ORIGINAL ARTICLE

Lived Experiences of Healthcare Workers Infected with COVID-19 in Teaching Hospitals

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Abstract

Background: With the onset of the coronavirus crisis, the medical treatment staffs were at the forefront of dealing with the disease. The lived experiences in the face of this disease can help better manage the epidemic and identify organizational and individual barriers and challenges. This study aimed to investigate the experiences of medical staff working in COVID-19 wards in Shiraz teaching hospitals.

Methods: The present study is a qualitative study conducted in 2021-2022. A semi-structured interview was used to collect data. Eighteen nurses, physicians, and health workers of Shiraz University of Medical Sciences were employed for the interview. The snowball sampling technique based on the target group was used. Data were analyzed by The Colaizzi seven-step analysis method.

Results: Three themes, including "tensions", "material and spiritual support", and "pleasant feeling" and eight sub-themes were extracted. The sub-themes were "resilience", "insufficient knowledge", "depression", "expressing gratitude by friends", "public attention", "organizational support", "feeling proud", and "altruism".

Conclusion: The present study shows that COVID- 19 caused a lot of pressure on the medical staff during the pandemic, which led to psychological and emotional damage. On the other hand, material and spiritual support played an important role in reducing distress in times of crisis.

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Introduction

In late December 2019, the novel coronavirus (2019-nCoV, or COVID-19) broke out in Wuhan, China.[1] The virus quickly spread to other parts of the world.[2] The World Health Organization (WHO) has warned that COVID-19 is a public health emergency that requires urgent intervention.[3] Dr. Tedros Adhanom Ghebreyesus, Director-General of the World Health Organization, stated in the WHO Declaration on the Safety of Health Workers on September 17, 2020, that "thousands of COVID-19 health workers have lost their lives worldwide".[4] The virus has overshadowed the daily lives of many people worldwide and has had negative effects on all aspects of human life.[5] The rapid and multifaceted health, social, economic, environmental, and political effects of Covid-19 around the world have made it the worst public health emergency since the Spanish flu in 1918.[6]

Maintaining healthcare quality during COVID-19 depends largely on healthcare workers (HCWs) health. However, they are vulnerable to the risk of infections and can become carriers of COVID-19 transfection.[7, 8] The COVID-19 pandemic, globally and regionally, has put significant pressure on the health system and placed a heavy burden on healthcare workers.[9] Medical

staff (e.g., physicians, nurses, medical laboratory staff, maintenance staff, clinical trainees, volunteers, etc.), including formal and informal staff, serving in health care centers may be directly or indirectly exposed to a variety of undesirable conditions, including infected patients or discharge and substances.[10] In addition to the increased risk of infection, medical staff is exposed to psychological distress for various reasons. Stress, anxiety, and depression may be natural emotional reactions to an epidemic.[11] Therefore, they have to manage social and emotional changes and cope with the stress-inducing factors of COVID-19.[12] Many studies have been conducted on the experience of the HCWs during the COVID-19 pandemic. For example, a study by Liu et al. in China showed the experience of the HCWs in dealing with the COVID-19 pandemic. Despite the fatigue, many patients, and the fear of infection, they continued their work.[13] But no study has been done on the experience of the affected of the HCWs from this disease.

The HCWs in all countries painted a clear picture of self-sacrifice and devotion. However, many became infected with COVID-19, and some died. Therefore, their lived experiences provide opportunities to better manage the current crisis or future pandemic episodes. Therefore, this study was conducted to investigate the experiences of HCWs infected with COVID-19 who worked in teaching hospitals in Shiraz.

Methods

Design and Participant

This study was performed using qualitative and phenomenological methods. We used the four fundamental principles of Husserlian descriptive phenomenology, including bracketing, intuiting, analysis, and interpretation.[14]

In this study, the treatment staff infected with COVID-19 employed in the teaching hospitals of Shiraz University of Medical Sciences in 2021-2022 were recruited.

Setting

Participants were physicians, specialists, nurses, and health workers in Shiraz teaching hospitals. Inclusion criteria were HCWs affected by COVID-19 and willing to be interviewed by a researcher. The exclusion criterion was the unwillingness to participate (Table 1).

Data Collection

In this study, data were collected through interviews. In-depth and semi-structured interviews were the basis of the work. Initially, the participants were chosen by purposive sampling method and then snowball sampling based on the target group. Finally, participants with sufficient experience and information about the phenomenon were selected. A total of 18 individuals participated in the interview. The interview continued until data saturation.

The interview was conducted after recovery from illness and returning to work after sick leave. The second author conducted the interview. The interviewer was a physician with experience in conducting qualitative research. Interview guide questions included: Please tell us about your experience when you became seriously ill. How did you feel? What conditions did you experience? To get more details, the following questions were posed: What did you mean by that phrase? Can you explain more about that?. The average interview time was 40 minutes. The interviews were recorded through the tape recorder, but at the request of a certain number of participants, some interviews were not recorded,

Table 1: Demographic information of Participants

Participant No.	Gender	Occupation	Age	Length of working in COVID-19 ward
1	F	Nurse	38	Sicne the oncet of COVID-19
2	F	Healthcare worker	44	Sicne the oncet of COVID-19
3	M	Infectious disease specialist	47	Sicne the oncet of COVID-19
4	F	Nurse	42	Sicne the oncet of COVID-19
5	M	Internist	51	Sicne the oncet of COVID-19
6	F	Nurse	36	Sicne the oncet of COVID-19
7	F	Nurse	44	Sicne the oncet of COVID-19
8	F	Physician	49	Sicne the oncet of COVID-19
9	F	Nurse	34	Sicne the oncet of COVID-19
10	M	Physician	49	Sicne the oncet of COVID-19
11	F	Pediatrist	55	Sicne the oncet of COVID-19
12	M	Emergency medicine specialist	38	Sicne the oncet of COVID-19
13	M	Anesthesiologist	44	Sicne the oncet of COVID-19
14	F	Midwife	37	Sicne the oncet of COVID-19
15	M	Physician	47	Sicne the oncet of COVID-19
16	F	Nurse	51	Sicne the oncet of COVID-19
17	M	Surgeon	49	Sicne the oncet of COVID-19
18	F	Physician	53	Sicne the oncet of COVID-19

and field notes were taken. The interviews were then transcripted and made ready for analysis.

Data Analysis

The Colaizzi seven-step analysis method was used in this study.[15] First, the participants' descriptions were read to empathize with them. Then, the authors referred to the protocols and extracted important phrases. In the third stage, the investigators formed the meaning or concept of any important phrase, referred to as set concepts. During the fourth stage, the concepts were organized into thematic categories. Fifth, the findings were combined into a comprehensive description of the phenomenon. Then, the comprehensive description of the phenomenon under study was formulated as an explicit statement. In the last step, the results were returned to the participants, and they were asked about the findings.

Trustworthiness and Rigor

The Lincoln and Guba methods were used to determine the reliability and validity of this qualitative research.[16] Credibility, dependability, confirmability, and transferability criteria were used to evaluate the rigor of the data. To determine the credibility of the data, a specialized team collaborated. A physician interviewed with a rich qualitative research background.

In addition to the interviews, the long-term involvement with the data added to the validity of the data. Through member checking, the primary codes and subcategories were provided to some study participants, and their comments were received. In addition, the data were peer-checked by some investigators other than the research team. A faculty member was consulted to determine the dependability. For the sake of the confirmability of the findings, all activities were recorded, and a report on the research process was prepared. To determine the transferability, the researchers shared the results with two faculty members familiar with the subject, and the results were approved.

Ethical Consideration

Ethical considerations in this research included obtaining informed consent from the participants, a full explanation of the purpose of the research, obtaining permission to record the interview, inserting a code instead of the names of the interviewees, observing the principle of confidentiality and confidentiality, and maintaining the right to withdraw at any stage of the research. The Ethics committee of Shiraz University of Medical Sciences approved the study under IR.SUMS.REC.1400.127.

Results

From the total codes obtained, three themes and eight sub-themes were extracted. Three themes, including "tensions", "material and spiritual support" and "pleasant feeling" were obtained (Table 2).

Table 2: Main themes and sub-themes

Main themes	Subthemes
Tensions	Resilience
	Insufficient knowledge
	Depression
Material and spiritual support	Expressing gratitude by friends
	Public attention
	Organizational support
Pleasant feeling	Feeling proud
	Altruism

Tensions

The pandemic had an impact on mental health in the workplace. Conditions such as a high number of admissions, the lack of safety equipment, the death of patients, and the possibility of family infection were the causes of medical staff concerns. In addition, it included three sub-themes resilience, insufficient knowledge, and depression.

Resilience: It refers to the degree of tolerance and difficulties encountered by the medical staff. One of the participants stated. "Although *all medical staffs are accustomed to stressful healthcare environments, the recent high workload, high volume of patients, and high mortality rate had caused a notable drop-off in the tolerance threshold of some of them, and they cannot function like early in the pandemic."*

Insufficient knowledge: One of the challenges regarding COVID-19 was the lack of knowledge about the virus. *"Early on, we did not know what to do if we got the virus. Corona was a different virus, and we were unprepared and had incomplete information about the virus behavior. We were unaware of the short- and long-term effects and could not answer the patients' questions. Sometimes I said I don't know.*" said one participant.

Depression: One of the problems that the medical staff encountered during the pandemic was developing mental health issues. *"Despite having many years of experience working in a clinical setting and experiencing a lot of scenes and events, I did not experience so much work pressure and stress. Every day we were in touch with many sick people who were suffering, and we did not know what fate they would face. In the early days of COVID-19, many of my colleagues became infected, some were hospitalized, and some died. No one knew how long he would survive. These are some of the bitterest and most horrific events I have ever experienced.*" said another participant.

Material and Spiritual Support

The second theme of the study was material and

spiritual support. It refers to the gratitude for the medical staff services and the courage and sacrifices to save lives which included three sub-themes of public attention, gratitude by friends, and organizational support.

Public attention: During Covid-19, a general understanding of the valuable role of the medical staff was formed in society. For example, one of the participants said: "*When people in the streets realized that I am a medical staff, they were more respectful and cursed. Sometimes ordinary people offer gifts or cash to the medical staff.*"

Another participant asserted: *"I am an active person in social networks. Reading the comments and tracking health-related trends in these networks about the efforts of the medical staff made me and my colleagues more empowered*," said one participant.

Expressing gratitude by friends: Friends and relatives played an important role in the enthusiasm to work and overcoming the psychological challenge. One of the participants said, "*I used to receive thanks and gratitude notes from my friends via social networks, SMS, and phone calls, which made me* feel inner peace and satisfaction. *Knowing that my friends are paying attention to me and they care about my concerns and feelings calmed me down*."

Organizational Support

Owning the material and spiritual tools, the organization is deemed a good support source for human resources. One participant said, "*Our center should have done much better than this to meet the needs of the medical staff. For example, it should have paid salaries faster. It should have reduced shifts and provide facilities to compensate at least part of the efforts of the medical staff, but it did not."*

Pleasant Feeling

The third theme is a pleasant feeling which denotes the sense of satisfaction created when the goals are achieved. It included two sub-themes feeling proud and altruism.

Feeling Proud

Feeling proud of oneself is one of the best emotions anyone can experience. During COVID-19, medical staffs were a source of goodness. In an increasingly complex and stressful environment, they worked tirelessly to care for patients. "*I gave my life for this job. When I attend different wards, calm the patients down, and see that they are satisfied with me, it makes me feel good, which I do not exchange for anything."* said one participant.

Altruism: Altruism is when we act to promote someone else's comfort and welfare. Amid the Coronavirus pandemic and due to the dangers medical staff encountered, many healthcare workers lost their lives while preserving other people's lives . One participant said, "*When the coronavirus had just started, I do remember that when some people realized that we are COVID-19 practitioners, they used to walk away from us and say, "we are afraid to get the virus from you .... how dare you to work in these wards", and I used to say that my colleagues and I attend the wards every day since we love to help others even though covid-related death is approaching us."*

Discussion

The findings of this study broadened our understanding of the status of medical staff with COVID-19 disease. Medical personnel in all countries, despite the complexity and unexpectedness of the disease, made great sacrifices, and despite knowing that they were in danger of death, they took care of the patients with all their might. Furthermore, this study explained the experiences of medical staff working in COVID-19 wards, which resulted in three themes: "tensions", "material and spiritual support", and "pleasant feeling".

One of the sub-themes was resilience. Resilience is an important issue in the medical staff's working life. Although their work deals with difficult conditions and diseases, the COVID-19 pandemic caused fear and anxiety due to the unknown disease, limited information, high volume of the patient, and the loss of a large number of medical staff and people. However, despite the resilience of the medical staff, their health status and how to continue working in the conditions created huge concerns.[17] In addition, unexpected changes related to the disease affected the resilience of the treatment staff.[18] Job stress was associated with high burnout among intensive care nurses due to multiple workplace events; however, social support, self-efficacy, and a sense of well-being contributed to resilience.[19]

One of the sub-themes was insufficient knowledge about COVID-19 disease. In the interview with the participants, their insufficient knowledge about the virus in the early stages of the pandemic and the fear of family infection resulted in their anxiety. Fouogue et al. (2020) conducted a study entitled "Poor knowledge of COVID-19 and unfavorable perception of the response to the pandemic by HCWs at the Bafoussam Regional Hospital". This study which was conducted through a questionnaire showed that healthcare workers had good knowledge of COVID-19 in terms of clinical symptoms and biological diagnosis. However, they did not have the necessary information about therapeutics, the management of corpses, and how the disease was transmitted.[20] Furthermore, during the outbreak of SARS, poor knowledge of infection prevention and control was associated with increased levels of emotional distress and fear of infection in

nurses.[13] Therefore, improving the knowledge and performance of physicians and nurses through health education sessions helps protect physicians, nurses, and their families against COVID-19 infection. Also, the transfer of experiences through colleagues eliminates the stress and the problem caused by the lack of knowledge. This result is supported by previous epidemiological research, which found that a lack of clear guidance and support, inadequate communication, and inadequate equipment resources to do the job properly were associated with a higher degree of discomfort among treatment staff.[21]

Another sub-theme created in the present research was depression. Additional pressures such as lack of facilities and equipment, the epidemic nature of the disease, death of colleagues, high volume of patient visits, and fatigue alarm for depression and burnout. Finally, Huang addressed the issue of medical staff's mental health problems. Although they are prepared to accept the difficult conditions in their careers, they are unsure how long this resilience continue in the current uncertain conditions and when this coronavirus pandemic will end. Previous research on epidemics for HCWs showed that unpredictable and rapid changes could also negatively affect those who were previously strong in resilience.[22] However, COVID-19 disease, in turn, increased the vulnerability of medical staff to a variety of poor psychological consequences, such as anxiety disorders, depression, insomnia, and posttraumatic stress disorder.[23] Hiremath believes that uncertainty and low self-esteem can lead to mental health problems.[24] Therefore, it is necessary to provide counseling services and programs to support mental health.[12, 25]

One of the sub-themes was expressing gratitude to friends. Participants in this study stated that in COVID-19 situations where face-to-face communication is rare, the use of virtual tools to interact with each other, such as telephone calls and social networks, is effective in reducing disease-related pressures and boosting mental well-being, which is consistent with the study of Connors et al.[26] In a study by Okediran et al., participants cited support from family, friends, and coworkers as a way to manage their stress.[27] Effective social support is needed in public health-threatening crises.[28]

One of the themes was public attention. Participants said that people appreciated the efforts of medical staff and expressed their love by attending hospital entry points, providing free services, giving gifts, providing free food, or liking and trending the HCWs efforts and sacrifices through social media. Social media played an important role in the COVID-19 era. A high proportion of information exchange was done this way.[29] These actions encouraged the medical staff to do their best to take care of the people, which is inconsistent with the studies of Hou et al.[30] One of the themes in McGlinchey et al.'s study of COVID-19 was community spirit, which expressed a sense of kindness and community support for the treatment staff.[17]

Another sub-theme concluded in our research was organizational support. When a critical situation arises, the organization should provide material and moral support for the employees. Participants considered benefits such as timely payment of salaries, providing counseling center services, providing extended leave, and appreciation of their efforts as the minimum duties of the organization. Studies show that the authorities' commitment increases safe working environments for treatment staff and patients. It is also clear that infection management will be difficult without the support of management teams.[25, 31] In his study, Ilesanmi et al. extracted the theme of management support.[32] A similar Ethiopian study also showed that managerial support positively affects treatment staff.[33]

A degree of support to the treatment staff will motivate them to work and do their job well. Undoubtedly, the lack of support from the organization's officials will lead to apathy, burnout, and professional error. Liu's study showed that physical or mental exhaustion and lack of motivation could lead to medical errors. This study showed that although financial incentives alone can not be effective in motivating individuals, but can have some benefits.[13]

One of the themes was feeling proud. The medical staffs were proud to be able to help their communities in difficult situations. They compared their activities in the COVID wards to the homeland defense missions. In her research, Jenna reported two themes "Proud to be a nurse" and "restorative self-care among nurses.[34] In the study of Okediran, the treatment staff felt like heroes.[27] However, other studies have reported both negative and positive emotions.[35, 36] Palacios-Ceña et al. conducted research in Spain on the emotions and feelings of Physical Therapists. Their study's participants reported positive experiences such as conscientiousness and self-sacrifice for patients.[37]

Another sub-theme raised by our research was "altruism", implying that each time they tend to COVID-19 patients, they put their lives and families at risk to help others. Wang et al. called the medical staff's devotion to provide services during the COVID-19 period altruistic.[38] However, altruism and belief in helping others led them to continue their activities with love. Lai and Neto stated that nurses preferred the patients' comfort to themselves and their families; they considered this care a form of worship.[39-41]

Strengths and Limitations

This study provided a better understanding of our HCWs

in clinical settings during COVID Pandemic. This study was the first to refer to the HCWs infected in Iran. This study provides insights for decision-makers to respond to the needs of HCWs. This study has some limitations. Due to the critical situation, most interviews were conducted by telephone. It was also impossible to call again for trustworthiness purposes, so the interviewers were justified in being careful during the interview. As a result, it was more difficult to build rapport with participants.

Conclusion

This study examined the experiences of medical treatment staff working on the COVID-19 frontlines. In this study, we investigated their condition in the face of the disease. The results showed that despite their professional resilience, they were vulnerable to the corona crisis and prone to mental illness. The support received from friends, family, people, and organization is very effective in their spirits. These protections increase motivation and reduce work errors. It is also necessary to pay attention to their mental health through counseling and training.

Conflict of interest: None declared.

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