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The experience of Saudi respiratory therapists dealing with COVID-19 patients: A qualitative study

Ziyad F. Al Nufaiei^{1,2}, Reem H. Alluhibi^{1,2}, Sama N. Almohaigeh^{1,2}, Raghad M. Alzahrani^{1,2}, Wed O. Baaqeel^{1,2}, Raid M. Al Zhranei^{1,2}, Ali S. Al-Shareef^{1,2,3}, Genevieve P. Zipp⁴

¹Respiratory Therapy Department, College of Applied Medical Sciences-Jeddah, King Saud Bin Abdulaziz University for Health Sciences, Jeddah, Saudi Arabia, ²Research Office, King Abdullah International Medical Research Center, Jeddah, Saudi Arabia, ³Ministry of the National Guard - Health Affairs, Jeddah, Saudi Arabia, ⁴Department of Interprofessional Health Sciences and Health Administration, Director, Center for Interprofessional Education in Health Sciences, GEM Fellow, Praxis Program of the Advanced Seminar on Mission, Center for Vocation and Servant, Leadership and The Center for Catholic Studies, Bernard J. Lonergan Institute 123 Metro Boulevard/Room 0432/ Nutley, NJ 07110, USA

Address for correspondence:

Dr. Ziyad F. Al Nufaiei, Respiratory Therapy Department, College of Applied Medical Sciences-Jeddah, King Saud Bin Abdulaziz University for Health Sciences, Research Office, King Abdullah International Medical Research Center, Mail Code 6610, P.O.Box. 9515, Jeddah, 21423, Saudi Arabia. E-mail: zalnufaie@gmail.com

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Abstract:

BACKGROUND: Healthcare professionals have fought hard to restrain the COVID-19 pandemic by providing high-quality care for their infected patients, but in doing so they have developed fears of becoming sick and feelings of isolation and loneliness. The lived experience of respiratory therapists (RTs) in Saudi Arabia who works with these infected patients needs further investigation. The study sought to describe the experiences and coping strategies of Saudi RT managing patients with COVID-19.

MATERIALS AND METHODS: The study utilized qualitative research methods, specifically employing a phenomenological research design. A total of 25 Saudi RT (RTs) who were in direct contact with COVID-19 patients were selected after they agreed to participate in this study. The study followed a one-on-one semi-structured interview process using the Zoom platform. This qualitative data collection technique focuses on the participants' lived experiences and feelings to discover shared patterns. The data were analyzed via an inductive approach.

RESULTS: Six themes were found in the RT perceptions including stress while treating COVID patients, managing the fear of catching of Covid 19, feelings towards COVID-19 patients, challenges faced by female RTs, workplace experiences, and excessive workload.

CONCLUSIONS: RTs feelings dramatically changed throughout the COVID-19 pandemic. All the RTs have developed a self-copying style that has helped them improve their psychosocial behavior to face the pandemic. During the outbreak, frontline RTs' positive and negative emotions intertwined and coexisted. Negative emotions predominated in the beginning, while good feelings emerged gradually. Self-coping methods and psychosocial development were significant factors in RTs mental health while caring for COVID-19 patients.

Keywords:

COVID-19 pandemic, psychosocial behavior, qualitative study, respiratory therapists, severe acute respiratory syndrome, workplace, world health organization

Introduction

Worldwide, healthcare professionals have been faced with managing the health needs of individuals who have contracted the novel infectious disease known as Coronavirus (COVID-19) since late 2019. The infection may be transmitted via aerosols, which are the primary source of the infection through close person-to-person

contact and contact with a contaminated surface.^[1] This disease can be fatal for specific groups of people such as elders and patients with underlying diseases. There is no cure for this rapid and often deadly disease. Thus, its spread and lethality have triggered urgent and unprecedented public health measures and policy implementations to manage the pandemic in many countries including Saudi Arabia. While public health measures and policies seek to manage the

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pandemics' rise and reach healthcare professionals must work to save the lives of those individuals who contract the disease and prevent others from spreading the disease.^[1]

Based on previous literature exploring the effects of epidemics, such as the severe acute respiratory syndrome (SARS) in 2003 and H1N1 influenza in 2009, patients and the general public were negatively psychosocially impacted by the epidemic, resulting in depression, anxiety, panic, and psychosomatic symptoms.^[2,3] However, the general population is not the only one at risk for psychosocial distress during a pandemic. Literature exploring SARS and H1N1 epidemics underlines that the psychosocial strain placed on healthcare professionals, who found themselves at the frontline attempting to quell and manage the outbreak, was significant.^[2,3] During the SARS and H1N1 outbreak, healthcare professionals reported feelings of extreme vulnerability, uncertainty, and threats to their quality of life, alongside somatic and cognitive symptoms of anxiety and psychosocial distress.^[2,3]

Healthcare professionals such as RT who come in daily close contact with infectious disease patients such as Ebola virus disease (EVD), Middle East Respiratory Syndrome Coronavirus (MERS-Cov), and swine flu (H1N1) have experienced physical and mental health problems.^[4-7] Surprisingly, healthcare professionals with no history of direct contact with managing these types of patients found that handling larger numbers of patients in general as a buy product of short staffing and secondary surges in health issues, greatly affected their mental health and overall psychosocial wellbeing.^[4,5,8] Stress arises from different issues such as failure to meet the demands of patients, the fear of acquiring the disease, the fear of losing life, and increased fatigue due to long hours of work, among many other issues.^[8] Kisely indicates that there have been several cases of stress among healthcare patients who dealt with past infectious diseases such as the SARS and MERS-CoV outbreaks.^[9] Research indicates that most of this psychosocial stress was related to fear of infections, high levels of uncertainty, limited support from employers, and exhaustion at work due to understaffing.^[10]

Not surprisingly, the population again facing another largescale infectious threat with the COVID-19 pandemic is under increased psychosocial pressure. Globally, during the COVID-19 outbreak, healthcare professionals are confronting numerous unique challenges with COVID -19 ranging from lack of equipment, staff, and space to effectively triaging, managing, and isolating patients, in addition to the inability to deal with uncooperative patients

or critically ill patients which might be considered work specific issues.^[11] Additionally, given the nature of spreading COVID-19 specific personal issues including fear of contracting COVID-19, and transmitting it to others have been noted.^[4] In a study reporting on a finding from a tertiary infectious disease hospital for COVID-19 in China, frontline medical staff revealed high incidences of anxiety and stress with nurses presenting a higher incidence of anxiety when compared to physicians.^[10] Therefore, healthcare professionals dealing with COVID-19 are again under increased psychosocial pressure and are experiencing high rates of psychiatric morbidity, resembling the situation during the SARS and H1N1 epidemics.^[2,12] Flying and COVID-19 both trigger the same emotional responses in humans because they are unpredictable, unexpected, and potentially fatal. It makes sense that many of us are worried and are allowing our fear response to influence some of our choices. The risks associated with COVID-19 are real; it is not a hypothetical threat. However, acting in a fight-or-flight response may result in choices that worsen the situation rather than make it safer.^[13,14]

Recent studies have confirmed that health workers at the COVID-19 frontline have a greater risk of mental health issues ranging from anxiety, stress, depression, and insomnia.^[12,15] To effectively and efficiently manage the COVID-19 pandemic, healthcare systems must maintain "staff mental health as it is essential to better controlling infectious diseases" such as COVID-19.^[8,9,12,15,16,17] Healthcare professionals such as RT's psychosocial well-being is impacted by their psychosocial environment. Our psychosocial environment is the interaction of the various sources of stress in our lives and how we respond to them.^[18-20] RT's psychosocial environment includes their responses to stressors in their work lives including dealing with the management of patients with COVID-19. Interestingly, relationships with family members, friends, colleagues, and patients can impact one's capacity to deal with stressors. Nurturing, supportive relationships allow us to better access all our innate resources to respond to stress in positive ways.^[12,15,18-20]

Therefore, given the absence of evidence addressing the specific lived experience of respiratory therapists (RTs) in Saudi Arabia who works with patients battling the symptoms of COVID -19 a deeper dive into their perspectives regarding their psychosocial experience will be helpful to support the healthcare system in meeting their needs. Thus, this study used a phenomenological qualitative research approach to describe the psychosocial experiences of Saudi RTs managing patients with COVID-19.

Materials and Methods

Study design and setting

The study employed qualitative research, specifically, a phenomenological research design, to describe the experiences of Saudi RTs managing patients with COVID-19. This design focused on the participants' lived experiences, feelings, and thoughts specific to their knowledge of stress, coping strategies for stress, perceptions of stress, social life experiences, and workplace environment when dealing with this unprecedented pandemic. A qualitative approach is used to explore a problem that cannot be easily measured, thereby enabling the researcher to describe and explore the topic of interest rather than testing a hypothesis and making predictions about what will be found in the research.^[21]

Study participant and sampling

The Principal Investigator (PI) used purposeful sampling to better select a specific group (Saudi RTs) to address the research problem. The inclusion criteria included RTs who (a) provided health care for COVID-19 patients, (b) were able to communicate in English, and (c) were Saudi citizens. 25 Saudi RTs who worked with COVID-19 patients met the study inclusion criteria and were interviewed. Sample saturation was met with the 25 interviews as the researcher obtained an adequate number of responses for the research questions with no new codes or themes emerging.^[21,22]

Institutional Review Board (IRB)

The IRB committee of King Saud bin Abdulaziz University for Health Sciences approved this study (SP20/419/J).

Procedures

Following IRB approval, the PI forwarded via email the study letter of solicitation to directors of respiratory care departments in Saudi Arabia medical centers asking that they forward an email blast of the study letter of solicitation which contained a link to the study pre-screening survey which specifically asked questions regarding inclusion status. Those meeting the inclusion criteria were instructed to email the PI their potential interest. Upon receiving the email note of interest, the PI emailed the study consent to potential participants asking them to read, sign and return it via email. Upon receipt of the signed consent form, the PI scheduled the one-on-one interview.

The PI conducted all semi-structured one-on-one online interviews using the Zoom platform. All interviews were audio-recorded using the Zoom record function and later transcribed verbatim by the PI. ZOOM integrates security features such as end-to-end transcription,

password-protected meeting rooms, and secure, local storage of recorded interviews. To maintain confidentiality, the PI assigned a randomly generated participant study code (RT#) linked to the participant's identity on a master key. Participants study codes were used throughout the recorded interview, data analysis, and dissemination of results. Before the start of the interview, the PI obtained verbal permission to record the participant and again explained the purpose of the study. The time duration for each interview ranged from 30 to 60 minutes. Participants could withdraw from participating in the interview at any time without providing a reason.

Interview questions

The PI created the interview questions based on reviewing relevant literature in this area of study. Once interview questions were constructed the PI employed three experts in the field of respiratory care to evaluate the questions using a Delphi Method with two rounds needed to reach 80% agreement for face and content validity for each question posed.^[23] Table 1 provides the interview guide questions and the probing questions used as needed.

Data collection

Trustworthiness

It is crucial to establish validation and trustworthiness for the qualitative study. The researcher established trust by introducing the criteria of credibility, transferability, dependability, and confirmability.^[21,24] First, credibility is established through the PI conducting peer debriefing on the research process. Second, the PI is responsible for creating a thick description to judge the transferability of the findings. Finally, dependability and confirmability are established via auditing of the research process.

Table 1: Interview Questions

| Constructs | Interview Guide Questions |
|-------------------------|---|
| Knowledge | What do you think impacts you when managing patients with COVID-19? Probing question: Describe your thoughts about stress specific to handling covid-19 patients? |
| Coping Strategies | What are your coping strategies in dealing with COVID-19? Probing: please describe them further |
| Perceptions | What is your perceptions regarding working with patients with COVID -19? Probing question: has it changed over time? |
| Social life experiences | Has your life changed as a result of COVID -19? Please describe your response. 4.1. Probing question: would you like to share anything more specific to your family life and COVID-19 impact? |
| Workplace Environment | Has your supervisor/boss helped you through this pandemic? Please elaborate on your response. |

In this study, participant follow-up was necessary and conducted via a process known as “member checking,” which was vital to ensure trustworthiness and research validation. The PI followed up with participants and provided a variety of choices for transcript review. Participants could choose to receive hard copies of transcripts, electronic copies, or audio copies or have someone read the transcripts to them. Asking participants to member-check or review and correct their interview transcripts was intended to limit the effects of temporary participant biases that may have occurred during the initial data collection and improve the study’s trustworthiness and validation. The researchers sent the transcription of interviews to the interviewee or respective participant through email, who then responded with his consent on the correctness of the transcripts. After the completion of our findings section, we shared our findings with the participants to take their feedback on their validity.^[21,24]

Assumptions

The PI discloses that these assumptions prevailed during the conduction of this study:

- The participants provided honest and reliable responses during the interview.
- The research design was appropriate for this study.
- The researcher presumed that participants understood the interview questions.
- The researcher was able to reduce bias during interview data interpretation.

Data analysis

The PI transcribed and analyzed each interview within 48 h of each interview. At the first stage of the analysis, the PI organized the data to facilitate the analysis process. The PI was responsible for reading the entire transcript several times. This maneuver helped the PI to immerse in the details of the interview. Sutton and Austin have highlighted that the most crucial analytic process is reading the transcript carefully and intensely.^[25]

The second step was to formulate codes, categories, and themes (thematic analysis). According to Saldana, open-ended survey responses can be analyzed via coding in a qualitative inquiry.^[26] The PI analyzed the qualitative data via an inductive approach, in which the PI interpreted the raw data into codes, categories, and themes.^[26] Raw data, which is the open-ended survey responses from statements were analyzed. The PI then organized the raw data by transferring the participants’ responses into an Excel worksheet with column one labeled as the participant number. The PI then manually read and coded the data generating only emergent codes. Emergent codes were conducted via in-vivo coding by putting a participant’s words

indirect quotations and descriptive coding, which is defined as labeling data to summarize in a word or short phrase.^[26] Following coding, the PI processed the codes by categorization, which is a process of coding the data by bracketing chunks.^[21] Ultimately themes were generated from the categories. Finally, the PI interpreted the data based on the description of the phenomenon integrated from the themes. Intercoder agreement on all codes, categories, and themes was established with an experienced qualitative researcher. Specifically, once all transcripts were coded and categories determined the PI emailed the entire code book to the qualitative researcher expert for independent review. After the initial review, the PI and intercoder meet via Zoom to discuss all codes and categories. If the agreement was not reached, then the code and or category was not moved forward. Once the final categories were determined the two researchers developed themes (thematic analysis collaboratively).^[21,24]

Ethical considerations

At the time of recruitment, the study objectives were explained to the participants, and confidentiality was guaranteed. Further, no names were used to ensure the confidentiality of the participants. The consent form was provided for the respondents to sign. The PI has stated that participants may wish to withdraw from the study at any time. In addition, the participants have been informed that the study was purely for academic purposes and would potentially benefit the scholar community.

Results

Eleven male and fourteen female RTs voluntarily participated in this study. Participants’ ages ranged between 21 and 35. The average age of the male participants was 24, and the average age of the female participants was 26. All participants possessed a bachelor’s degree in respiratory care. Participants’ work experience ranged from one year to five years. All participants worked at either? public or? and private hospitals. Since the beginning of the pandemic, three participants tested COVID-19 positive [Table 2].

The study was designed to help understand the experience of respiratory care professionals dealing with COVID-19 patients based on the responses, perceptions, or opinions obtained from different Saudi RTs. Six themes emerged from this study.

Theme 1: Stress while treating COVID patients.

Serving both sick and uninfected emergency patients, many RTs have stayed on duty in coronavirus wards, isolation facilities, and emergency departments. Fears

Table 2: Demographic Profile

| Participants Demographics | Frequency |
|---------------------------|-----------|
| No of Male RTs | 11 |
| No of Female RTs | 14 |
| Total | 25 |
| Average Male Age | 24 |
| Average Female Age | 26 |
| Work Experience | |
| 0-1 Year | 3 |
| 2 Years | 3 |
| 3 Years | 6 |
| 4 Years | 11 |
| 5 Years | 2 |

about exposing their family and children to illnesses when they go home from work are also linked to higher levels of anxiety. According to a recent study, physicians' opinions of the state's and employers' poor protection during the coronavirus outbreak are related to their concerns (10). The contagiousness of the infection worried every study participant, not just themselves but also others around them. The virus's aggressive behavior, which resulted in the unexpected deaths of even very young healthcare professionals, gave them the impression that they were in the middle of a crisis and would not be able to handle it. Due to the possibility that caring for COVID-19 patients could have made them viral carriers, the majority of married participants were particularly worried about their kids and parents. For RTs who were parents, this circumstance was significant because they had to go home every day to find their kids waiting for them. Post-duty quarantine was another worry for several of the study participants ($N = 7$). This is demonstrated in the following statement:

"Working in intensive care units with COVID-19 patients was more akin to working in a morgue. Death is palpable everywhere. You manage to work during duty hours, but it's challenging to put your broken parts back together when you're by yourself. You lack a support system and a shoulder to cry on". (RT8)

The isolation and sense of helplessness made quarantine more difficult than the actual obligation. While others complained about the absence of emotional and social support for female RTs, some responders said they were having trouble getting help to get them the requirements (such as food and supplies) during post-duty quarantine. One of them continued,

"The main issue I had while isolating myself in an apartment was a lack of support. Nobody would come and bring me supplies or groceries if I needed them, so I had to go out and get them myself. I've always been concerned that I might be a source of the virus spreading". (RT20)

When performing their COVID-19 obligations, those whose spouses were not in the medical field withdrew from them both physically and emotionally. The respondents claimed that their spouses believed they put their careers ahead of the welfare and security of their own families. Because they were worried about being held responsible for spreading the disease to their in-laws' houses, some respondents who did not have children decided to stay away from home while doing their COVID-19 duties. Those who shared a profession with their partner reported stronger emotional support. However, while receiving leaves for isolation, they were unable to manage post-duty quarantine since they were always residing with their families, dealing with extra home obligations, and receiving little support from their families. The situation is elaborated by RT5 by the following statement:

"Because my husband and I are both RTs and cannot leave our children with a third party, I had to stay with them while he isolated himself after work". (RT5)

Added by another respondent:

"Even harder were the free days for post-duty quarantine. First of all, you have to stay with your children since no one else is willing to care for them. Second, for the family's safety, we let all the maids and helpers go, so I had to take on all the home duties that had previously been handled by maids". (RT9)

Theme 2: Managing the fear of catching of Covid 19.

The unique nature of COVID-19 caused a significant deal of confusion and a heightened sense of terror among RTs as the first instances were discovered. Their biggest worry was the fear of the unknown. RT7 stated that:

"We simply had no idea what we were doing, who we were dealing with, or what to expect". (RT7)

So, it was really scary. The emotional toll that this dread caused left RTs feeling unprepared. While some RTS feared for their lives, they nevertheless went to work. RT12 said that

"I didn't sign up for this work to die. I didn't because I'm not a hero. I'm not, like, a soldier heading out to battle. Like, I didn't sign up for that". (RT12)

Extreme worry was voiced by every RT about catching COVID-19 and infecting their loved ones. RT stated,

"I needed to understand how I could be the safest at work, not carry it home to my family." (RT4)

Unfortunately, many RTs chose to physically isolate themselves from family members at home, choose to

separate from family members, or choose to leave their house entirely owing to worries about unknown viral transmission. RTs who lived with people who had weakened immune systems shared this opinion. RT14 reported that

"Her kid, age 2, had a history of respiratory problems. So, when my apartment became a COVID unit, I rented an Airbnb and left the place. Consequently, I haven't yet seen my daughter in seven weeks and four days" (RT14)

Theme 3: Feelings towards COVID-19 patients.

Due to the virus's regularly unexpected responses and the treatment guidelines' deviations from standard practice, treating COVID-19 patients made all RTs feel despondent. RT18 stated:

"We were instructed not to ventilate or do CPR on patients in the intensive care unit. I found that to be pretty frustrating since I constantly felt as though the patient was being treated unfairly". (RT18)

RT10 stated that:

"I once performed a successful resuscitation on a young child in the intensive care unit. I was very delighted, but instead of praising me, my coworkers reacted negatively, questioning why I would risk my safety for this patient and suggesting that I was setting a dangerous precedent". (RT10)

RT22 further clarified:

"I had no idea how this infection would affect anyone, despite my experience. Being a capable RTs, it was extremely upsetting to see a patient's FiO₂ [Fraction of Inspired Oxygen] improve just for him to disappear in the next instant." (RT22)

Some patients' conditions proceed so quickly that make some of RTs staff feel disappointed which leads them to feel guilty that the patient was mistreated by the medical staff. This is illustrated by the next sentence.

"If a patient was receiving your care for the previous 12 h and was improving throughout your shift, and two hours after the shift change you find out that he passed away, you get a bad sense that he was mistreated. If you had stayed longer, perhaps you could have made a difference. In actuality, nothing would have changed, but you keep blaming yourself and other people". (RT17)

However, those who were working when the patient passed away feared being abused by the patient's family. So it is traumatic in both scenarios. Some RTs asserted that top consultants' negligence was to blame for the poor survival rate of patients in the intensive care unit. One participant stated:

"We were not authorized to make decisions for patients; we were only meant to follow orders given during rounds. We had to notify seniors who were on call in case of an emergency, but by the time the senior arrived, the patient had already passed away". (RT1)

Theme 4: Challenges faced by female RTs.

Nearly all of the female study participants had significant difficulties. Due to lockdowns and the lack of either public or private transportation, the majority experienced significant transit difficulties. Because most of the women didn't own cars or know how to drive, they had to ask their husbands to drop them off at work every day, which led to more family fights. All of the participants who had kids had significant difficulties juggling their COVID-19 responsibilities with their family responsibilities. They were afraid that they might spread the virus to their family members. Additionally, the issues connected to work-family balance during their COVID-19 responsibilities rose as a result of homeschooling and online classes for kids without any assistance. One RT gave the following explanation of her worries:

"Since I had no one to watch for my infant child, who is just eight months old, it was impossible for me to remain away from him". (RT11)

Another RT asserted:

"No one in my family was prepared to take care of my three children. I had to accompany them hence". (RT23)

Another RT brought out the difficulty of family members contracting the disease when he said,

"My complete family was COVID-19 positive owing to my recurrent duties with COVID-19 patients and living with them without being quarantined." (RT6)

The majority of participants who were married claimed that their partner would not shoulder family responsibilities alone. However, it was especially difficult for single staff members living in the hostels because they had to vacate the buildings if they tested positive for COVID-19 or during their post-duty quarantine period. Participants in the study noted that whereas male RTs could remain in hotels or private facilities for quarantine, female RTs could not do so since it is socially and culturally undesirable for women to stay alone in a hotel or other unfamiliar setting.

Theme 5: Workplace experiences.

The majority of participants were concerned about the condition of isolation wards and thought it was a big barrier to handling COVID-19 patients.

"I can't remain still for too long. The floor is uneven, the windows are broken, and there are no hygienic measures in place. How do I handle the patient's situation?" (RT3)

The participants said that these isolation wards lacked the required resources, putting the lives of patients and RTs in danger:

"We don't have a communal area where we could change into safety gear or clean ourselves before or after duty." (RT22)

The study also discovered that some isolation facilities were established inside hospitals by modifying the regular wards for COVID-19 patients. All participants found themselves under intense pressure to perform in contaminated and risky working settings while going through these situations and found themselves in mental discomfort. However, the participants who worked in the private sector were dissatisfied with the amenities, including the wards' infrastructure, because they were unable to treat some of the patients:

"We only have 40 beds in isolation wards and a small number of ICU beds for COVID-19 patients." (RT4)

Only a small percentage of patients can afford and utilize the premium services that the private sector offers, according to the participants. The participants also highlighted serious concerns regarding the outrageous daily fees for COVID-19 patients. They claimed that only the wealthy could use that service.

The study also discovered the attitudes of the supervisors toward their employees. The majority of participants found their supervisors are cooperative, serve their needs, and relieve the pressure on them:

"They provided us with good advice and work hard to provide us with proper equipment". (RT2)

In fact, the problem they all faced during this pandemic is a lack of education. This pandemic was the first of a kind that spread all over the world. The lack of knowledge of staff and their supervisors were obviously remarked:

"We do not get enough education to face such a pandemic. I think this is an essential task for all the supervisors to do to prepare their staff. Unfortunately, they lack knowledge either". (RT5)

Theme 6: Excessive Workload.

The participants demonstrated that they are worn out as a result of the intense workload in intensive care units (ICU) and isolation wards. Contrary to the typical wards, several uncertainties extend their stay and obligations:

"I am fatigued when I return from my job and have no idea how many days or nights have gone by". (RT12)

The participants acknowledged that some individuals experience sudden, severe illness and need additional mental and psychosocial support. All of these cause stress and additional work for RTs, who are charged with keeping the ward in a pleasant and healthy environment:

"COVID-19 patients live in isolation and have not seen their relatives in a very long time. We are the sole and primary point of contact as a result. Regardless of our mental state, we frequently use our time to help people relax in stressful situations". (RT5)

Staff members have obligations that go beyond just the increased workload brought on by pandemics; they also have to deal with concerns about infection for themselves and their families, deal with modern PPE that is constantly changing, take care of patients who are critically ill, and take good care of coworkers who are already ill.

Discussion

The purpose of this study was to describe the experiences of Saudi RTs managing patients with COVID-19. The results highlight six key themes of the RT's working experience during a pandemic: stress while treating COVID patients, managing the fear of catching of Covid 19, feelings towards COVID-19 patients, challenges faced by female RTs, workplace experiences, and excessive workload. Overall, these findings are consistent with recent qualitative studies that claim frontline healthcare workers especially RTs have experienced anxiety about contracting the virus themselves, the possibility of spreading the virus to their loved ones, and concerns about the novelty and acuity of the virus. The studies have also reported having obsessive thoughts and feeling frustrated by the public's ignorance of the situation.^[20,27,28]

Likewise, data from this study was alignment with other research findings that connect healthcare providers' experiences with concerns related to mental health and well-being.^[29,30] The study participants were confronted with different psychosocial challenges such as stress and fear associated with dealing with COVID patients, leaving their families, worrying about family safety, and exhaustion. The concerns of RTs regarding family members in this study were similar to those of Kang *et al.*^[15] especially those RTs with elderly family members. The findings revealed that RTs' negative emotions usually arose in their first days at the workplace. As RTs spent more time on the job, reports of exhaustion and stress indicated burnout. Similarly, previous research on nurses in China also

demonstrated changes in psychological characteristics developing over time. According to the findings of the study conducted, intense labor physically and mentally taxed these professionals.^[31] These findings showed that there were excessive work demands accompanied by a lack of work resources and losing control of the work environment. Additionally, it was noticed that failing to effectively treat patients and the perception that care was inadequate in this situation may have an adverse effect on healthcare professionals.^[29-32]

A drop in productivity, team morale, and patient quality of care and an increase in medical errors and turnover rates have all been linked to front-line personnel's stress. Since stress is linked to greater rates of substance addiction, depression, PTSD, and suicide; healthcare personnel experience a major emotional toll as well. RTs working during the pandemic have been concerned for their personal health as well as the health of their families in addition to the health and well-being of their patients.^[15,19,33] To aid the RTs to overcome difficulties including burnout, stress, and anxiety, a number of solutions have been recommended.^[7,8,19] These interventions can take place at different levels including a) organization such as improving staffing levels, education, and infrastructure b) team such as team building skills, communication training, and increased engagement from leadership and management and c) individual such as identifying the need for and availability of support, mental health wellness days and follow up. The psychosocial interventions promote the emotional release and thereby improve their psychosocial well-being. Early medical or health-based support systems, such as sufficient supplies of protective equipment, reasonable human resource distribution, pre-job training, and interpersonal contact or interactions, are also crucial in helping RTs adjust to a challenging pandemic environment.^[7,8,12,34] Proactive care for healthcare professionals is key.

All the study participants had cared for confirmed COVID-19-positive patients which put them at risk of contracting the virus. The proper use of the right PPE is essential to maintaining the personal safety of healthcare professionals caring for COVID-19 patients. The risk of viral infection from improper PPE wearing and donning is highlighted by the significance of appropriate education, training, and personal fit-testing of PPE.^[2,3,20] A total of 12% of the study participants had contracted the virus which is concerning that can lead to fear and stress of protecting their loved ones. This was reflected in our findings as the largest difficulty faced by Saudi RTs was family anxiety. Further obstacles brought on by the hospital administration increased stress levels, in contrast to other research where the hospital

administration was found to be beneficial, particularly for female caregivers.^[2,3]

According to the findings of our study, female RTs who had contact with COVID-19 patients but were unable to be quarantined because of social and familial obligations experienced extreme frustration, worry about spreading the disease, and conflicts between their obligations to their families and their careers. Compassion fatigue is a different psychosocial issue that RTs have encountered recently. Compassion fatigue is the emotional state and stress reaction displayed by a person who experienced a terrible incident, heard about one, or was indirectly exposed to one at work. Compassion fatigue can develop among RTs working with COVID-19 because of a lack of resources, regularly seeing patients suffer or die, and experiencing feelings of uncertainty, despair, and anxiety.^[15,16,35] Additionally, when patients pass away, being depicted in the media as superheroes increase pressure on the medical staff, which could lead to compassion fatigue.^[7,35]

Study limitations

This study was not free of limitations. First, it relied on the honesty and accuracy of participants' responses and lived experiences. The PI was not able to verify that participants provided honest and accurate data. Second, at the time of the interviews, the PI was unaware of external factors that could affect or influence participants' responses. Finally, regarding the generalizability of the sampling, the characteristics of qualitative studies meant that the sample size is relatively small, although it was appropriate for the study design, and saturation was reached. Therefore, the sampling was not randomized, which means it may not fully represent the entire population.

Conclusion

The study's findings provide insight into the RT's experience during the COVID-19 pandemic. Although RTs in different parts of the country could have used different strategies to get ready for the pandemic, every RT faced the same difficulties, feelings, concerns, and victories. RTs are heavily involved in the treatment of COVID-19-positive patients. While challenges with communication and increased workload were not specific to this profession, the respiratory aspect of this virus and the massive reach of the RRT profession within the healthcare sector uniquely positions these professionals to be impacted by many of these issues in a very significant way. The study will also be helpful to management, senior leadership, and administration looking to understand the problems RTs encounter and propose solutions to address such issues in the future, equipped for the subsequent crises.

Abbreviation

| | |
|----------|--|
| RT | Respiratory therapists |
| COVID-19 | Coronavirus disease |
| SARS | Severe Acute Respiratory Syndrome |
| MERS-Cov | Middle East Respiratory Syndrome Coronavirus |
| H1N1 | Swine flu |
| EVD | Ebola virus disease |
| PI | Principal Investigator. |

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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