledge to protect healthcare professionals and nursing staff caring for COVID-19 patients (24).

Rahmanian *et al.* and Rigi *et al.* stated that healthcare providers should be educated on the latest scientific information, especially infectious diseases, the associated risks, standard precautions, appropriate personal hygiene measures, and related environmental measures. Because, nurses work on the front line of care, providing direct care to individuals infected with COVID-19 (25, 26).

Liu *et al.* described the nurses during the COVID-19 pandemic as follows: they still applied to join the fight, took up their responsibilities, concentrated on their duties, and showed a spirit of unity and professional dedication (27).

Due to the unknown nature of the disease, different and numerous treatments and care were performed for patients, which led to the incidence of some complications and drug interactions. The complexities of COVID-19 treatment and care, drug side effects in patients, the death of young patients, the widespread suffering of patients in dire need of oxygen despite high oxygen intake (FiO<sub>2</sub>), and the frustration of treating these patients led to a perceived care pressure in nurses.

Wearing non-standard personal protective equipment and excessive sweating in them, dehydration due to sweating in personal protective clothing, lack of a specific place to feed personnel, lack of personal protective equipment, and lack of dirty and clean room were other problems that led to increased physical pressure and the burden of care in nurses.

High and intense workload drained healthcare providers physically and emotionally (27). Findings of our study were in line with nurses' experiences in previous epidemics of infectious diseases such as severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS), Ebola, and H1N1 influenza (22, 28, 29). In the study by Galehdar *et al.*, it was found that the nurses experienced a variety of psychological distress during caring for patients with COVID-19 (13).

In line with the findings of this study, several studies reported high levels of psychological distress among nurses during outbreaks (30, 31).

Wearing non-standard PPE exposed nurses to many injuries, such as excessive sweating, a feeling of suffocation under a mask, traces of scars, etc. (32). This can even lead to more exhaustion of nurses as well as their hunger and thirst.

Self-quarantine and distance from family, children's education decline, family-related stress, fear of the future, PPE troubles, and despair of treating patients led to an increase in the psychological burden on nurses. In line with this study, the studies by Shih *et al.* and Mok *et al.* showed that considering the contagious nature of the disease, nurses are forced to live away from their families while they care for COVID-19 patients. In addition, the study by Ghalandar *et al.* showed that the nurses reported to have the

anxiety of being separated from their children and parents and were worried about the possibility of transmitting the disease to their family members (13, 33, 34).

Nurses, with their constant presence on the front lines against the virus, considered themselves responsible for caring for patients and reducing their suffering, and made great efforts to protect the people. The Supreme Leader of Iran also called the medical staff as the 'health defenders' and acknowledged the related mortalities as martyrs.

However, the community's attitude towards the healthcare staff in preventing transmission of the virus was different because they identified all nurses as infected people. A study by Jingoh *et al.* found that nurses experienced emotional stress when they heard the label 'dirty' or 'clean' or divided into 'approved' and 'suspicious' COVID-19 teams, respectively (35).

## Conclusion

Our findings suggest that nurses lived in a range of paradoxes during the COVID-19 pandemic. Withdrawal from care along with empathy and cooperation of nurses, the presence of volunteer support forces despite the lack of equipment, the lack of scientific information along with unreliable information in the cyberspace, high care in the hospital with inadequate facilities, and the nurses' attempts to protect their families from getting infected, the social support in the media, along with the physical distance of people in the community from them led the nurses to provide nursing care in stressful conditions while confronting various paradoxes. The results of this study could lead to a clear understanding among managers and healthcare policymakers in the country to take appropriate measures to support the nurses and improve the quality of nursing care to combat COVID-19.

## Limitation

A limitation of this study included the risk of contamination for the interviewees and the interviewer, and the need to observe social distancing. Because of this, the interviews were conducted by telephone, which could have prevented a deep understanding of the phenomenon. However, researchers have tried to make the interviews as deep and effective as possible.

## Abbreviations

COVID-19: Coronavirus disease 2019, WHO: World Health Organization

## Declarations

### Acknowledgments

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## **Author contributions**

VZ: concept design, data collection, analysis and interpretation, drafting of manuscript; LV: participated in the study design, data collection and analysis, manuscript revision; M.KH: participated in the study design, data collection, analysis and drafting of manuscript; FB: data collection, analysis and interpretation, drafting of manuscript. All authors read and approved the final manuscript.

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## **Availability of data and materials**

The datasets used and/or analysed the current study are available from the corresponding author upon reasonable request.

## **Ethics approval and consent to participate**

This study was approved by the Medical Ethics Committee of Tabriz University of Medical Sciences (Code: IR.TBZMED.REC.1398.1304). The study followed accepted ethical standards, as outlined in the Declaration of Helsinki. Before conducting the interviews, the purpose of the study was explained to the participants and a written informed consent was obtained. Participants were informed of the maximum 90-minute time commitment and the audiotaping of the interviews. They were also assured that the recordings would be used anonymously, and that the recorded audio would be deleted after the conversation was transcribed, and their name would not be mentioned in the publications resulting from the study. Participants were free to refuse to continue the interview at any stage. In addition, they were requested to contact researchers if they had any questions.

## **Consent to participate**

Not applicable

## **Competing interests**

None of the authors had a conflict of interest.

## **Authors' information**

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## References

1. Zhang L, Liu Y. Potential interventions for novel coronavirus in China: A systematic review. *Journal of medical virology*. 2020;92(5):479-90. <https://doi.org/10.1002/jmv.25707>
2. Bulut C, Kato Y. Epidemiology of COVID-19. *Turkish journal of medical sciences*. 2020;50(SI-1):563-70. <https://dx.doi.org/10.3906%2Fsag-2004-172>
3. World Health Organization (who). COVID-19 weekly epidemiological update, 9 March 2021. 2021.
4. Noguee D, Tomassoni AJ. Covid-19 and the N95 respirator shortage: Closing the gap. *Infection Control & Hospital Epidemiology*. 2020;41(8):958. <https://doi.org/10.1017/ice.2020.124>
5. Shrestha GS. COVID-19 pandemic: shortage of personal protective equipment, use of improvised surrogates, and the safety of health care workers. *Journal of Nepal Health Research Council*. 2020;18. (1): 150. <https://doi.org/10.33314/jnhrc.v18i1.2593>
6. Shah A, Aacharya RP. Combating COVID-19 Pandemic in Nepal: Ethical Challenges in an Outbreak. *Journal of the Nepal Medical Association*. 2020; 30;58(224):276-279. <https://doi.org/10.31729/jnma.4959>
7. Asghari E, Praskova A, Targhaq S. The Clinical Characteristics of Early Cases with 2019 Novel Coronavirus Disease in Tabriz, Iran. *Iranian Journal of Health Sciences*. 2021;9(1):1-15.
8. Abbaszadeh A, Ehsani Sr. Nurses'perceptions of Caring of Emerging Avian Influenza Disease. *Nursing And Midwifery Journal*. 2015;12(11):973-81.
9. Bella Magnaye R, Muñoz M, Muñoz M, Muñoz R, Muro J. The role, preparedness and management of nurses during disasters. *International Scientific Research Journal*. 2011;3(4):269-94.
10. Labrague L, Hammad K, Gloe D, McEnroe-Petitte D, Fronda D, Obeidat A, et al. Disaster preparedness among nurses: a systematic review of literature. *International nursing review*. 2018; 65(1):41-53. <https://doi.org/10.1111/inr.12369>
11. Abdollahimohammad A, Firouzkouhi M. Future Perspectives of Nurses With COVID 19. *Journal of Patient Experience*. 2020;7(5):640-1. <https://doi.org/10.1177%2F2374373520952626>
12. Fernandez R, Lord H, Halcomb E, Moxham L, Middleton R, Alananzeh I, et al. Implications for COVID-19: a systematic review of nurses' experiences of working in acute care hospital settings during a respiratory pandemic. *International Journal of Nursing Studies*. 2020:103637. <https://dx.doi.org/10.1016%2Fj.ijnurstu.2020.103637>
13. Galehdar N, Kamran A, Toulabi T, Heydari H. Exploring nurses' experiences of psychological distress during care of patients with COVID-19: a qualitative study. *BMC psychiatry*. 2020;20(1):1-9. <https://doi.org/10.1186/s12888-020-02898-1>
14. Nowicki GJ, Ślusarska B, Tucholska K, Naylor K, Chrzan-Rodak A, Niedorys B. The severity of traumatic stress associated with COVID-19 pandemic, perception of support, sense of security, and

- sense of meaning in life among nurses: Research protocol and preliminary results from Poland. *International journal of environmental research and public health*. 2020;17(18):6491. <https://doi.org/10.3390/ijerph17186491>
15. Elo S, Kyngäs H. The qualitative content analysis process. *Journal of advanced nursing*. 2008;62(1):107-15. <https://doi.org/10.1111/j.1365-2648.2007.04569.x>
  16. Wildemuth BM. *Applications of social research methods to questions in information and library science: ABC-CLIO*; 2016.
  17. Speziale HS, Streubert HJ, Carpenter DR. *Qualitative research in nursing: Advancing the humanistic imperative: Lippincott Williams & Wilkins*; 2011.
  18. Yang Y, Peng F, Wang R, Guan K, Jiang T, Xu G, et al. The deadly coronaviruses: The 2003 SARS pandemic and the 2020 novel coronavirus epidemic in China. *Journal of autoimmunity*. 2020;109:102434. <https://doi.org/10.1016/j.jaut.2020.102434>
  19. Chakraborty I, Maity P. COVID-19 outbreak: Migration, effects on society, global environment and prevention. *Science of the Total Environment*. 2020;728:138882. <https://doi.org/10.1016/j.scitotenv.2020.138882>
  20. Peeri NC, Shrestha N, Rahman MS, Zaki R, Tan Z, Bibi S, et al. The SARS, MERS and novel coronavirus (COVID-19) epidemics, the newest and biggest global health threats: what lessons have we learned? *International journal of epidemiology*. 2020;49(3):717-26. <https://doi.org/10.1093/ije/dyaa033>
  21. Dzinamarira T, Dzobo M, Chitungo I. COVID-19: A perspective on Africa's capacity and response. *Journal of medical virology*. 2020;92(11):2465-72. <https://doi.org/10.1002/jmv.26159>
  22. Khalid I, Khalid TJ, Qabajah MR, Barnard AG, Qushmaq IA. Healthcare workers emotions, perceived stressors and coping strategies during a MERS-CoV outbreak. *Clinical medicine & research*. 2016;14(1):7-14. <https://dx.doi.org/10.3121%2Fcmr.2016.1303>
  23. Maben J, Bridges J. *Covid-19: Supporting nurses' psychological and mental health*. Wiley Online Library; 2020; 29(15-16):2742-2750. <https://doi.org/10.1111/jocn.15307>
  24. Catton H. Global challenges in health and health care for nurses and midwives everywhere. *International Nursing Review*. 2020;67(1):4-6. <https://doi.org/10.1111/inr.12578>
  25. Rahmanian V, Rabiee MH, Sharifi H. Case fatality rate of coronavirus disease 2019 (COVID-19) in Iran-a term of caution. *Asian Pacific Journal of Tropical Medicine*. 2020;13(7):328. <https://doi.org/10.4103/1995-7645.281617>
  26. Mirkazehi Rigi Z, Dadpisheh S, Sheikhi F, Balouch V, Kalkali S. Challenges and Strategies to deal with COVID-19 from the perspective of physicians and nurses in southern of Sistan and Baluchestan, Iran. *Journal Mil Med*. 2020;22(6):599-606.
  27. Liu Q, Luo D, Haase JE, Guo Q, Wang XQ, Liu S, et al. The experiences of health-care providers during the COVID-19 crisis in China: a qualitative study. *The Lancet Global Health*. 2020;8(6):e790-e8.
  28. Chung BPM, Wong TKS, Suen ESB, Chung JWY. SARS: caring for patients in Hong Kong. *Journal of clinical nursing*. 2005;14(4):510-7. [https://doi.org/10.1016/s2214-109x\(20\)30204-7](https://doi.org/10.1016/s2214-109x(20)30204-7)

29. Kim Y. Nurses' experiences of care for patients with Middle East respiratory syndrome-coronavirus in South Korea. *American journal of infection control*. 2018;46(7):781-7. <https://doi.org/10.1016/j.ajic.2018.01.012>
30. Du J, Dong L, Wang T, Yuan C, Fu R, Zhang L, et al. Psychological symptoms among frontline healthcare workers during COVID-19 outbreak in Wuhan. *General hospital psychiatry*. 2020; 67:144-145. <https://doi.org/10.1016/j.genhosppsych.2020.03.011>
31. Allsopp K, Brewin CR, Barrett A, Williams R, Hind D, Chitsabesan P, et al. Responding to mental health needs after terror attacks. *Bmj*. 2019; 13;366:l4828. <https://doi.org/10.1136/bmj.l4828>
32. Morley G, Grady C, McCarthy J, Ulrich CM. Covid-19: ethical challenges for nurses. *Hastings Center Report*. 2020;50(3):35-9.
33. Mok E, Chung BP, Chung JW, Wong TK. An exploratory study of nurses suffering from severe acute respiratory syndrome (SARS). *International Journal of Nursing Practice*. 2005;11(4):150-60. <https://dx.doi.org/10.1111%2Fj.1440-172X.2005.00520.x>.
34. Shih F-J, Gau M-L, Kao C-C, Yang C-Y, Lin Y-S, Liao Y-C, et al. Dying and caring on the edge: Taiwan's surviving nurses' reflections on taking care of patients with severe acute respiratory syndrome. *Applied Nursing Research*. 2007;20(4):171-80. <https://dx.doi.org/10.1016%2Fj.apnr.2006.08.007>
35. Goh AMJ, Chia J, Zainuddin Z, Ahmad N, Abdul Manaf MS. Challenges faced by direct care nurse managers during the initial coronavirus disease 2019 pandemic: A reflection. *Proceedings of Singapore Healthcare*. 2020; 30(1):85-87. <https://doi.org/10.1177%2F2010105820953460>

## Tables

Table 1  
Demographic Characteristics of the Study Participants

<b>Participant Number</b>	<b>Age</b>	<b>Gender</b>	<b>Level of Education</b>	<b>Work Experience</b>	<b>Marital Status</b>	<b>Ward</b>	<b>History of COVID-19 Disease</b>
1	33	Female	Bachelor	10	Married	ICU	No
2	30	Male	Master of Nursing	7	Married	Internal Medicine	No
3	44	Female	Bachelor	21	Married	Emergency	No
4	38	Male	Bachelor	15	Married	CCU	No
5	49	Male	Bachelor	26	Married	ICU	No
6	45	Male	Bachelor	21	Married	ICU	No
7	28	Male	Bachelor	4	Married	ICU	Yes
8	30	Female	Bachelor	7	Single	Emergency	No
9	32	Female	Bachelor	8	Single	Internal Medicine	No
10	36	Female	Bachelor	13	Married	Internal Medicine	No
11	29	Female	Bachelor	6	Single	ICU	Yes
12	29	Male	Bachelor	6	Married	Internal Medicine	No
13	25	Male	Bachelor	2	Single	ICU	No
14	27	Female	Bachelor	4	Married	ICU	No
15	35	Female	Master of Nursing	12	Married	ICU	Yes
16	46	Female	Bachelor	23	Married	ICU	Yes
17	48	Male	Bachelor	25	Married	Internal Medicine	No
18	31	Male	Bachelor	7	Married	ICU	No
19	30	Female	Bachelor	6	Single	ICU	No
20	42	Female	Master of Nursing	19	Married	ICU	No

Table 2  
Themes, Categorizes, and Subcategories

<b>Themes</b>	<b>Categories</b>	<b>Subcategories</b>
Duality in the form of care	Marginal care	Reasoning
		Dominance of marginal factors
		Poor care
		Resilience reduction
	Empathy and cooperation	Voluntary attendance
		Continuity of care despite personal protection equipment (PPE) deficiency
Bewilderment and ambiguity in care planning	Leakage of incorrect information	Lots of uncertain media information
		Profitability under the title of complementary and traditional medicine
	Lack of scientific information	Lack of definitive evidence-based information
		Unknown nature of the disease
Workload	Chang in lifestyle	Restrictions on personal schedule
		Disrupted of interpersonal relationships
	Perceived care pressure	PPE troubles
		The burden of care and treatment
Positive image with social isolation	Society supporting	Respect by the people
		Beneficence and vowing
		Community sympathy
		Admiration
	General avoidance	Verbal-behavioral paradox of society
		COVID-19 stigma