

Caregivers' Perception of the Caring challenges in Coronavirus (COVID-19) Crisis: A Qualitative Study

Fateme Mohammadi

Hamadan University of Medical Sciences Medical School

Mojtaba Farjam

Fasa University of Medical Science

Yousef Gholampour

Fasa University of Medical Science

Mojtaba Sohrabpour

Fasa University of Medical Science

Khodayar Oshvandid

Hamadan University of Medical Sciences Medical School

Mostafa Bijani (✉ bizhani_mostafa@yahoo.com)

Fasa University of Medical Science

Research article

Keywords: Caring challenges, caregiver, emerging diseases, coronavirus, qualitative research

Posted Date: July 14th, 2020

DOI: <https://doi.org/10.21203/rs.3.rs-34305/v1>

License:   This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Abstract

Background

The medical personnel act as the guardians of people's health by preventing, controlling, and curing emerging diseases, including coronavirus, a highly infectious and contagious disease which has presented the caregivers in the Iranian healthcare system with many clinical challenges. The aim in present study was to describe the caregivers' experiences of the caring challenges in patients with coronavirus (COVID-19).

Methods

The present study is a qualitative work with a phenomenological-descriptive design. Data were collected via semi-structured, in-depth, individual interviews. The collected data was analyzed according to Colaizzi's method. The participants were 23 members of the medical staff responsible for coronavirus patients in Iran who met the inclusion criteria. The participants were selected via purposeful sampling which was continued to the point of data saturation. The study lasted from February to May 2020.

Results

The results yielded 3 main themes "invasion of psychological tension", "inefficient management", and "contextual factors" with 11 categories.

Conclusion

In dealing with coronavirus patients and providing quality care to them, medical personnel face a variety of clinical challenges which affect their performance. Administrators must, alongside giving instructions to people on how to prevent the coronavirus disease and taking effective security measures, make sure that clinical centers are managed efficiently in order for medical personnel to fulfill their caring objectives satisfactorily.

Background

In recent decades, medical advances in developed and a few developing countries have made it possible to cure bacterial diseases with antibiotics and prevent and control viral diseases, including pertussis, measles, polio, and rubella [1–2]. These achievements have created a wrong sense of optimism regarding the treatment of most contagious/infectious diseases which were epidemic. In fact, in many developed countries priority is given to non-communicable diseases in medical-clinical interventions [3]. However, such phenomena as antibiotic resistance, genetic mutations, novel bacterial pathogens, and emergence

and reemergence of bacterial conditions have raised many doubts about the comforting prospect of our relative immunity from communicable diseases [4–6].

The term "emerging" is used to describe infectious diseases which occur for the first time in the world, an area, or a population, or pathogenic infections which existed before but have become more severe or obtained drug resistance, or pathogenic infections which have become more widespread [7–8]. Based on this definition and statistics reported by World Health Organization (WHO), there are currently over 30 emerging infections of varying types, geographical extents, and severities in the world. [9]. According to the Centers for Disease Control and Prevention (CDC), the nature of emerging viral infections is such that there is not a specialized vaccine or treatment for them and they, consequently, become epidemic over wide geographical areas, infect an increasing number of people, cause many mortalities, and inflict considerable medical costs [10].

One of those emerging diseases is coronavirus (COVID-19) which started from China in 2019 and has become an epidemic in all countries, including Iran. So far, thousands in China and hundreds in Iran have lost their lives to COVID-19 [10]. The initial symptoms of the disease are similar to those of influenza, but the virus gradually develops and affects the respiratory, cardiac, and renal systems [11]. The patients who are transferred to medical centers often show signs of dyspnea, tachypnea, and respiratory failure [12]. However, as there has not been a treatment or vaccine for COVID-19 up to now, medical personnel can only provide supportive care to the patients [13–14].

In Iran, the medical personnel, the primary guardians of people's health who prevent, control and treat diseases, are faced with many clinical challenges in dealing with this highly infectious and contagious disease. In view of the significance of investigating the clinical challenges of caring for coronavirus patients, the focus of the present study is on exploring the caregivers' experiences of the clinical challenges involved in caring for coronavirus (COVID-19) patients in Iran. The researchers hope that the findings of the study will help healthcare administrators and caregivers create a more supportive environment where the rights and dignity of both patients and caregivers are respected. The purpose in present study was to describe the caregivers' experiences of the caring challenges in patients with coronavirus (COVID-19).

Methods

The present study is a qualitative work with a descriptive, phenomenological approach which seeks to answer its main research question, namely "What are the clinical challenges which caregivers experience in caring for coronavirus (COVID-19) patients?"

Participants.

The participants were 23 hospital staff members who were selected via purposeful sampling. The inclusion criteria were: being Iranian, having a good command of Farsi, being in practice in infection units for coronavirus (COVID-19) patients, and being able to provide adequate and rich information. The

participants represented a wide range in terms of age, gender, work experience, marital status, etc. The study lasted from February to May, 2020.

Data Collection:

Data were collected using 23 individual, semi-structured interviews. The video calls with “WhatsApp” for interviews were conducted at times which were convenient for the participants. Each interview began with a few general questions, including "Can you describe a typical day of caring for coronavirus patients?", "What are your feelings when you are caring for these patients?", "What factors influence your performance as a caregiver?". Subsequently, based on the respondents' answers, follow-up questions would be asked to increase the clarity of the information—the questions included, "Can you explain further?", "What do you mean by that?", and "Can you give an example?". The interviews were oriented around the main objective of the study. Lasting for approximately 30 to 40 minutes, each interview was immediately transcribed and read and re-read several times. Subsequently, it was analyzed and the next interview was conducted based on the data collected from its predecessors. The interviews were continued to the point where no new categories emerged from the data and the researchers' information on the dimensions of each category had reached saturation [15].

The collected data were analyzed according to Colaizzi's method which consist of 7 steps: reading and re-reading each transcribed interview, extracting important terms and phrases from the transcripts, assigning meaning to the extracted units, organizing and categorizing similar units, presenting comprehensive descriptions of the extracted categories, creating a basic paradigm of the subject under study according to the extracted categories, and confirming the basic paradigm by having the participants verify the themes and categories.

Rigor

The trustworthiness of the data was tested using Lincoln and Guba's criteria [16-17].

Accordingly, to increase the credibility and accuracy of the data, the researchers used a combination of sources semi-structured interviews, field notes, member check, and peer check. To achieve proportionality, a sampling technique with a maximum variation (age, gender, and work experience) was used. To fulfill the transferability criterion, a full description of the results, the data analysis, and quotations of the participants' statements were provided.

Ethical Considerations:

All participants gave written informed consent to participate in the study. The present study was conducted in accordance with the principles of the revised Declaration of Helsinki, a statement of ethical principles which directs physicians and other participants in medical research involving human subjects. Moreover, the study was approved by the local Ethics Committee of Fasa University of Medical Sciences, Fasa, Iran (IR.FUMS.REC.1398.188).

Results

23 members of the medical personnel (6 doctors, 10 nurses, and 7 Pre-hospital emergency personnel) were interviewed in the present study. Table 1 shows the demographics of the participants. 3 main themes—psychological tension, inefficient management, and contextual factors—and 11 categories emerged from the collected data. The themes and categories are shown in Table 2.

1. Invasion of psychological tension

The participants declared that the following inflicted considerable psychological tension on them: the sudden emergence of the disease, the fast increase in the number of the infected, deaths of young colleagues without a major illness in their medical history, extended work shifts, terror of contracting the disease or transferring the disease to one's family, and long hours away from one's family. All these sources of psychological tension can influence the quality of care provided by the caregivers. The theme of invasion of psychological tension is divided into three categories: stress at work, terror and anxiety, and depression.

A. Stress at work

The medical personnel participating in the present study stated that the sudden emergence of the novel coronavirus in Iran and the subsequent increase in the number of suspected and confirmed cases of infection in clinical centers, the rise in their workload and extension of work shifts, their having to wear protective equipment continuously, and the critical (red alert) conditions in the hospitals inflict considerable occupational-psychological tension on the personnel. This tension, in turn, threatens the quality of care.

"I was in the central infection ward where the coronavirus patients were, in my protective clothing and shields, gloves, and goggles which I had been wearing for 6 hours on my shift. I was soaked with sweat and the spots where my face shield and glasses were pressing on my face and ears were killing me. There were more and more patients and their conditions were getting worse and worse. I'd been in the hospital since yesterday and the sudden increase in our workload was a huge shock to me. I'd never been exposed to this much tension at work. But I have to work and give care in this distressing situation. Well, such a shock and workload is a challenge to my caregiving" (Participant 5).

B. Terror and anxiety

The participants stated that the emergence of the novel coronavirus and its high speed of transmission have caused a lot of fear in ordinary people and even the medical personnel who are in close contact with the infected patients. These personnel are worried about their own contracting the disease or transferring it to their colleagues and families. Moreover, the deaths of a few members of the medical personnel who were responsible for coronavirus patients have struck fear into the hearts of the medical personnel.

"Well, everyone is worried about getting sick. We are in direct contact with these patients, always taking their sputum samples, or suctioning the very sick patients. We are afraid that we might get the disease or give it to a colleague or to our families. Some of our colleagues have gotten sick and two of them who were young too passed away. Well, we are all naturally filled with a deep sense of fear and anxiety" (Participant 16).

C. Depression

The participating personnel also mentioned that their constant presence in the hospitals designated for coronavirus patients, minimum contact and communication with their colleagues, and being away from their families over this period have caused them to experience signs of depression. Despite their efforts to keep their spirits, as well as the spirits of their colleagues and patients up, they still cannot avoid the psychological tension.

"During our shifts, we try to avoid all unnecessary contact and conversation with our colleagues and patients. Everyone is very careful. But all these intensive work shifts, our having to be overly cautious, and our distance from our families have made us kind of depressed. Everyone looks anxious and sad. Of course, we sometimes play music and dance to it to keep our spirits and the patients' spirits up and get away from this sense of depression. This kind of behavior is not acceptable to the system, but even the administrators and authorities understand our situation now" (Participant 3).

2. Inefficient management

From the perspective of the medical personnel participating in the present study, efficient management is a key factor in successfully handling crises, including the coronavirus crisis in Iran, and minimizing clinical challenges. Although the healthcare system in Iran has developed significantly over the past decades, there are certain deficiencies and defects in these systems which hinder effective handling of crises. This theme consists of five categories: lack of a preset action plan, lack of preparation drills, and inadequate supply of high-quality services, inadequate supply of equipment and facilities, and poor provision of information to the public.

A. Lack of a preset action plan

The medical personnel mentioned that planning and preparing for infection crises, including coronavirus will minimize anxiety and fear in the public and the medical personnel, reduce social chaos, and improve organization in hospitals.

"A preset action plan that determines which hospitals in every province are the primary medical centers for treating patients in case of infectious or biological diseases does not exist, or if it does, the medical personnel are not aware of it. This disease suddenly became an epidemic and they decided which hospitals should be infection care centers on an ad hoc basis. Out of nowhere, we were informed that our hospital is a coronavirus center. Well, in such conditions, everyone gets nervous and the medical staff faces challenges in providing care. The existence of a preset action plan for such situations, like

predetermining the hospitals and units which should be in charge in case of an infectious disease and even pre-training the nurses, can help control these clinical challenges" (Participant 9).

B. Lack of preparation drills

One of the important extracted categories in the present study is lack of preparation drills. The medical personnel declared that they had not had any drills related to infectious and biological epidemics to be at least slightly prepared for such crises. Only the medical staff of military hospitals is given drills and training to be ready for health-related crises.

"There were never any drills for the medical personnel of organizations managed by the Ministry of Health to prepare them for infection crises. There are only occasional mock drills for dealing with a crisis for the nurses and doctors at military hospitals. Well, we hadn't been trained and this affects our handling of this crisis and ability to provide effective care" (Participant 18).

C. Inadequate supply of high-quality services

The participants stated that though they were making their best efforts to provide care to the coronavirus patients, the large number of the patients who were admitted to the designated hospitals and lack of staff and test kits made it impossible for them to provide timely and high-quality of care.

"There are too many patients in the clinics and emergency departments of the hospitals selected for coronavirus patients, we have shortage of medical staff and test kits, and the patients sometimes have to wait for some time to be tested or admitted, which makes them annoyed and aggressive and providing care becomes a challenge" (Participant 7).

D. Inadequate supply of equipment and facilities

In the present study, the medical personnel mentioned that in order to provide high-quality care, caregivers must have access to the necessary equipment and facilities in abundance so that they can provide care with peace of mind.

"When you enter the ward, all you get is an apron, a pair of gloves, and a mask, and throughout the shifts, they keep saying that we are short of equipment. I agree that in these conditions we need to conserve, but lack or unavailability of equipment makes caring for coronavirus patients a challenge" (Participant 21).

E. Poor provision of information to the public

The participants stated that the awareness campaigns and self-care and prevention educational programs for coronavirus all started when the disease had already emerged and was becoming an epidemic. This posed a major challenge to controlling the spread of the infection and providing high-quality care.

"It was when the coronavirus appeared and was becoming widespread that the television and social media began to educate the public. Before that, people and the medical personnel didn't receive any information to learn about the coronavirus and how to deal with infected patients. It is true that later people were educated to some extent especially through the television, but in the first few days of the emergence of the infection, we were faced with an influx of patients who didn't know what to do" (Participant. 1).

3. Contextual factors

Another extracted theme in the present study is contextual factors. According to the participants, the principles and manners of providing care are influenced by certain cultural and environmental factors, including: the severity of an infectious disease, how it is transmitted, the public's hygiene beliefs in every culture, and some people's selfish attempts to capitalize on the conditions in a crisis, like coronavirus. This theme is divided into three categories: the severity and rate of transmission of the infection, incorrect hygiene beliefs, and opportunism.

A. The severity, type, and rate of transmission of the infection

The medical personnel declared that the little-known nature of this emerging infection (COVID-19), lack of a definite cure for it, its long incubation period, and, most importantly, its very high rate of transmission, have increased the number of people who carry the virus and the patients who visit medical centers, a major challenge to the healthcare system.

"Unlike other infections, like H1N1, this infection is easily transmitted from person to person and the virus survives on surfaces for long periods, thus the need for systematic and quick disinfection. Well, with the sudden emergence of the infection, many healthy and infected people came to medical centers. This overcrowding of people resulted in a lot of close contact between them and the transmission of the disease. All in all, the high rate of transmission of this infection increases the number of patients and makes caregiving difficult" (Participant 6).

B. Incorrect hygiene beliefs

Another important category of the theme of contextual factors is incorrect hygiene beliefs. The participants stated that in every culture, including Iran, people have their own beliefs about hygiene, but occasionally these beliefs, as in the case of coronavirus, are not based in fact and lead to additional health problems, whereby the rate of visits made to medical centers is increased, which adversely affects the quality of care.

"It is a custom for people in Iran to shake hands and kiss. On the other hand, many people don't observe hygiene behaviors, such as washing their hands properly after a handshake or touching surfaces. Such behaviors put them at greater risk of catching the infection. Also, many Iranians believe in the healing powers of herbs—it is true that consumption of such herbs as cinnamon, ginger, and garlic helps with preventing colds and relieving coughs and sore throats, but overuse of them can trigger allergic reactions,

especially in the elderly with a history of cardiovascular disease or diabetes. This increases the number of people who have the symptoms of a coronavirus infection in medical centers, which challenges caring for real patients" (Participant 14).

C. Opportunism

Another danger to public health and healthcare which the participants referred to was the opportunism of some businesspeople who hoard or increase the cost of personal protective equipment, including gloves and masks, and certain foods.

"The prices of gloves and masks suddenly tripled. In a short time, drugstores ran out of masks and gloves. The prices of food products that contain vitamin C went up, too. Even in these conditions, some people remain opportunistic and seek to make large profits. The opportunists hoarded millions of masks and gloves. Such inhuman behaviors pose a greater threat to public health in the coronavirus crisis" (Participant 10).

Discussion

When an emerging or reemerging disease becomes an epidemic and pandemic, caring for and treating patients is a very demanding job [15, 18], especially in cases of contagious and infectious diseases which cause health crises and challenge the healthcare system in many ways [1, 18]. The focus of the present study is on determining the clinical challenges which have arisen in the coronavirus crisis from caregivers' perspective. According to the findings of the present study, the clinical challenges of caring for coronavirus patients fall into three themes: Invasion of psychological tension, inefficient management, and contextual factors.

In crises psychological tension such as: shock, fear, anxiety, depression, etc., is inevitable [19–20]. In the present study, psychological tension is a major caring challenge from the medical personnel's perspective. The clinical personnel are in the front line of care and treatment in the healthcare system when health crises, including the coronavirus epidemic, strike. Yet, in providing care, they are faced with many challenges [21–22]. Though the quality and quantity of medical-clinical services have significantly grown over recent decades in Iran [23], the existing national economic issues have impeded the employment of medical personnel, especially nurses, in hospitals and the nurse to patient ratio is not up to standard [22].

On the other hand, there are not sufficient medical equipment and facilities. With the emergence of the novel coronavirus in Iran, all these issues became all the more apparent and the medical personnel had to safeguard the health of patients and the whole society in adverse conditions. Shortages of equipment, increased workload and long periods away from their families have exposed the medical personnel to various forms of emotional and psychological tension, which, consequently, affects their professional performance. Similarly, two other studies report that caring for patients with an infectious disease inflicts unusual work overload, terror, and anxiety on caregivers, which can have an adverse effect on their

performance [4, 6]. Other studies on the quality of care provided to patients suffering from respiratory disorders in intensive care units show that the increased workload and psychological distress of the caregivers affects their manner of providing care [18, 24].

Inefficient management is another theme extracted in the present study. Correct management of crises and the existence of a preset action plan can prove very effective in controlling crises and minimizing casualties and financial costs. However, in the present study, the caregivers mentioned that the healthcare system lacked systematic management and preset action plans, including predetermining hospitals as centers for infectious epidemics and organizing practice drills to train and prepare the medical personnel for health crises. Similarly, in their study, Nakhaei et al. introduce a category named "lack of a comprehensive health plan" and state that there is an obvious lack of comprehensive planning for health-related crises [6].

Among the categories under the theme of inefficient management in the present study are: lack of planning and prearranged measures toward equipping hospitals for high-quality care, lack of diagnostic test kits, and lack of equipment and facilities necessary for providing care to coronavirus patients. In the study of Vasli et al., the two categories of "insufficient human resources" and "insufficient non-human resources" are presented as the causes of lack of efficient personnel in emergency care departments, work overload, and unavailability of necessary equipment in times of crisis, thus the need for more systematic management and planning [22].

Another category of this theme is poor provision of information to the public. The participants declared that they had not been provided with any education or preset action plans for handling the coronavirus and that all the planning and decision-making began when the infection had already started to become widespread. As mentioned in many studies, timely and proper provision of information is a key factor in controlling critical conditions and minimizing casualties and financial costs [25].

Any other studies which referred to the role of official announcements in health crises and epidemics was not found, which can be due to the different nature, severity, and very high rate of transmission of COVID-19 compared to other infections. The novel coronavirus has a long life span and is transmitted very quickly, infecting a large number of people in a short time. Even though Iranian officials started to educate the public via text messages and the television with the emergence of COVID-19, it appears that the public was not informed properly enough.

"Contextual factors" is another theme extracted in the present study. In health crises, especially when an infectious disease becomes an epidemic, environmental and contextual factors, including the type, severity, and rate of transmission of the disease, as well as people's values and beliefs in a culture, can have a significant impact on the health status of the people [21, 26–28].

The novel coronavirus (COVID-19) can survive in the environment for a long time and has a high rate of transmission; in addition, little is known about its nature and there is not a definite cure for it, all of which factors account for its rapid spread all over Iran. Also, many Iranians, especially from the Northern

provinces, move to larger cities, like Tehran, for higher incomes and better access to facilities. When COVID-19 was officially declared an epidemic by the Iranian Ministry of Health, many of those people were inclined to leave Tehran for their birthplaces in the north where the air is cleaner and save themselves and their families from the coronavirus crisis in the capital. These thoughts and acts increased comings and goings on the roads and resulted in more contact between the non-infected with the infected, thus the faster spread of the disease and increase in the number of patients. As a result, the national security department had to block roads which led from Tehran to the northern cities. In summary, the severity and rate of transmission of the coronavirus were the main contextual factors which challenged the healthcare system in Iran. Similarly, other studies show that the nature and severity of an infection are important contextual factors which affect the management of health crises [21, 29]. On the other hand, Iranian's greeting behaviors, including shaking hands, kissing, and offering their food to others in public places, and failure to wash their hands regularly, wear gloves at work, and observe the principles of sanitation are wrong hygiene beliefs which contribute to the spread of infections. In recent years, such behaviors have become less frequent thanks to the education and monitoring of the healthcare system; yet, they are still prevalent in Iranian societies. As the main causes of the rapid transmission of the coronavirus, these wrong beliefs and behaviors pose a challenge to the efforts of the healthcare system in Iran to control COVID-19. After the emergence of the coronavirus, the government started to educate the public via the social media, especially the television, on a large scale, with relatively positive results in encouraging people to adopt preventive health behaviors. According to other studies, too, the public's hygiene beliefs and behaviors are an influential factor in maintaining and improving public health [30–32].

Another important category extracted from the data in the present study is the opportunism of some businesspeople which has challenged the healthcare system in Iran in dealing with the coronavirus crisis. Though at the time of the crisis, many Iranians from different contextual began to distribute free masks and gloves and disinfect public areas and many doctors, nurses, and even nursing students volunteered to care for coronavirus patients, some opportunist hoarded masks, gloves, and certain food products, thereby making it harder for others to cope with the crisis and posing additional challenges to healthcare [33, 34].

The act of hoarding food and vital equipment at the time of wars, national crises, and natural disasters is condemned all over the world. The president of World Health Organization has warned pharmaceutical factories and producers of medical equipment about hoarding and trying to raise the prices of protective medical equipment, including masks and gloves, stating that this will contribute to the spread of the coronavirus, increase the number of casualties, and challenge healthcare systems further, thus the need for taking legal action against those who hoard medical equipment [35].

Therefore, there have been various obstacles to providing high-quality care to coronavirus patients in Iran. From the perspective of the participants in the present study, in order for the medical personnel to provide high-quality care to the infected, the public should be educated more properly, security measures should

be taken to control travel between cities, sufficient equipment and facilities should be provided, and the management of the crisis must be better organized.

Limitations

One of the limitations of the present study is the fact that data were collected through individual interviews, only—other methods of data collections could have added to the reliability of the results of this qualitative work of research. Accordingly, it is suggested that future studies employ, in addition to individual interviews, other ways of collecting data, including observation field notes and focus group interviews.

Conclusion

The spread of the coronavirus epidemic in all the provinces of Iran has presented the medical personnel with a variety of medical challenges. It is vital that these challenges be identified and studied in the current health crisis. The results of the present study show that the main clinical challenges in the coronavirus crisis in Iran originate in psychological tension, inefficient management, and contextual factors. Creating a cultural, professional, and organizational context in which possible clinical changes in a health crisis, like COVID-19, have been largely eliminated can help caregivers have psychological peace and perform more satisfactorily. Health officials and policy-makers can use the findings of the present study to create a supportive environment free of clinical challenges to enable caregivers to provide high-quality care in different areas.

Declarations

Abbreviations

Not applicable

Ethics approval and consent to participate

This article was supported by the Vice Chancellor for Research, Fasa University of Medical Sciences, Fasa, Iran (ethical code: IR.FUMS.REC.1398.188). Informed consent was obtained in writing through voluntary completion of the survey by respondents.

Consent to publish

Not applicable.

Availability of data and materials

The datasets used and /or analysed during the current study are available from the corresponding author on reasonable request.vailability of data and materials.

Competing interests

The authors declare that they have no competing interests.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not for profit sectors.

Authors' Contributions

Authors (FM, MB, and KO) have participated in the conception and design of the study. MB and FM contributed the data collection and prepared the first draft of the manuscript. MF, YG and MS, Critically revised and checked closely the proposal, the analysis and interpretation of the data and design the article. All authors read and approved the final manuscript

Acknowledgements

This paper was extracted from a research project with the ethical code. This paper was extracted from a research project with the ethical code (IR.SUMS.REC.1396.S197) in Fasa University of Medical Sciences, Fasa, Iran. The authors appreciate Shiraz University of Medical Sciences for financially supporting this research.

Authors' Information

1. Associate professor, Chronic Diseases (Home Care) Research Center and Autism Spectrum Disorders Research Center, Department of Nursing, Hamadan University of Medical Sciences, Hamadan, Iran. 2. Assistant Professor, Non Communicable Diseases Research Center (NCDC), Fasa University of Medical Sciences, Fasa, Iran. 3. Assistant Professor, Department of Pulmonary Diseases, Fasa University of Medical Sciences, Fasa, Iran. 4. Assistant Professor, Non Communicable Diseases Research Center (NCDC), Fasa University of Medical Sciences, Fasa, Iran. 5. Professor, Mother and Child Care Research Center, Hamadan University of Medical Sciences, Hamadan, Iran. 6. Assistant Professor, Department of Medical Surgical Nursing, Fasa University of Medical Sciences, Fasa, Iran.

References

1. De ELDA, Giraldi G. A world wide public health problem: the principal re-emerging infectious diseases. *La Clinica terapeutica* 2011;162:e93-98
2. Hessels AJ, Kelly AM, Chen L, et al. Impact of infectious exposures and outbreaks on nurse and infection preventionist workload. *American journal of infection control* 2019;47:623-627
3. Vanwambeke SO, Linard C, Gilbert M. Emerging challenges of infectious diseases as a feature of land systems. *Current Opinion in Environmental Sustainability* 2019;38:31-36

4. Asadullah M, Kamath R, Pattanshetty S, et al. Psychological impact on caregivers of HIV-infected children in Udupi district, Karnataka. *AIDS care* 2017;29:787-792
5. Dikid T, Jain S, Sharma A, et al. Emerging & re-emerging infections in India: An overview. *The Indian journal of medical research* 2013;138:19
6. Nicholson A, Negussie Y, Shah CM, et al. Emerging Research on Associations Between Infectious and Noncommunicable Diseases. *The Convergence of Infectious Diseases and Noncommunicable Diseases: Proceedings of a Workshop*: National Academies Press (US); 2019
7. La'Toya VL, Klaphake E. Selected emerging diseases of amphibia. *Veterinary Clinics: Exotic Animal Practice* 2013;16:283-301
8. Rodríguez-Prieto V, Vicente-Rubiano M, Sánchez-Matamoros A, et al. Systematic review of surveillance systems and methods for early detection of exotic, new and re-emerging diseases in animal populations. *Epidemiology & Infection* 2015;143:2018-2042
9. Suwantararat N, Apisarnthanarak A. Risks to healthcare workers with emerging diseases: lessons from MERS-CoV, Ebola, SARS, and avian flu. *Current opinion in infectious diseases* 2015;28:349-361
10. Borycki E, Cummings E, Dexheimer J, et al. Patient-Centred Coordinated Care in Times of Emerging Diseases and Epidemics. *Yearbook of medical informatics* 2015;24:207-215
11. https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200306-sitrep-46-covid-19.pdf?sfvrsn=96b04adf_2. Coronavirus disease 2019 (COVID-19) Situation Report – 46. 2020
12. Wu Z, McGoogan JM. Characteristics of and important lessons from the coronavirus disease 2019 (COVID-19) outbreak in China: summary of a report of 72 314 cases from the Chinese Center for Disease Control and Prevention. *Jama* 2020
13. Ai T, Yang Z, Hou H, et al. Correlation of chest CT and RT-PCR testing in coronavirus disease 2019 (COVID-19) in China: A report of 1014 cases. *Radiology* 2020:200642
14. Lai C-C, Shih T-P, Ko W-C, et al. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and corona virus disease-2019 (COVID-19): the epidemic and the challenges. *International journal of antimicrobial agents* 2020:105924
15. Speziale HS, Streubert HJ, Carpenter DR. *Qualitative research in nursing: Advancing the humanistic imperative*. Lippincott Williams & Wilkins; 2011
16. Edward K-L, Welch T. The extension of Colaizzi's method of phenomenological enquiry. *Contemporary nurse* 2011;39:163-171
17. Mohammadi F, Bijani M, Cheraghi F, et al. Dignity: the cornerstone of nursing care among hospitalized mothers of infants in Neonatal Intensive Care Unit. *Journal of Perinatal and Neonatal Nursing* 2020;26:22-31
18. Jansson MM, Syrjälä HP, Ala-Kokko TI. Association of nurse staffing and nursing workload with ventilator-associated pneumonia and mortality: a prospective, single-center cohort study. *Journal of Hospital Infection* 2019;101:257-263

19. Everly GS, Lating JM. Crisis Intervention and Psychological First Aid. A Clinical Guide to the Treatment of the Human Stress Response: Springer; 2019:213-225
20. Sullivan L, Whiteley C. Working with Men in Crisis: A Psychological Framework for Crisis Intervention in Home Treatment Teams. The Palgrave Handbook of Male Psychology and Mental Health: Springer; 2019:579-600
21. Nakhaei M, Khankeh H, Masoumi G, et al. Health management in past disasters in Iran: A qualitative study. Health in Emergencies and Disasters 2014;1:107-115
22. Vasli P, Dehghan Nayeri N. Perspectives of Nurses on Nature, Causes and Consequences of Crisis in Emergency Departments: a Qualitative Study. Journal of hayat 2015;20:62-76
23. Omran ES, Izadi S, Moradi S, et al. Qualitative development scenario planning for medical sciences education in Iran. Res Dev 2019;8:2
24. Tubbs-Cooley HL, Mara CA, Carle AC, et al. Association of nurse workload with missed nursing care in the neonatal intensive care unit. JAMA pediatrics 2019;173:44-51
25. Brynielsson J, Granåsen M, Lindquist S, et al. Informing crisis alerts using social media: Best practices and proof of concept. Journal of Contingencies and crisis Management 2018;26:28-40
26. Bayntun C. A health system approach to all-hazards disaster management: A systematic review. PLoS currents 2012;4
27. Khankeh HR, Khorasani-Zavareh D, Johanson E, et al. Disaster health-related challenges and requirements: a grounded theory study in Iran. Prehospital and disaster medicine 2011;26:151-158
28. Qiao J. What are the risks of COVID-19 infection in pregnant women? The Lancet 2020
29. Koenig KL, Schultz CH. Koenig and Schultz's disaster medicine: comprehensive principles and practices. Cambridge University Press; 2010
30. Arcury TA, Gaylord SA, Cook HL. Incorporating qualitative methods into the study of health beliefs and health behaviors of rural older adults. Rural Health and Aging Research: Routledge; 2019:109-126
31. Gomes AC, Rebelo MAB, de Queiroz AC, et al. Socioeconomic status, social support, oral health beliefs, psychosocial factors, health behaviours and health-related quality of life in adolescents. Quality of Life Research 2020;29:141-151
32. Lu J, Luo M, Yee AZH, et al. Do superstitious beliefs affect influenza vaccine uptake through shaping health beliefs? Vaccine 2019;37:1046-1052
33. Birchall E, Cronkwright S. Conquer the Clutter: Strategies to Identify, Manage, and Overcome Hoarding. JHU Press; 2019
34. Jain M. Public Distribution System as a tool of Food Security in India. Indian Journal of Health & Medical Law 2020;2
35. http://www.jamaicaobserver.com/international/who-chief-demands-end-to-hoarding-masks-gloves_188640?profile=1470.

Tables

Participants	Marital status	Educational level	Work experience (years)
P1	Single	Bachelor's degree in nursing	13
P2	Married	Bachelor's degree in nursing	10
P3	Married	Bachelor's degree in medical emergency	18
P4	Married	Bachelor's degree in medical emergency	2
P5	Married	Specialist Infectious Diseases	8
P6	Single	Bachelor's degree in nursing	7
P7	Married	Bachelor's degree in nursing	9
P8	Married	Specialist Infectious Diseases	10
P9	Single	Bachelor's degree in medical emergency	8
P10	Married	Specialist Pulmonary Diseases	18
P11	Married	Bachelor's degree in nursing	5
P12	Single	Bachelor's degree in nursing	15
P13	Single	Bachelor's degree in nursing	3
P14	Married	Bachelor's degree in medical emergency	2
P15	Married	Specialist Infectious Diseases	2
P16	Single	Bachelor's degree in medical emergency	13
P17	Married	Bachelor's degree in nursing	5
P18	Married	Specialist Pulmonary Diseases	3
P19	Single	Bachelor's degree in medical emergency	7
P20	Single	Bachelor's degree in nursing	15
P21	Married	Specialist Pulmonary Diseases	6
P22	Married	Bachelor's degree in medical emergency	3
P23	Married	Bachelor's degree in nursing	9

category	theme
Stress at work Terror and anxiety Depression	Invasion of psychological tension
Lack of a preset action plan Lack of preparation drills Inadequate supply of high-quality services Inadequate supply of equipment and facilities Poor provision of information to the public	Inefficient management
The severity, type, and rate of transmission of the infection Incorrect hygiene beliefs Opportunism	Contextual factors