Nurse Managers' Perceptions and Experiences during the COVID-19 Crisis: A Qualitative Study

Abstract

Background: Coronavirus disease-2019 (COVID-19) pandemics are an international threat to global health and health systems and then healthcare providers. Nurses' managers who are responsible for organizing the nurses and their activities grapple with even more challenges, which are overlooked. This study was conducted to elaborate on the nurse managers' experiences facing the Coronavirus pandemic. **Materials and Methods:** This study adopted a conventional approach to qualitative content analysis. Semi-structured interviews were conducted with 18 nurse managers working at the University Hospitals of Mashhad University of Medical Sciences from April 5, 2020 to June 15, 2020. The interviews continued until data saturation. Data analysis was performed using the method proposed by Lundman and Graneheim. **Results:** Participants described their experiences about facing COVID-19 pandemic into three categories of 'facing the personnel's mental health', 'Managerial and equipment provision challenges', and 'adaptability and exultation process', with 13 sub-categories. **Conclusions:** Dealing with critical conditions could make the frontline managers, and specially nurse managers, face serious challenges. However, in case of proper crisis management andadaptation of sufficient supporting strategies, these threats could turn into an opportunity to exault the individuals and consequently the organizations engaged.

Keywords: *COVID-19, Iran, nurse administrators, pandemics, qualitative research*

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Introduction

Coronavirus Disease-2019 (COVID-19) is a threat to global health.[1] For the sixth time ever and after the increase in the rate of COVID-19 cases, on January 30, 2020, the World Health Organization (WHO) declared COVID-19 as an international public health emergency threatening not only China but also the whole world.[2] Despite all the individual and public health measures, a great number of people contract the disease and are sent to hospitals every day. The mortality rate of the disease is reported to be between 3% and 15%.[1] The number of cases around the world on January 7, 2021 was more than 85,929,428 million and the numbers of deaths were more than 1,876,100 people[3] which motivated WHO to publish some guidelines on how to get prepared to encounter the new COVID-19 virus with regards to patient monitoring methods, testing samples, sepsis control in health centers, maintenance of the necessary resources, and keeping the public updated with the latest information about the virus.[4]

Health care providers and particularly the nurses who are at the frontline of health-related crises including the COVID-19 pandemic need to implement the WHO measures.[5] Due to the unique nature of the nursing profession, nurses are exposed to occupational hazards caused by the prevalence of COVID-19 and its consequences when working with people in out-patient care and intense-care units.[6,7] Apart from physical hazards, they face mental complications such as anxiety, depression, fear and despair, flowingly, and occupational burnout.[8,9] Above all, nurse managers who are responsible for organizing the nurses and their activities, keeping calm and helping others do so, handling inter-ward coordination, and critical thinking,[10] grapple with even more challenges that are generally overlooked.[11,12] One of the factors underlying the survival of a system during a crisis is its management method.[13]

Nurse Managers at hospitals endure extra pressure at the workplace during the times of crises such as that of the COVID-19

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pandemic.[14] Iran was one of the first countries, after China,[15] to be infected by the virus, however, the consequences of the pandemic for Iranian care providers especially nurse managers have not been studied yet. These challenges and their coping strategies are greatly depended on the experiences of nurse managers with pandemic crisis. It seems that a careful explanation of nurse managers' related experiences could help us better deal with future crises. So the present study was designed to explore the managers' experiences during the pandemic condition.

Materials and Methods

This study adopted a conventional approach to qualitative content analysis.[16] Semi-structured personal interviews were conducted with 18 nurse managers (14 head nurses or nurse in charges, three supervisors, and one matron) working at the University Hospitals of Mashhad University of Medical Sciences from April 5, 2020 to June 15, 2020. Only nurse managers who supervised nurses working with COVID-19 patients were included in the study.

The interview guide and questions were developed and modified after review of the related literature using opinions from experts and was tested in two pilot interviews. One major question and several minor ones were set. The first question was 'Would you please explain your experiences and challenges while managing COVID-19 patients?' Then, the next question would be asked based on the flow of the data.

All interviews were conducted by the main researcher. The first informant with extensive experience of dealing with COVID-19 was selected purposefully; the selection of the other participants was data-driven. After the informed consent of the participants were obtained, interviews were conducted at a place chosen by the participants. The interviews were recorded using an Mp3 Player/Recorder. The interviews continued until data saturation. To ensure data saturation, two additional participants were interviewed.

After being transcribed, the interviews were coded using the conventional content analysis approach and the concepts were derived. Data analysis was performed using the method proposed by Lundman and Graneheim[17] which includes: 1. Transcribing the interviews and examining them thoroughly and repeatedly to come up with a proper understanding of the whole. 2. Extracting units of meaning and categorizing them as condensed units of meaning 3. Abstraction and categorization of the condensed units of meaning and labeling them with codes. 4. Organizing the sub-categories using codes merging based on their similarities and differences and 5. Choosing a congruent umbrella term covering the emerged categories.

To ensure the trustworthiness of the data the criteria proposed by Lundman and Graneheim (2004) i.e., credibility, transferability, conformability, and dependability were used.[17] Credibility was examined through being engaged with the whole study process and sufficient time was allocated to data analysis. Also, the interviewer had full knowledge about qualitative interviews and research skills to perform her role. To ensure transferability, all the study phases were recorded so that referring to them would be possible at any stage of the study; also, data collection and analysis were performed simultaneously. To evaluate confirmability, a copy of the interviews was delivered to three experts not participating in the study asking for their opinions about the results. To examine dependability, the second researcher reviewed the interview texts and consensus on coding was reached.

Ethical Considerations

This study was approved by the ethics committee of the Mashhad University of Medical Sciences under the code IR.MUMS.REC.1399.044. The principles of confidentiality and informed consent were observed carefully. All the participants were ensured that they could quit the study at will. Moreover, they were assured about their anonymity and confidentiality of any information.

Results

The mean (SD) age of our participants was 41.61 (7.50) years and the mean (SD) of their working experience was 16.64 (6.11) years [Table 1]. The length of the interviews ranged between 30 and 45 min depending on the provided answers. After analyzing 24 interviews, 341 primary codes were extracted. The experiences of nurse managers were classified into three categories and 13 sub-categories [Table 2].

Facing the personnel's mental health

The first main category emerging from the experiences of our participants was 'facing the personnel's mental health' which has six sub-categories:

1. Knowledge limitations relating to the invisibility of the enemy: one of the major concerns of the nurse managers was that the COVID-19 was idiopathic at the time of its outbreak. This created fear of encountering an invisible enemy among the personnel. One of our participants said: "*at first, my personnel were worried and anxious as they were facing an unknown virus, anenemy with no information about it*" (Participant 1)

2. The possibility of being a disease transmitter: some participants reported that they were afraid of being a transmitter and infecting their families. One nurse in charge believed: "*many were worried, not for themselves of course, they were worried about being a transmitter. Many of them had not hugged their children in a month*" (Participant 15)

3. Lack of job safety: unavailability of sufficient standard safety kits at the onset of the outbreak had been created a sense of lack of job safety and fear

Table 1: Some demographic characteristics of participants

Number	Gender	Work Place	Education Level	Working experience (in years)	Position	Age	Marital Status
P*1	Male	ICU**	BsC***	21	Head-Nurse	47	Married
P2	Male	ONS****	BsC	20	Matron	46	Married
P3	Female	ICU	MsC*****	23	Head-Nurse	48	Single
P4	Female	ICU	BsC	22	Nurse in charge	47	Married
P5	Female	Internal Ward	BsC	24	Head-Nurse	50	Married
P6	Male	ONS	MsC	22	Supervisor	48	Married
P7	Male	ONS	BsC	22	Supervisor	46	Married
P8	Female	ONS	MsC	19	Supervisor	45	Married
P9	Male	Emergency Ward	BsC	20	Head-Nurse	44	Married
P10	Female	Internal Ward	MsC	9	Nurse in charge	34	Single
P11	Female	Emergency Ward	BsC	16	Nurse in charge	40	Married
P12	Male	Internal Ward	BsC	7	Nurse in charge	30	Married
P13	Male	Internal Ward	BsC	17	Nurse in charge	39	Married
P14	Male	ICU	MsC	5	Nurse in charge	27	Married
P15	Male	ICU	BsC	7	Nurse in charge	30	Married
P16	Female	Internal Ward	MsC	16	Nurse in charge	52	Married
P17	Male	Internal Ward	BsC	17	Nurse in charge	40	Married
P18	Female	ICU	BsC	13	Nurse in charge	36	Married

*Participant, **Intensive care unit, ***Bachelor's Degree, ****Office of Nursing Services, *****Master's Degree

Table 2: Categories andsub-categories

Categories	Sub-categories
Facing the personnel's mental health	Knowledge limitations relating to the invisibility of the enemy
	The possibility of being a disease transmitter
	Lack of job safety
	Mandatory home quarantine
	The emotional burden of ineffective treatment
	Occupational burnout threat
Managerial and equipment provision challenges	The necessity for empowerment
	The need for expanding the care environment
	Shortage of reliable personnel
	Human resources management and provision of medical devices
Adaptability and growth promotion process	Religious resilience
	Devotion and sacrifice
	Solidarity and sympathy

for life among the nurses. A head-nurse with 21 years experiences told us: "*on the first days of the COVID 19 outbreak, my personnel did not have job safety; we did not have protection kits for them, just like unarmed soldiers fighting the enemy*" (Participant 1)

4. Mandatory home quarantine: most of nurses preferred to use quarantine spaces at the hospitals to have the least contact with family members, but it was impossible because of limited infrastructure. Related objections were reported as a great challenge for managers, too. One of our female nurse in charge said: "*The nurses told me: we have made an oath to stay loyal to our profession to the last breath. However, our families have not made such an oath. But we have to quarantine ourselves at home because we do not have quarantine rooms at the hospital*" (Participant 16)

5. The emotional burden of ineffective treatment: The experiences of the nurse managers indicated that the mental and psychological health of their personnel was at risk when encountering critical scenes caused by the pandemic. They reported that they had seen nurses striving to save patients' lives. The managers believed that the emotional burden of failing to provide an effective treatment would have long-lasting and annoying impacts on the minds of their personnel.

In this regard, one nurse in charge said: "*one of our patients was near death. He kept telling the nurse 'I'm short of breath, I cannot go on anymore, and I'm exhausted'. The nurse did her best but it was useless and we lost the patient. Something like this will never fade away from the personnel's memories*" (Participant 13).

And one of our supervisors said: "*I wish I could comfort the souls and minds of my personnel. It hurts all of us much to see there is no definite treatment for the disease and we have to stay and watch the patients die*" (Participant 6).

6. Occupational burnout threat: some nurse managers reported that they were worried about the endurance and care potential of the nurses and the stress they went through during the crisis. They believed the persistence of the conditions would definitely lead to occupational burnout of the nursing staff. One participant told us: "*my present concern and question is that for how long could my personnel keep going with so many patients. This will definitely lead to their occupational burnout, soon*" (Participant 2).

Managerial and equipment provision challenges

The second main category emerging from analysis included four sub-categories:

1. The necessity for empowerment: our participants stated that at the onset of the COVID-19 in Iran, the necessary training had to been provided to their personnel about disease prevention and the proper use of the personal safety kits via in-person training or virtual education. They used several ways to meet these needs. One of our participants described it as below: "*after the disease entered the country, we immediately were enforced to offer the necessary training on prevention and using personal protection kits both in person and virtually. Finally, we shared educational contents through social media such as WhatsApp*" (Participant 8).

2. The need for expanding the care environment: on the other hand, the increase in the number of COVID-19 cases made the officials provide congruent spaces for hospitalizing the patients via timely and appropriate decision-making in a stepped manner. One of the participants Said: "*After the initial increase in the number of cases, we hold many meetings and decided to, first, gradually increase the number of isolation rooms in the infectious diseases and then other wards. Ultimately, we had to allocate the whole hospital to these patients*" (Participant 7).

3. Shortage of reliable personnel: Expanding the spaces entailed providing skillful personnel, which was still another challenge for the nurse managers. To reduce the working pressure on their personnel, they had to use employees of other wards or hospitals volunteering to join COVID-19 wards. However, the new personnel had little knowledge and experience of working with monitoring devices or ventilators. To solve the problem, the nurse managers made dramatic changes in the shift schedules of the personnel, that is, the experienced personnel were distributed among different hospital shifts and monitored the performance of the less experienced ones and gradually provided them with

the necessary training. The shift changes were not limited to the said cases and special attention had to be paid to the pregnant personnel, lactating mothers, and those with underlying diseases. One ICU head-nurse described it: "*Shortage of skillful personnel in the Intensive Care Unit (ICU) was a great problem; so, I immediately added volunteers from other wards and even other hospitals to my ICU. I had to distribute the skillful personnel among different shifts so that they could take on the heavy responsibility of monitoring and training the less-skilled ones*" (Participant 1).

4. Human resources management and provision of medical devices: Another challenge ahead of the health care officials and nurse managers at the peak of the pandemic was providing personal safety kits to maintain their personnel health. They faced difficulties in providing these equipment right from the onset of the pandemic and that via taking the requisite measures, the problem was solved. One of our participant told us: "*I had to plan in a way that my pregnant or high-risk personnel have less exposure to COVID-19 patients, I had to cancel the unnecessary leaves. Also, I had to provide medical devices and personal protection kits, which could only be done with great effort*" (Participant 5).

Adaptability and exultation processes

Our last main category included three subcategories, too.

1. Religious resilience: The managers believed that encouraging their personnel to trust in God and seek his help during tough times could help many of them maintain their spirits and stay on the frontline. This caused them to, despite feeling fear and being worried, be hopeful that the difficult times would come to an end, regard their jobs as something valuable, and do their best to help the patients. One head-nurse with 20 years of experiences said: "*I saw my personnel who could comfort themselves and get energized via trusting in God. Doing this, they could better endure the rough conditions and would not complain as they used to do in the previous days. So, I encouraged others to use the same strategies*" (Participant 9).

2. Devotion and sacrifice: The mangers used the terms (devotion and sacrifice) to describe the services provided by their personnel and called them soldiers of the health frontline. One of our participant stated: "*I and most of my co-workers believe that our life purpose had been to sacrifice our lives for the patients in tough days like these*" (participant 18).

3. Sympathy and solidarity: Another positive behavior promoted by the nurse managers was sympathy and solidarity among the personnel. These features helped them endure and manage the exhaustion caused by heavy working shifts, frustrating duties while using personal safety kits for long hours, as well as the stress and worries of the less-experienced personnel. One of our participant said: "I witness some sort of

especial solidarity among my personal during the crisis. Although they are all having quite a bad time, it is as if they have realized that it is time to work hard. They try to protect themselves and help people at the same time" (Participant 15).

Discussion

In this study, three main categories of 'facing the personnel's mental health', 'Managerial and equipment provision challenges', and 'adaptability and exultation process' emerged via analysis of the data obtained from the experiences of nurse managers dealing with COVID-19. This was one of the first qualitative studies conducted in Iran and across the world with the aim of investigating the experiences of nurse managers encountering the COVID-19.

The findings of the study revealed that most of the participants referred, in one way or another, to the critical conditions that their personnel faced. They also believed that having a good understanding of the serious conditions of the COVID-19 outbreak and its pandemic motivated the care providers especially nurses to help the patients. However, lack of a definite method of controlling the disease caused a high level of stress. A similar condition with the nurses has been reported during the Severe Acute Respiratory Syndrome (SARS) epidemic.[18]

Analysis of the interviews of our study showed that the personnel's concerns over the risk of being infected or transmitting the disease to their own families were one of the distressing factors creating fear among them. The results of studies carried out in China during the COVID-19 pandemic indicated that the health care providers in the city of Wuhan underwent a high level of stress that caused some mental health complications among them such as fear, stress, anxiety, and depression. These mental and psychological problems not only impeded their understanding of the disease, attention to it, and their related decision-makings, and consequently, fighting the disease, but also, it could have a lasting effect on their general health and well-fare.

Not having access to sufficient equipment had created a sense of lack of safety among their personnel. Considering that it is vital to ensure meeting the needs of the frontline care providers, our nurse managers adopted approaches such as providing sufficient personal care kits as well as hospital quarantine spaces for the care providers to help them avoid contact with their family members. In other studies, the existence of life-threatening occupational encounters while not having access to sufficient personal safety kits has been reported as one of the main underlying reasons for experiencing stress during the COVID-19 outbreak.[19]

Providing personal safety kits is vital for healthcare providers, since it is effective in alleviating their mental

distress.[20] Another point of concern for the interviewees was watching their personnel encountering the scenes of respiratory distress of the patients on a daily basis and the devastating feeling of being unable to treat critically ill patients. This constantly exposed them to stress and emotional trauma and harmed their minds and souls. The same conditions were reported in nurses providing care to Severe Acute Respiratory Syndrome (SARS) patients.[18] Observing the possibility of the long-lasting effects of the haunting memories of patients struggling to survive on the minds of the nurses, the imposed emotional burden, and the probability of continuance of the situation, the nurse managers warned about the consequent occupational burnout. They tried to take measures such as employing new personnel; using spiritual and material incentives; and providing psychological services and consultations to deal with these challenges. The positive reactions of the care providers to similar measures have been reported at the RenMin hospital university in Wuhan, China.[19]

The next issue was the challenges ahead of the nurse managers following the onset of the outbreak. These challenges, according to our study results, included 'the necessity for empowerment', 'the need for expanding the care environment', 'shortage of reliable personnel', and 'human resources management and provision of medical devices'. The reported challenges in China at the onset of the COVID-19 outbreak included lack of sufficient information about the cause of the disease; insufficient personal care kits; shortage of nurses; and shortage of time to educate the care providers, to monitor them, and to provide them with professional guidelines.[2]

The reported challenges of the Middle East Respiratory Syndrome Coronavirus (MERS-CoV) epidemic included organizational unpreparedness to perform infection-control maneuvers and decrease the number of referrals; low spirits of the personnel; and high levels of anxiety.[21] The reported challenges during the SARS epidemic were incapability to deal with the crisis effectively; and lack of emotional control on the part of the nursing staff and leaving their jobs as care providers.[22] Coping with these challenges are among the prime responsibilities of the health care managers.[23] Our study results showed that congruent measures had been taken with this regard. For instance, some of the measures taken based on the guidelines of the WHO included immediately forming the Committee to Fight COVID-19 at hospitals, providing suitable equipped medical environments, selecting and introducing a number of hospitals as COVID-19 centers, and using the educational and monitoring potentials of experienced nurses. Mutual trust, advice, and consultation on the part of the frontline personnel were the most vital issues contributing to taking successful measures and providing more effective crisis management.

However, looking on the bright side of encountering the COVID-19 pandemic, there was adaptability and growth

promotion process for the personnel and the health-care system as a whole brought about by the nurse managers. The nursing managers working at hospitals usually face additional pressure resulting from constant and fast changes in the health-care settings. To eliminate these pressures, there is a need for dramatic changes in the performance of the organization.[13,14] The rate of these changes and the need for adaptation to the new conditions increases at times of crisis. Since the survival of a system in crisis times is highly dependent on the management method and resilience of its members, monitoring and analyzing their coping strategies could give us a better insight into the overall resilience rate of the system and help us identify its needs. One of the probable factors capable of enhancing the resilience of individuals is religious beliefs. Throughout history, human beings have never been void of religious concerns; so, one of the constituting factors of resilience and one of the intra-personal elements contributing to an individual's mental health is spirituality which could help decrease psychological stress.[24] Religious beliefs help promote work ethics in the personnel; make them committed to do their jobs right, help their colleagues, and give primacy to patients needs over all else. Despite all the shortages, contradictions at workplace, and the crisis time conditions, this factor overwhelms and makes them feel responsible and provide the required health care.[25]

Demonstration of solidarity and sympathy among the nurses was another aspect reported by the health care managers. This sense of solidarity motivated skilled nurses to support their younger colleagues and share their knowledge and experiences with them. The importance of the formation of such a supportive environment for nurses and nurse managers in exerting a positive effect on the care provided to the patients has been emphasized.[26] Mental weakness is directly related to job dissatisfaction and the quality of the provided care to the patients[27]; so, the head nurses and nurse managers are required to play a role in ensuring the mental health of their personnel. Sometimes this is accomplished via adopting fair incentive mechanisms. However, during a crisis such as the COVID-19 pandemic these incentives alone are not sufficient and there is a need for psychological counseling. In the same vein, the experiences of the nurse managers participating in our study indicated that taking measures such as holding regular meetings with the nurses to examine and discuss their problems, offering psychological counseling to them, and regular monitoring of physical and mental conditions of the personnel during the pandemic could decrease their stress levels, increase their adaptability, and promote growth at the system level.

Multiple interviews were carried out to collect the data relating to the psychological experience of the participants over time. This helped us get a grasp on their work experience, which led to collection of comprehensive and authentic data. Contrary to the results of many other studies[28-31] on experiencing negative emotions during outbreak stress, the results of our study revealed that positive emotions, negative emotions, as well as psychological adjustment and growth under pressure could be at work simultaneously.

In this qualitative study, the participants were selected from a diverse background, but these findings may not be representative for the experiences of all the nursing managers. Also, the bracketing approach was utilized to overcome researcher bias.

Conclusion

Dealing with critical conditions like that of the COVID-19 pandemic which is considered as an international threat, the frontline managers and personnel of the health care systems, and specially nurses, face serious challenges. However, if crisis is managed properly and timely and sufficient supporting strategies as emotional and mental support and sympathy and solidarity are adopted, these threats could turn into an opportunity to exault the individuals and consequently the organizations engaged.

Conflicts of interest

Nothing to declare.

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