

Lived Experiences of the Health Care Providers Infected with Coronavirus Disease: A Phenomenological Study

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Background: With the COVID-19 outbreak and the involvement of many countries, Healthcare Providers (HCPs), as a large group on the front lines of handling this disease, have been exposed to the virus the most and faced heavy pressure with limited resources and facilities, resulting in many of these individuals becoming infected. Accordingly, the current research was conducted to investigate and identify the lived experiences of HCPs during the COVID-19 pandemic at Masih Daneshvari Hospital in Tehran, the first hospital to admit patients with COVID-19.

Materials and Methods: This study employs a qualitative approach with a conventional content analysis method, where data collection and analysis were conducted according to the steps outlined by Graneheim and Lundman. The study population in this research consisted of 42 people, including 26 females and 16 males, selected from the HCPs working in Masih Daneshvari Hospital wards. The interviews were conducted semi-structured and face-to-face until saturation was reached.

Results: One thousand and nineteen initial codes were extracted through the collection and analysis of participants' data. After reviewing and equalizing similar codes, 62 final codes were extracted. Also, 6 main categories and 14 subcategories were extracted from interviews with the HCPs infected with COVID-19: Physical and mental challenges (psychological effects, job burnout, disease symptoms), cultural-belief challenges (beliefs and values, and moral conflicts), social challenges (occupational conflicts, social stigma), family challenges (economic-livelihood problems, work-family conflict), challenges related to the disease characteristics (informed management, disease unknown and difficult conditions), and the challenge of facilities, equipment, and human resources (hospital capacities, popular volunteer forces, organizational changes, and support) were extracted.

Conclusion: The results of this study indicated that the HCPs faced challenges regarding emotions, interpersonal relationships with colleagues and relatives, the workplace, and the difficulty of the workplace when infected with COVID-19. In this regard, it is essential to use strategies such as benefitting from sufficient preparation before the outbreak concerning equipment, human force, required training about the disease and its process, making the HCPs skillful, and creating numerous incentives.

Keywords: Healthcare Providers (HCPs); Coronavirus disease; COVID-19; Challenge, Hospital, Qualitative study

INTRODUCTION

The new coronavirus disease (COVID-19) outbreak emerged in Wuhan, China, in December 2019 and then spread to all provinces in China. Although the epidemic outbreak was well controlled in China since March 2020, it influenced more than 200 countries (1).

Hospitals were immediately filled with patients under treatment for COVID-19. All the hospital's resources (patient beds, equipment, and HPCs) were allocated to control this disease, and the resources quickly became limited for the patients. The mortality of this disease varies in different age groups and occupations. The speed of contagion and high outbreak of COVID-19 increased individuals' vulnerability due to the fear of being exposed to the disease and induced numerous psychological problems, such as panic disorder, anxiety, and depression, besides physical problems. Healthcare workers, particularly nurses, faced physical involvement as well as significant stress and psychological challenges, categorizing them as a high-risk group during the COVID-19 pandemic (2). In addition to physical harm, the common problems of this group include depression, anxiety, and fatigue. Because of close contact with patients with COVID-19, the HPCs were worried about infection and its transmission to their colleagues and family. Many staff were influenced and damaged in terms of emotional, mental, and physical fatigue. Caring for patients with COVID-19 requires more complex processes, from diagnostic practices to safety, which puts heavy pressure on healthcare workers (3). Research has shown that experiencing public shaming and longer quarantine duration are associated with lower mental health and higher needs. More security in the workplace led to a better experience during the infection course (4, 5).

Research has indicated that many of the HPCs had self-stigma and were afraid of jeopardizing the health of their family and those around them as asymptomatic carriers; thus, they tried to restrict their social ties and spend their time mostly at home and at work. On the other hand, in the first days of the COVID-19 pandemic, there was no definitive treatment for COVID-19, and no safe vaccine had received the World Health Organization (WHO) approval yet. This issue led many patients to die due to COVID-19,

and the HPCs could do nothing. The result was increased anger and stigma of the bereaved family toward the HPCs (6, 7).

The COVID-19 pandemic put healthcare professionals across the world in an unprecedented situation, and they were forced to make difficult decisions and work under extreme pressure. These decisions involve how to allocate limited resources to patients who need help equally, how to create a balance between their physical and mental health requirements and those of patients, how to coordinate their wishes and duties toward patients with family members and friends, and how to provide care. These issues led all healthcare workers and caregivers to experience some moral harm or mental health problems (8).

Therefore, the present study aimed to investigate the lived experiences of the HPCs with COVID-19 in Masih Daneshvari Hospital, one of the first hospitals in Iran to admit patients with COVID-19.

MATERIALS AND METHODS

The present research was conducted as a qualitative study with a conventional content analysis method using the steps proposed by Graneheim and Lundman to identify the challenges and lived experiences faced by the HPCs with COVID-19. Using this method appeared appropriate because qualitative and descriptive studies provide a concise and comprehensive description of a phenomenon or event in everyday language (9). This study used the conventional content analysis method to collect and analyze data, aiming to achieve an abstract and expanded description of the phenomenon, and the analysis result is through concepts or themes that describe the desired phenomenon (10). The study population in this research consisted of the HPCs of Masih Daneshvari Hospital, including doctors, nurses, receptionists, etc., who worked in the wards in relation to patients with COVID-19 and those infected with this disease. The interviews were conducted semi-structured and face-to-face until saturation was reached.

Sampling in this study was performed purposefully and continued until data saturation was reached. Finally, 42 participants were enrolled. The research ethical

considerations, such as information confidentiality and permission from the participants to record audio, were considered before the study. The inclusion criteria included HPCs with work experience in COVID-19 wards and having communication with patients with COVID-19. The participants were excluded from the study if they were not inclined to participate. The interviews were carried out as semi-structured and face-to-face by the interviewer in the interviewees' hospital and inside the wards. In the interviews with the mentioned individuals, they were asked some general questions to explain their experiences during the infection, how they were infected, and their concerns during the infection and after recovery. Data collection and analysis were performed based on the steps proposed by Graneheim and Lundman, including obtaining a general sense of analysis units, determining the semantic units available in the text and summarizing them, abstracting, labeling, and categorizing codes based on similarities and differences, and finally extracting patterns by comparing themes and determining their relationships (11).

Accordingly, after completing each interview and recording field notes, the participants' recorded statements were first listened to several times, and their statements were transcribed word by word on paper. Then, the semantic units related to data components and fragments were summarized. In the following, the summarized semantic units were abstracted and then labeled by giving appropriate codes. The obtained codes were compared, considering similarities and differences via continuous comparisons, and similar codes were finally assigned to categories and subcategories, which are a descriptive level of the overt content. Finally, the relationship among the categories was also determined by extracting the themes, which are at an interpretive level and denote the covert content of the data (11). Moreover, to guarantee the accuracy and robustness of qualitative data, the four criteria of Guba and Lincoln, including credibility, dependability, confirmability, and transferability, were considered (12). Along with these criteria, the technique of integrating data collection methods (interviews, field notes, and memoing) and the constant comparative analysis were used (Table 1). All stages of data collection and analysis

were performed without the use of any software. All quotes have been used to maintain confidentiality with P, and the number of participants is next. Also, the required explanations regarding the research objective and method were presented, and the participants were assured of the confidentiality of their information.

Table 1. The four criteria of Guba and Lincoln

Reliability Criterion	Description
Credibility	The PI is immersed in data, as well as the findings of observations
	Allocating enough time over 1 year for gathering and interpreting the research data
	Attending the research environment in over 10 therapeutic wards or healthcare sections.
	Use of the peer check technique by other research team members through interactions of colleagues, questioning, and answering their questions and views
Confirmability	Use of member check by participants in the study through re-interviewing 3 participants of the experts group and 4 participants of patients group to support research findings
	Use of 2 experts out of the research team to examine questions and validate them (Expert Check).
	Asking participants about any possible questions, ambiguities, and misunderstandings during the interviews by the authors.
	Collecting data from different people involved in the subject, such as a medical specialist, a nurse, an anesthesiologist, a nurse aid, and a secretary
Transferability	Use of numerous techniques to collect data besides interviews, producing data through observation, and searching for contradictory evidences
	Avoiding biases and remaining impartial in different subjects throughout the research process, writing memos and reports with verbatim quotations in the study
	Availability of all research documents, including manuscripts
	Presenting exact details of participants in terms of their age, sex, education level, occupation, marital status, shift type, and job duration
Dependability	Presenting adequate information on the investigator, literature review, study process, type of participants, and subject area
	Providing other researchers with accurate information on the research process
	Use of accurate quotations of participants
	Audio recording, taking notes, and recording other entries

Ethical Considerations

Informed consent of participants was obtained with a signed interviewee consent form. Proper and good communication of the PI with participants was in a manner that appointments were made in advance, and at the

beginning of each interview, the PI introduced herself and received the signed consent forms. The PI established a friendly relationship with patients. Regarding the interview records and confidentiality of information, participants were assured. Having received their permissions, participants were assured that their audio files would remain confidential and preserved by investigators, and then written informed consent forms were obtained. Interviews were conducted face-to-face and with one individual at a time in a calm and quiet environment. This study is accredited by the Research Ethics Committee of the National Research Institute of Tuberculosis and Lung Diseases (NRITLD), Shahid Beheshti University of Medical Sciences, under the Ethics Code: IR.SBMU.NRITLD.1399.049.

RESULTS

The results of this study indicated that the HPCs, including doctors and nurses, who were working in the wards of patients with COVID-19, faced numerous challenges regarding negative psychological emotions, interpersonal and family relationships, workplace and work difficulties, and the physical effects due to the virus's dominance on the individuals' bodies. The findings of the current research demonstrated that not using mental health specialists and the lack of psychological skills were also among the challenges faced by the HPCs. Consistent with this perspective, the research conducted in Wuhan, China, indicated that a large proportion of the perplexity of the HPCs infected with the disease, besides what happened to their bodies, was the pang of conscience, fear, and anxiety about the infection and the fate of their family members and those around them, which is referred to as mental derangement. Nurses and doctors in Wuhan have encountered numerous restrictions in accessing healthcare services (13). Consistent with these findings, the results of a study on Pakistani HPCs showed that they faced a shortage of personal protective equipment (14). Of course, researchers acknowledge the existence of a lot of unknown matters about COVID-19 (15). This research guides us to the direction that the HPCs experienced a large amount of stress, anxiety, and conflict at the onset

and during the COVID-19 epidemic, and had a lot of ambiguity about the disease. Their workplace and the disease space were very frustrating due to reasons such as the lack of sufficient awareness, fear of getting infected and its transmission to other colleagues and family members, particular family conditions, the absence of a single treatment, and changing physical symptoms among individuals. The high rate of infection and even death among HPCs during the COVID-19 outbreak denotes the high possibility of virus contagion in medical environments. The participants' demographic information is presented in Table 2.

Table 2. Demographic characteristics of the individuals participating in the qualitative study of the lived experiences of the HPCs with coronavirus disease 2019

Variable	Variable Description	N	Percentage (%)
Gender	Female	26	62%
	Male	16	38%
Age	20-30	11	50%
	31-40	21	27%
	41-50	8	19%
	51-60	2	5%
Infected individuals' education level	High school	2	5%
	Diploma and Associate	10	23%
	Bachelor	23	55%
	Master's and higher	7	17%
Work experience	1-10	21	50%
	11-20	18	43%
	21-30	3	7%
Shift type	Morning	28	50%
	Afternoon and night	9	43%
	Rotating	5	7%
Marital status	Single	17	41%
	Married	25	59%
Interview Type	Face-to-face	42	100%
	By phone	0	0

The analysis of the collected data indicated that the challenges of the HPCs with COVID-19 consisted of five main themes, including psychological challenges, cultural-beliefs challenges, social challenges, family challenges, physical challenges, and challenges related to the disease characteristics, which are presented in Table 3.

Table 3. The themes extracted from the qualitative study of the lived experiences of the HPCs with coronavirus disease in Masih Daneshvari Hospital.

Main Categories	Subcategories	Codes
Physical and mental challenges	Psychological effects	- Psychological depreciation - Consequences due to the young patients' deaths - Nostalgia for family and relatives - Consecutive repetition of fateful moments - Mental disturbance in dealing with COVID-19 patients - Psychological embellishment concerning the disease's unpleasant dimensions during the disease course
	Job burnout	- Entanglement of shifts and increased overtime - Occupational consecutive rethinking - Incidence of obsessive-compulsive disorder due to lack of self-control during the pandemic - Low self-efficacy
	Disease symptoms	- Disturbed sense of smell and taste - Disturbed digestive system - Fever and Chills - Physical weakness
	Beliefs and values	- Hope and asking God for help - Secluding with God during the quarantine - Monitoring wrong thoughts about the disease and the infected individuals - Peace of mind with divine help
Cultural-belief challenges	Moral conflicts	- Creating a fearful atmosphere during the pandemic - Normalizing and oversimplifying the disease - Reckless viewpoints on the disease's mild symptoms - Reduced nurse-patient communication - Misconceptions, superstitions, and vulgar beliefs - Difficult self-management conditions
Social challenges	Occupational conflicts	- Fear of attending work shifts - Reduced self-confidence during the pandemic - Emotions due to the space of working with patients, with COVID-19, and social quarantine
	Social stigma	- Considering Corona as an anomaly in society - Conflict with neighbors due to working at the hospital - False beliefs about patients even after recovery
	Economic-livelihood problems	- Family conflicts - Family financial susceptibility - Loss of income
Family challenges	Work-family conflict	- Conflict with spouse or child - Reduced personal communications with family members - Family opposition leads to feelings of hesitation and discomfort - Lack of adequate skills to manage family relationships under the disease conditions
	Informed management	- Accountability during the HPCs' involvement toward themselves and the family - Weakness in people's health level - The disease newly emerged - Temporary, different, and uncertain treatments
Challenges related to the disease characteristics	Disease unknown and difficult conditions	- Lack of sufficient awareness of the disease - Lack of appropriate infrastructure - Lack of required acquaintance with the disease - Difficulty working with personal protective equipment - Not complying with health protocols due to fatigue and work pressure in the treatment environment
	Hospital capacities	- The disease increased chain transmission in the ward - Involvement with variable signs and symptoms - Lack of sufficient and standard space in medical centers - Lack of proper ventilation in medical centers - Inappropriate conditions of the HPCs' rest environment
	Popular volunteer forces	- Lack of resilience in dealing with crisis conditions - Lack of sufficient and appropriate space for the deployment of volunteers - Weakness in training among volunteers
The challenge of facilities, equipment, and human resources	Organizational changes and support	- Volunteers-HPCs conflicts - Lack of specialized staff - Lack of mental health specialists - Weakness in the management process, particularly at the onset of the epidemic

Physical and mental challenges

In the current study, one of the most fundamental and sometimes stable themes facing the HPCs in dealing with this newly emerged disease is mental consequences, experiences such as the bitter experiences of loneliness, helplessness, and guilt because heavy and fearful pressure was imposed on the HPCs from the society from the very beginning; facing with patients and distress due to the lack of sufficient and true information, shortage of personal protective equipment, and lack of awareness of the exact way of contagion, the family concern on the other hand, and also, the absence of psychologists and psychotherapists on the scene provoked the

The mental breakdowns of HPCs led to various disturbances among participants in this study. The most symptoms and problems also reported by the participants were as follows: When the virus as a pathogenic agent attacked the recipient's body and physical and mental symptoms appeared, COVID-19 as a newly emerging disease induced a wide variety of disorders and symptoms asleep and awake for an individual, including the disturbed sense of smell and taste disorders, disturbed digestive system, severe sweating, dry and severe coughs, shortness of breath, bone pain, physical weakness, ague, weight loss, headache, sneezing, and runny nose, which were frequent symptoms in the disease:

"Well, when you go home to quarantine, you get very depressed. I mean, I was mostly worried about my children because they did not comply and frequently came to me. Although I had separated my room, I wore masks and gloves, and I did not go out at all; they did not comply; they wanted to come and hug me and kiss me. A person does not appreciate the days he/she has; you hug your child easily, etc.; it is very difficult; a state of depression is created for you." (P1)

"Considering that I have a four-year-old daughter after two older daughters and a child who is somehow disabled, these made me worry a lot. I had to be far away, and I was extremely worried about a small child and a disabled child, neither of whom has a correct understanding of the disease." (P15)

"I was very hurt mentally because I could not see my family at all because I am from another city; it was almost 100 days that we were only at home. It was awful." (P19)

"The first days, I had no appetite at all. I lost a lot of weight in the first four or five days. At one time, I lost seven or eight kilos. I lost weight." (P26)

"At the beginning, when it started, I had hot flashes lasting for two consecutive nights; I could not sleep at all; then, I came to the hospital and got tested for COVID-19; because it was crowded, it took two days to get the result, but in those two days, from the 3rd to the 5th of the month, I had severe pain in the middle of my shoulder or in my left hand. I had a severe headache; these were the symptoms, and my face and body had hot flashes." (P29)

Cultural-belief challenges

There is a general and main cultural-belief road map in each society, but this is the case that the people of different regions of each country have different beliefs in terms of geography, climate, customs, education level, and their predecessors. This difference in perspectives among various strata of society causes people to have different viewpoints toward the same subjects and challenges in society. On the one hand, religious and moral beliefs and teachings push people of society forward during a challenge, and on the other hand, superstitious, obsessive, and simplistic viewpoints push people forward. In this regard, practices such as hope and asking God for help, secluding with God during the quarantine, monitoring wrong thoughts about the disease and the infected individuals, disseminating and paying attention to unreliable news and spreading rumors, creating a fearful atmosphere during the pandemic, normalizing and oversimplifying the disease, weakness in people's health knowledge level, misconceptions, and superstitious and vulgar beliefs, the risk of not taking the disease mild symptoms seriously, the need for strengthening, trusting, seeking God for help, and peace of mind with divine help, which were clearly tangible and understandable in the participants' speeches:

"When my parents got involved, I really suffered a lot because I thought I made them ill, for example. The psychological burden of this thought was very high; in any case, there is something that we cannot run away from, and we must face it, face its challenges. First, we should trust because there is really no other way except trusting in God; we should mentally surrender ourselves to God, and we do whatever we can so that we can at least remove the negative energy of this disease from us." (P1)

"With the help of God and the good prayers of all friends of the patients, recovery was achieved anyway, but the type we were infected with, exactly after three tests, all three times, our test was positive, and after six weeks, our test was negative. We owe all this to the divine God and the good prayers of others." (P2)

"We should dedicate our time to say a prayer, read the Qur'an, memorize a poem, read a book, etc.; these are the ways that I think can be used to use this opportunity as a woman." (P15)

Social challenges

During the pandemic, an atmosphere governed society that brought challenges with it. In dealing with crises, conflicts, management weaknesses, and abnormalities display themselves suddenly and sometimes even in an uncontrollable manner and lead people to encounter challenges in society, including the lamentably imposing social stigma on the HPCs, false beliefs, and social stigma toward patients even after recovery, the difficulty of quarantine conditions, the presence of COVID-19 as an anomaly in society, a significantly reduced level of self-confidence among community members during the pandemic, the disease being unknown, occupational conflicts, and the emotions due to social quarantine, which were clearly suggested in the statements of most of the HPCs present in this study:

"It was a crisis in which the strategies changed every day, even for international organizations; it was a global challenge for which many countries were not ready, even considering that China, for example, was infected with the virus months before Europe and even the United States, we saw the crisis in those

countries was great, even though these trainings were provided in several countries. The level of the so-called people's health knowledge is low, not just in our country but also in other countries. When the level of health knowledge is low, as a nurse, for example, I should go and teach the patient to wash his/her hands that, for example, dad or mom, every time you go to the bathroom, you must wash your hands for some minutes or some seconds, and you were surprised that some individuals do not wash their hands often." (P15)

"We observe the recommendations that are given on TV; for example, do not go to public places, use public vehicles at least by complying with the things they warn us about, do not make unnecessary purchases, or do not do unnecessary affairs. Also, try if we want to sit together, sit away from each other, not sit close to each other; it is hygiene observance, especially hand hygiene; when we want to go to public places, if we see that a place is crowded, stand at a distance from each other until it is our turn; use a mask in places that are crowded, for example." (P17)

Family challenges

Among the cases repeatedly acknowledged by the participants are family conflicts, conflict with spouse or child, reduced personal communications with family members, fear of transmitting the disease to family and relatives, the incidence of threat in more susceptible families, family opposition leading to feelings of hesitation and discomfort, and lack of adequate skills to manage family relationships under the disease conditions during the epidemic:

"For example, my mother used to say, 'I do not want you to leave for fourteen days.' She said, 'I do not want to leave at all; go and write your resignation. No matter how much you worked, use the same ones or go somewhere else.' I said, 'Mother, that is it; if I do not get it from here, I might get it from outside; how do you know? You must comply.' This also happened accidentally. I do not know at all how it happened with all these observances, but I will tell you an experience that was somehow a good experience for me: You seclude yourself and reach some things." (P37)

Challenges related to the disease characteristics

Due to COVID-19 being newly emerged and the lack of required acquaintance with the disease, COVID-19 alone could become challenging worldwide, as was gradually approved by the results of investigations and studies. Disturbance in treatments and, of course, their different and uncertain nature, lack of adequate awareness of the disease, difficulty working with personal protective equipment, not complying with health protocols due to fatigue and work pressure in the treatment environment, and the disease's increased transmission chain in the ward were reported as the significant cases in this field, according to the participants:

"The symptoms were really different, and that, for example, everyone said it lasted for two weeks, while my father, after two weeks when his test was positive, experienced a fever in the third week; then, his test was positive, he had only a dry cough, and then he experienced a fever, a lack of oxygen, and lung involvement; we really did not know what to do; treatments were different, with different opinions of the doctors. Anyway, someone said to do this, someone said to do that. Nutrition is very important in this disease; considering the patient in terms of nutrition is very important." (P2)

"Four days before starting my body pain, I felt the smell of sewage for one day. After I received the hepatitis vaccine, my legs started to pain, which I thought was probably due to the complications of the vaccine, but the next morning I had a high fever, and the same night when my legs pained, I also had very severe trembling and cold; I felt cold." (P11)

Challenges of facilities, equipment, and human resources

The lack of sufficient and standard space in medical centers, the lack of proper ventilation in medical centers, inappropriate conditions of the HPCs rest environment, lack of specialist staff, lack of mental health specialists, difficulty and lack of resilience in dealing with crisis conditions, and lack of favorable conditions for access to medicines were among the cases mentioned by the participants:

"In my opinion, the cause was the ICU ventilation because in many wards, we saw that the infection was less, but in the ICU or CCU, as I said, it was really worse; someone got infected, and then the next one. I think it was because of the ventilation, the environment, and the patients. Since all are almost airborne, the viruses spread in smaller particles, so the virus load is also higher." (P23)

"Unfortunately, our colleagues got infected exactly on the first days, and because they did not know and we were together, a group of us got infected, and this itself increased the problem of the lack of forces." (P26)

DISCUSSION

In some studies, aligned with the present study, it was demonstrated that night shifts at the primary healthcare level and long shifts are significantly related to an increased probability of experiencing job burnout; therefore, shift rotation for staff and supplying sufficient resources for hospitals at primary levels are recommended. High job burnout, affected by other factors, such as grief due to numerous casualties, and also restricted support resources for health workers, was pretty evident (16).

Findings revealed how healthcare workers were responsible for self-care by adopting new methods and mindsets while facing numerous personal and professional struggles that diminished their capacity for self-care. Feeling the need for social connection and being valued were key aspects of self-care, highlighting the importance of framing self-care within the social context (17). The sense of needing social ties and feeling valued were crucial dimensions of self-care, emphasizing the importance of including social elements in self-care, which aligns with the present study (17). The feeling of needing a coordinated and cumulative movement guides the way to escape the crisis.

Overall, COVID-19 has been spreading across the world for nearly four years and is still mutating. The hospitals' treatment staff were among the first groups dealing with this lethal virus and sacrificed their physical health. Many nurses and doctors stayed awake for many

hours to save the lives of patients with COVID-19, and many of them were infected with the disease on the way to this aim (18). Numerous studies have been conducted on the experiences of treatment staff with COVID-19. The issue common to all of them has been the psychological effects and the experiences of fear and ambiguity in different countries and cultures. In some studies, more anxiety among women than men and among singles than married people has been mentioned.

In many cases, due to a shortage of beds and facilities, hospitals inevitably kept patients on hold for a long time, culminating in restlessness, agitation, and sometimes disappointment when trying to find medical help. As a result, people have expressed their disappointment by verbally insulting and threatening doctors and other healthcare workers to physically assault them (18).

In line with the study objective, based on the experiences of the treatment staff during the infection time regarding the COVID-19 epidemic crisis, the unpredictability of this pathogenic virus and the lack of sufficient acquaintance with the virus behavior led individuals to be worried and tired of the long treatment course. In line with the current research, the findings of Wang et al.'s study on 1210 respondents from 194 Chinese cities in January and February 2020 revealed that 54% of the respondents evaluated the psychological effects of the COVID-19 outbreak as moderate or severe, 29% reported moderate to severe anxious symptoms, and 17% reported moderate to severe depressive symptoms. Most respondents (approximately 75.2%) were concerned about their family members contracting COVID-19. Certain physical symptoms (for example, myalgia, dizziness, and cold) and improper health status accompanied a greater psychological effect due to the disease spread and higher levels of stress, anxiety, and depression (19). The results of Zandifar et al.'s study demonstrated that, in general, 97.2% of patients with COVID-19 had some level of depression. According to the Depression Anxiety Stress Scale (DASS), the depression severity was 85.8%, 0.9% of patients had severe anxiety, and 99.1% had very severe anxiety (20).

According to the results of Mosheva et al.'s study, physicians reported high levels of anxiety. An inverse relationship was also found between resilience and anxiety. Four pronounced causes (mental fatigue, anxiety about being infected, worry about family members, and sleep problems) are directly related to anxiety scores, which were aligned with the present study (21). Liao et al.'s study on healthcare workers in China revealed the existence of high rates of depression and anxiety, particularly among those on the front lines (22). In this study, it was found from the performed interviews that the treatment staff was serving patients in a stressful space and at their maximum capacity during the epidemic in the wards infected with COVID-19; most of them (around 91%) considered the duration of their disease to be a time for their rest, and they were mostly worried during this period about family members, particularly children and the elderly. Another issue was that everyone who was informed of their disease felt guilty toward their colleagues at first, and the colleagues were also under heavy mental and occupational pressure after hearing the news of their colleague's infection.

The findings concerning the third pattern in Jebelli et al.'s study demonstrated that in the background of a crisis such as the COVID-19 epidemic, the barriers present in service provision could affect controlling them directly and indirectly, while there is a need to pay high costs to control the crisis, including public vaccination, conducting screening tests, treating infected patients, supplying equipment and consumables, and many other costs are observed in the governments. On the other hand, creating an economic crisis due to various reasons, such as the obligation to comply with quarantine and commuting, disrupted business and production, etc., can lead to an imbalance in cost and income, an imbalance that is more tangible particularly in developing and less developed countries and further manifests in the lives of society members and in the provision of services to patients (23).

The results of a qualitative study conducted by Joo et al. revealed five issues identified as barriers to the

treatment staff's patient care during the COVID-19 outbreak: limited information about the COVID-19 outbreak, unpredictable tasks and challenging methods, insufficient support, physical symptoms, worry about the family, and psychological stress. The results were aligned with the present study (24). The results of Maqbool et al.'s study indicated that among the detected barriers, lack of resources to implement health measures and the least facilities in each work shift to prevent the COVID-19 contagion had the top ranks (25).

Limitations of the study

A limitation of this study was the reluctance or inability of some healthcare professionals diagnosed with COVID-19 to participate in the interviews, resulting in delays in data collection. To address this challenge, the researchers recruited additional participants and provided a more comprehensive explanation of the study objectives.

CONCLUSION

Overall, the research revealed that the challenges faced by treatment staff in the workplace were heavily influenced by structural and environmental conditions. This included the availability of personal protective equipment and concerns about potential threats to those around them. During the epidemic, treatment staff performed their duties to the best of their mental and physical abilities, which resulted in various mental health consequences stemming from both the workplace and society. These effects may take a significant amount of time to heal and require careful planning and substantial support.

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Conflict of Interests

The authors declare no conflict of interest.

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