

Narratives on the frontline: A qualitative investigation of the lived experiences of healthcare workers during the COVID-19 pandemic in South Africa

Angela Denyimi Nyembue Kazadi¹, Jennifer Watermeyer² & Sahba Besharati^{1,3}

¹Department of Psychology, School of Human and Community Development, University of the Witwatersrand, South Africa.

²Health Communication Research Unit, School of Human and Community Development, University of the Witwatersrand, South Africa.

³CIFAR Azrieli Global Scholars program, CIFAR, Toronto, Canada.

Corresponding authors:

Sahba Besharati, sahba.besharati@wits.ac.za

Jennifer Watermeyer, jennifer.watermeyer@wits.ac.za

Department of Psychology

University of the Witwatersrand (Wits)

1 Jan Smuts Avenue

Johannesburg 2000

Abstract

Background: During the COVID-19 pandemic, a mental health pandemic emerged. Frontline healthcare workers (HCWs) are arguably most affected, particularly in low-to-middle-income countries like South Africa. Understanding their experiences is needed to inform interventions for social and psychological support both now and for future pandemics.

Aim: This study explored the lived experiences of frontline HCWs in South Africa during the COVID-19 pandemic using a lifeworld phenomenological framework.

Methods: Semi-structured interviews were conducted and analysed using principles of reflexive thematic analysis.

Setting: Our sample included 11 frontline HCWs from various professions and health sectors who worked with COVID-19 patients in South Africa.

Results: HCWs' lived experiences during the epidemic in South Africa were diverse and marked by contradictions. Work during COVID-19 was an emotional rollercoaster that was both mentally and emotionally exhausting, and the epidemic substantially impacted daily life. Limited psychological support and resources aggravated experiences. However, a positive narrative of hope and gratitude also resonated with participants.

Conclusion: This study provides significant insights into the lived experiences of a diverse group of frontline South African HCWs during COVID-19. Qualitative methodologies provided depth and unique insights into the diverse realities of frontline HCWs.

Contribution: This is one of the few studies in low-to-middle-income countries and the first in South Africa to use in-depth qualitative interviews to understand the lived experience of frontline HCWs. It demonstrates a shift in the definition of a 'frontline' HCW and highlights the need for greater psychological support and individualised public health interventions.

Keywords: COVID-19, healthcare worker, mental health, qualitative, low-to-middle income country, lived-experience South Africa

Introduction

In the wake of the COVID-19 pandemic, a mental health pandemic has emerged (Miller 2020). The physical health, social and occupational repercussions of COVID-19 have compromised the mental health of persons of all ages with no history or vulnerability to mental health conditions (Semo & Frissa 2020). In low-to-middle income countries (LMICs) like South Africa that already face a high burden of disease (e.g. stroke, HIV-AIDS, tuberculosis) and psychosocial adversities (e.g. high unemployment, remnants of political history, violent crime; Atwoli et al. 2013), this dual threat of the COVID-19 and mental health pandemic calls for urgent attention.

Although this increased risk for mental health is of concern for the general population, there is a heightened vulnerability for specific groups such as frontline healthcare workers (HCWs; Cabarkapa et al. 2020). There is a growing body of research showing that HCWs working on the frontline (i.e. those providing service directly to COVID-19 patients) are disproportionately at risk for negative mental health outcomes.

Using mostly online, quantitative survey methodologies, globally, studies have found increased psychological distress (e.g. depression and anxiety) and consequent physical outcomes (e.g. burnout and insomnia), as well as symptoms of post-traumatic stress disorder, in countries such as China (Huang et al. 2020), France (Fournier et al. 2022), Saudi Arabia (Sultan et al. 2022) and Ireland (Ali et al. 2020) amongst general and frontline HCWs. To complement these robust findings, a handful of qualitative studies in the international literature have provided meaningful accounts of the lived experiences of HCWs in the pandemic environment. For example, using a sample of frontline HCWs in the United Kingdom, Newman, Jevé and Majumder (2022) explored negative psychological and physical health outcomes due to an increase in transmission, mortality rates, physical exhaustion, social isolation from friends and families, as well as hospital inefficiencies. Similar results have been found using in-depth qualitative interviews with British nursing and medical students working on the frontlines, but also identifying positive experiences and meaningful outcomes in the pandemic working environment (Griffin & Riley 2022).

However, despite the surge of attention on mental health outcomes of general and frontline HCWs internationally, far less is known about the psychological effect of the pandemic on HCWs in LMICs and especially in the African region. In one of the few cross-sectional survey studies focusing on LMICs, including South Africa, Kenya, Uganda, Tanzania and Zimbabwe, Htay and colleagues (2021) reported positive coping mechanisms, such as family support and positive thinking, as a method to counteract increased psychological and physical strain. A recent systematic review of the psychological impact of COVID-19 on HCWs in Africa demonstrated a similar pattern of increased mental health disease, with coping strategies of religion and social support used to buffer the negative psychological impact of the pandemic (Mudenda et al. 2022). However, of the 18 studies included in this review, only two studies used qualitative interview methods to explore the experiences of psychological strain of HCWs in Ghana and Uganda.

In South Africa specifically, similar online, survey-based methods have been used to show the same pattern of heightened mental health adversity in pandemic conditions (Naidoo et al. 2020; Curran et al. 2021; Dawood, Tomita & Ramlall 2022). In one of the few qualitative studies conducted across South Africa, Watermeyer, Madonsela and Beukes (under review) extracted qualitative accounts of general HCW from an online survey conducted across three pandemic waves in the country. Here, they identified three overarching themes relating to stress, workplace adjustment and support needed in response to increased psychological burden across different waves of the pandemic. However, of the research conducted in South Africa, neither qualitative nor quantitative studies have specifically focused on the mental health experiences of *frontline* HCWs, who are arguably more at risk for negative mental health outcomes (see Rees et al. 2020 and Chersich et al. 2020). Furthermore, to our knowledge, no study to date has used in-depth qualitative interviews to explore the lived experience of frontline HCWs in South Africa. Understanding the lived experiences of frontline HCWs during the COVID-19 pandemic is a necessary step for designing effective interventions for social and psychological support in healthcare settings during COVID-19 and for future pandemics. Taken together, our study therefore aimed to understand the lived experience of frontline HCWs actively working during the COVID-19 pandemic in South Africa using in-depth qualitative interview methods.

Methods

Research Design and Ethical Considerations

This study used a qualitative, exploratory research approach and semi-structured qualitative interviews. A lifeworld phenomenological approach guided the proposed research, as the interviews captured the participants' lived experiences (Creswell et al. 2007). This study formed part of a larger study entitled *Mental Health of South African Healthcare Workers During the COVID-19 Pandemic* (reported in Watermeyer et al. under review). The research team included two registered health professionals (JW and SB) and a research psychologist intern (AK).

An application for full ethical approval was made to the University of the Witwatersrand's Human Research Ethics Committee (Medical) and ethics consent was received on 16/04/2020. The ethics approval number is M200461. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Participants were provided with an information sheet detailing the study and signed, informed consent was obtained. Participants were assured of confidentiality and anonymity of the data.

Participants

A total of 650 frontline HCWs across South Africa completed an online survey in 2020 as part of the larger study, seven of whom agreed to participate in follow-up interviews for this current study. To increase the sample size, four additional frontline HCWs were recruited using convenience and snowball sampling. Therefore, a total of 11 frontline HCWs participated in this study using the following inclusion criteria: frontline HCWs' who worked in private or public hospitals, and frontline HCWs who reported working directly with COVID-19 patients. A more inclusive definition of frontline HCWs was used in this study. Frontline workers are typically defined as nurses and doctors in the literature. However, in the context of the pandemic, 'frontline' was taken to mean any HCW working directly with COVID-19-positive patients in a hospital setting. The exclusion criteria were less than 1 year of work experience before the pandemic, and participants unable to interview in English.

Table 1 represents the participants' demographics. Their average age was 39 years (SD = 10.6), ranging from 26 to 54 years. Of the 11 participants, nine were females, with an average of 13 years (SD = 9.8) of work experience (range: 2 – 28 years). Most of the participants (64%) reportedly worked in the private sector, with one frontline HCW working in both the private

and public sectors. The vocations of the HCW participants varied and did not fit the traditional definition of frontline HCW as described in the literature. As explained above, the definition of frontline HCW was adjusted in this study to include a range of healthcare professionals who worked directly with COVID-19-positive patients. An equal number ($n = 2$) of psychiatrists, physiotherapists, and general medical practitioners participated, with one participant from each of the following healthcare fields: dentistry, midwifery, speech therapy, occupational therapy, and audiology.

[Please insert Table 1 here]

Procedure and measures

Data were collected between August to November 2021, around the time of the third wave of the COVID-19 pandemic in South Africa. A demographic questionnaire was used to document needed socio-demographic information, such as age, occupation, self-identified gender, years as a HCW and relationship status. A semi-structured interview schedule was used (see Appendix 1), adapted from studies by Rubin et al. (2016) and McCormack and Bamforth (2016) that explored health experiences during the Ebola pandemic. Consequently, sixteen questions were developed that guided the interview process with participant responses prompting additional open-ended questions. Interviews were conducted in English and online using a virtual communication platform that was preferable to the participant (e.g. Zoom or Microsoft Teams). Interviews were recorded and transcribed by the first author.

Data analysis

The audio-recorded narrative interviews were first orthographically transcribed using Otter (Otter.ai) and checked by the first author. We used the principles of reflexive thematic analysis by Braun et al. (2019). The first author independently analysed the data to identify underlying themes, and then labelled and grouped data elements into relevant categories. Multiple themes were identified, which the researcher amended and integrated depending on the data, resulting in a total of four main themes. Furthermore, the codes were grouped into overarching themes. The researcher then identified and matched the key quotes from the participants to the themes, focusing on those that best addressed the research topic.

Trustworthiness

Trustworthiness was achieved in this study in several ways, guided by four stringent dimensions: credibility, dependability, confirmability, and transferability (Forero et al. 2018).

The credibility of this study was ensured by accurately assessing and documenting the participant interviews, which was done by reporting each participant's truth. Furthermore, dependability was accomplished by providing a detailed description of the study methodologies. Conducting a step-by-step replication of the study to find similarities in outcomes while maintaining a reflexive notebook to preserve a record of one's thoughts, reflections, and decision-making as one makes sense of data. Confirmability, on the other hand, was achieved through a rigorous review procedure in which the audit trail is established in such a way that the information acquired supports the study's conclusions and interpretations. Transferability was then ensured to enable the replication of methods in other similar studies. The Standards for Reporting Qualitative Research (SRQR) checklist was followed.

Results

Major themes identified in the data

The primary themes identified in the data set reflecting participants' experiences during the COVID-19 pandemic included: (1) Working during COVID-19 is an emotional rollercoaster; (2) Working during COVID-19 is physically and mentally exhausting; (3) Negative attitudes towards the Department of Health; and (4) COVID-19's significant impact on daily life. These themes and sub-themes are discussed below and summarised in Figure 1.

[please insert figure 1 here]

Theme 1: Working during COVID-19 is an emotional rollercoaster

In this theme, frontline HCWs expressed their thoughts and feelings about their work experience during the COVID-19 pandemic compared to before the pandemic, noting a vast difference accompanied by a broad spectrum of feelings and obstacles.

Attitudes towards work fluctuated

Overall, most participants provided detailed reports of their experiences with work during the pandemic. Their work experiences included both challenges (e.g. frustrations with misinformation, and anxiety) and positive experiences, such as feeling recognised and respected. Several participants explained that they perceived their work environment as important during the pandemic, mainly because they were at the forefront. They were deemed essential for fighting the pandemic, which gave them a sense of honour:

"I felt a sense of duty, like a sense of, this is my time because I cannot refuse to see COVID patients. I had to step up, and even though it was risky working at a hospital... I felt

like we were on the frontline for a reason, and we had to help these people, so I felt I had a significant role to play [...]." [P2]

Several participants expressed that they still felt a sense of reward despite the difficulties and challenges associated with their work, particularly during the third wave since they were accustomed to the new protocols and ways of doing work:

"[...] it is rewarding. It is not as stressful anymore; currently, I am enjoying it. I still enjoy the kind of COVID patients I work with, like work is good, I feel like I have a handle on everything, like all the protocols are under my belt [...]." [P2]

Other HCWs expressed that their work has always been rewarding regardless of the pandemic. Some participants showed dissatisfaction with their roles during COVID-19 due to workplace policies and changes. As explained by an occupational therapist concerning a therapy program with which she was involved pre-pandemic:

"Work is upsetting because we have to get rid of the program I am passionate about. So now, the waiting list for that program is very long, and the need for that program is high. So, I feel very upset about the people in this service as they are not seen as a priority." [P5]

Some participants expressed mixed feelings about their work, explaining that it was rewarding when patients recovered, but disheartening when the general population, particularly younger people, did not take the virus seriously:

"I am not so sure; it ranges. Rewarding when working with patients who have been personally affected by COVID and death, and you know they truly appreciate what you do for them. It is unrewarding because people in the younger generation still think it is a joke, no matter how you try to explain the opposite to them." [P3]

Experiences within the workplace were challenging

Participants' responses reflected a shift in work experiences and the work environment during the pandemic. This shift was apparent in how participants expressed the need to adapt to a new norm, such as avoiding physical contact with patients, being cautious of their surroundings and adhering to COVID-19 protocols, and minding what they touch, what they wear while working (e.g. masks and protective clothing), as well as what they bring into the hospital. The use of personal protective equipment (PPE) also often created a barrier between the patient and the HCW:

"We were not allowed to really take much into the hospital. We had to think very carefully about the items and belongings. When in and out of hospitals, we had to think about what shoes we were wearing...about how to sanitise and clean before you enter your house again [...] it was just a whole set of protocols sanitising things and then of course when it came to treating your patients differently. [...] I am more aware and cautious of what I do, and touch and how I interact with my patients, and sometimes even my confused patients want to reach out and touch me [...]." [P2]

"We are supposed to disconnect and distance, but COVID patients yearn for connections, for intimacy. Even the PPE that we wear seems to create a barrier between us and them." [P1]

Furthermore, participants explained that it was more difficult to develop therapeutic ties with their patients due to the fear that the patient would soon die, which affected the quality of the relationship, while also causing emotional and psychological weariness. Participants also described how they often became a communication line for patients and their families and friends through facilitating video and phone conversations.

"The worry that they would die soon also made it difficult to build a therapeutic relationship [...] It is hard to form attachments with such patients and then lose it all to start all over again with the next patient who replaces them within minutes [...]. Existentially, this was hard to stomach when I was alone with my thoughts in bed. I wanted patients to get help. But indirectly and unintentionally, I also wished some patients to die [...]." [P1]

"From an outpatient perspective, it was very traumatic, especially in the second wave when there were no hospital beds. We were just trying to treat people and make it as comfortable as possible knowing these people, knowing that they are actually going to die at home, knowing that they probably will not be seen and later get a call to say they are no longer there." [P6]

Participants highlighted how unprepared they were for work during the pandemic. Some compared their work experience to what they had seen in a movie, while others attempted to compare the pandemic to HIV-AIDs and TB epidemics in South Africa:

"[...] initially, it felt like [...] working in uncharted territory because there was no understanding of the virus and how life would be with all the lockdown regulations. So, there was a lot of fear, along with the unknown that was going on in the nation. A bit scary. It was initially quite frightening. I never lived through a pandemic before, so yeah. I mean,

I have not even heard about it. You see it in the movies. You know, it is what you watch on screen, and Hollywood stuff." [P7]

Participants also spoke about the task shifting that happened during the pandemic, where they would occasionally find themselves working in a different field due to a scarcity of employees or needing to perform different tasks (e.g. an audiologist managing hospital logistics) to what they did pre-pandemic. Therefore, these working conditions actually served to reduce hierarchies between the medical professions, where doctors, physicians, nurses, specialists, and cleaners were all essential and equally significant, generating a new level of respect for each profession:

"I work as an occupational therapist, in a ward setting, a specific ward with a specific program. So, we had to accommodate. We had to scale down our usual program and accommodate many elderly people who came into our program, which was a different field for me. It was not the field that I was working in at all. So, my initial experience was like, let's just do what needs to be done, whatever comes my way, let's do it, and so there was a lot of adaptation that needed to happen. I had to invent a new program for a new set of clients, a different client population." [P5]

"[...] I think [the pandemic] brought a lot of us closer to respecting the different disciplines and what each one does as medical professionals. Even from the cleaners, I mean, you can't walk straight past them and not realise what they do. They came in and helped when we needed help with patients and things like that, everyone just did it. So, they would not just stand and look at you but do something, and yeah, the respect improved." [P6]

Work became time-consuming

Time within the workplace during the pandemic was a significant issue reported by participants. They described how treating and caring for patients took longer because of the personal protective equipment (PPE) and additional paperwork protocols:

"[...] some challenges were time management, everything took longer, and that is a loss of money like to see one COVID patient, I would have to change my clothes and PPE, wrap my cell phone in a plastic bag, and then I would have to shower, like a full-on shower before the hospitals. So, to see one patient easily took an hour and a half, and it is not billable, and you still have so many other patients to see." [P2]

Overall, time management was impacted during the COVID-19 pandemic, which made attending to patients relatively longer, resulting in healthcare professionals seeing fewer patients per day than before the pandemic, thus paradoxically increasing their workload.

Theme 2: Working during COVID-19 is physically and mentally exhausting

Across interviews, frontline HCWs articulated how the pandemic affected their psychological, physical and emotional wellbeing, while working in an already challenging environment.

Physical, psychological and emotional fatigue prevailed

Participants frequently reported experiencing tremendous weariness, discomfort from PPE, and phantom COVID-19 symptoms - i.e. not having COVID-19, but having the *feeling* of experiencing the symptoms, possibly as a result of physical and mental exhaustion:

"[...] I am sure all of us, we have had COVID a hundred times by now, because there are times we just get so sick. Then you end up testing for COVID and then it just comes back negative, but you have all the symptoms and are vaccinated, but you are just constantly feeling symptoms for COVID. Especially between the third wave in June, yeah, I felt like that for an entire month. I even lost so much weight, which takes a huge toll on your body, you are just constantly tired, and you must just show up to work because if you do not show up, no one is going to show up [...]." [P11]

Participants also related how working with so many seriously ill patients during the pandemic, who desperately needed time and input from HCWs, was exhausting:

"[...] When I worked in private for a month or so, I was fatigued. [The patients] all soaked up my time and enthusiasm to sit down with them like a sponge [...] It was meaningful for me to be present with the patients, but I was fatigued every night after hearing so many stories and realising that they wanted more of my time." [P1]

One participant expressed how emotional exhaustion stemmed from so many patients dying at a rapid rate:

"Physically, I think it is complete exhaustion. You just drained at the end of the day, your energy, it is non-existent. Usually, you do not lose that number of patients in such a short

time. Unfortunately, the hospital I worked at had a very high patient loss [...] you try to remain positive, loving, and caring but you just get drained of it very quickly." [P6]

There was a sense that the relentlessness of the pandemic drained a sense of hope and optimism. Psychologically, participants reported feeling despair, worry, and the normalisation of social isolation:

"Yeah, it kind of kills something in you that had hope. Because I think we are very hopeful people if we can work in this field. We hope that something big will come; we hope we can do better. We have hope that we can fix it; we can help. But I think COVID has taken a lot of my hope[...]" [P11]

Frontline HCWs' physical and emotional fatigue also seemed linked, in part, due to the high mortality rates during the pandemic and also to societal and patient experiences of stress, fear, loss and extreme hardship. Participants expressed feelings of alienation and a disinterest in being with friends and family even after lockdown restrictions were lifted:

"Personal life – many people passed away; it stays sad. Those who did not go through this personally will never understand its impact on me. It did change me. At home, I am more of an introvert than ever before." [P3]

Coping mechanisms became crucial

Religion and relying on social support systems became key coping mechanisms for participants during the pandemic. The importance of prayer, for example, was a recurring theme:

"Prayer, Prayer, Prayer, Prayer, and lots of prayers. You know, it is God, especially because now we do not have a church, just reconnecting in that relationship, you know, because not meeting in the [church] anymore does not mean the relationship is no longer there. " [P7]

Support offered by family, colleagues and friends was identified as another important coping mechanism. Many participants explained that having supportive family and friends helped them cope with the psychological demands of work and that discussing and expressing emotions to their family and friends had a substantial impact on their health:

"To pray together, to talk to co-workers, and to cry together. Support from management - [but] they can also only do so much, support from external companies [via] motivational messages." [P3]

Theme 3: Negative attitudes towards the Department of Health

Participants expressed overtly negative feelings towards the Department of Health, particularly related to the physical resources available to them and the Department's handling of the pandemic.

Lack of resources

Disappointment and dissatisfaction with upper management from the Department of Health resonated across participants, which impacted both their physical and mental wellbeing. Specifically, participants expressed anger, perplexity and dissatisfaction about the minimal resources provided during the pandemic, such as PPE equipment and insufficient support services. In addition, key obstacles included staffing shortages, bed shortages, and inadequate space to separate COVID-positive patients from COVID-negative patients.

PPE was not equitably distributed nor provided to those HCWs who were most often in contact with COVID-19-positive patients. There was a considerable reported difference between private and public hospitals in PPE supply and also in resources such as psychological support:

"Working in a tertiary academic hospital, we had a lot of resources. There were many guidelines, psychologists on-site, and even psychology interns that we could sit with for debriefing personally and ask for guidance on how to help our colleagues in general hospitals who were physically and emotionally fatigued." [P1]

"[...] there was not enough PPE in the public hospitals, like two masks for like a week. You have to wear those masks and they would try every now and again to give us a few more masks and stuff [...] Nobody is asking how you are doing, how are you coping or anything like that, which is preposterous, honestly. It is terrible. [...] Everyone, the seniors, they kind of expect you to continue [...] things are understaffed and, you know, people are under-supported." [P4]

Poor management of the pandemic

Participants spoke at length about how the Minister of Health and the Department of Health had handled the pandemic. They expressed their frustration and concerns about the Department of Health's corruption and mismanagement of Departmental finances, and the long-term consequences of these failures:

"[...] I probably want to express disappointment, disappointment, and not to the Department of Health, but just to the government in general. Just complete abuse and misuse

of funds because, as I mentioned, we were out here reusing masks for days, weeks on end, and we did not have PPE.” [P4]

Participants believed a lack of clear, consistent communication from the Department of Health contributed to the spread of misinformation about COVID-19 across the country:

"We need to get one set of information and work with that. It is also okay to say I do not know and change one's mind. Minister Mkhize [Minister of Health] initially said no masks, then changed. I respected that. He spoke based on what he knew. Silence creates a vacuum for conspiracies and fake news to spread like wildfire." [P1]

Participants also spoke about a disconnect between decisions made by the Department that did not align with the realities of HCWs' experiences:

"[...] the pressure that's put on healthcare workers' because everyone is sitting there, sitting in Parliament, creating all these things, but they have no concept of what is happening on the ground and [are not] involved in the decision-making process [...]" [P10]

There was also tremendous dissatisfaction and disappointment expressed by participants about aspects such as the lack of (financial) recognition and the overburdening of HCWs during the pandemic:

"We worked like dogs throughout the pandemic [...] It is honestly just so disappointing [...] I need you [the government] to hire people, I need you to provide us with PPE, I need you to do maintenance on hospitals so things do not get burnt down and we are not overburdened. I need you to give me my annual salary increase and a bloody bonus. That is what I need from you; you can keep your applause. Just do better." [P4]

Theme 4: COVID-19's significant impact on daily life

In contrast to the previous three themes, despite the increased psychological and physical strain, participants reflected frequently about the positive impact that the COVID-19 pandemic had had on their daily life and on their work life.

Gratitude

Some participants explained how the pandemic enabled them to become grateful for what they have in life and facilitated a reframing towards empathy and gratitude:

"I may have had things in my life that I thought were good, but the pandemic kind of stripped them away and showed me that I did not need all of that. Other things were good that the pandemic has taken away, like whether it is people, opportunities, and things it has been difficult, but I guess it has been helpful in reframing my perspective on many things [...] it has helped me to grow and learn how to live more empathetic and grateful, more appreciative of the things and the people that you have [...]" [P4]

Positive changes in outlook

Several participants reflected on how work during the pandemic enabled positive changes in their mental outlook on work and life in general:

"Workwise, I changed too; I am more open to seeing different ways, different people do different things. So, I feel like I am less likely to jump to conclusions because I realised that when people are stressed, like during the lockdown COVID times when people cannot deal or function as well or as professionally as usual, we are more open to cutting people some slack and understand that we all go through a tough time, and each one of us individually is going to have more patience and empathise a lot more with families that come into hospitals [...]" [P2]

The importance of self-care

Some participants emphasised the importance of engaging in self-care to counteract the negative psychological burdens during the pandemic:

"The pandemic encouraged me to really take that time off just to rest [...] I am now huge on [prioritising] self-care and my mental health. I have grown and learned a lot about mental health during this time." [P4]

Discussion

This study aimed to gain an in-depth understanding of the lived experiences of frontline HCWs in South Africa during the COVID-19 pandemic. Only a handful of studies in the international literature and none in South Africa thus far have used detailed qualitative interviews to unpack the shared and individual realities of healthcare professionals working on the frontline. Our findings align with previous international and South African studies demonstrating the enormous mental and physical strain experienced by frontline HCWs during COVID-19 (Giusti et al. 2020; Fauzi et al. 2020; Mudenda et al. 2022; Watermeyer et al. under review). Our results echoed the negative collective experiences described previously in the literature characterised

by anxiety, despair, suicidal ideation, and psychological and physical health problems (Newman et al. 2022). Some participants were impacted by rapid changes in procedures and management, with significant upheaval that influenced workplace norms and required swift adaptation. Nevertheless, the results of our study also uncovered an underlying undertone of positive outcomes of hope and gratitude that is less typically described in previous research (see Htay et al. 2021).

Uniquely, our study also showed that the experiences of frontline HCWs during the pandemic in South Africa were highly individualised and punctuated by paradoxes. Although common themes were identified in the dataset, each participant had their own unique experiences and individual realities, some of which were similar but often also different across the group of participants interviewed. Relatedly, although the findings revealed that working during the pandemic was physically and mentally tiring, participants also described several coping techniques to deal with these challenges and acknowledged the need for self-care like those found in other qualitative studies in similar LMIC contexts (Muzyamba, Makova & Mushibi 2021). However, our in-depth interviews also documented social withdrawal and isolation as coping mechanisms. These individual differences in experiences and coping strategies need to be used to inform future public health interventions that should acknowledge individual differences in psychological responses to healthcare stressors, rather than a generalised approach.

Another significant finding of this study is that the definition of a frontline HCW varied significantly from ‘traditional’ or literature-based definitions which usually include doctors or nurses (Nguyen et al. 2020). Our research revealed that the concept of a frontline HCW evolved due to task shifting during the pandemic because frontline workers were required to take on diverse roles. In this study, audiologists, speech therapists, psychiatrists, occupational therapists, physiotherapists, and dentists – not traditionally considered frontline workers – worked on the frontline with COVID-19-positive patients. These results, therefore, suggest that future health interventions for psychological support need to be extended more broadly beyond narrow definitions of frontline HCWs to include all HCWs.

Despite the significant insights gained by using in-depth qualitative methods, this study had several limitations. Firstly, the sample size is arguably small, primarily because data collection was conducted during a pandemic wave and thus frontline HCWs may not have had time to

participate. Research participation fatigue trends noted during the pandemic may have also contributed to the limited response (de Koning et al. 2021). The male-to-female ratio of study participants may have also restricted the representation of perspectives, with most participants being female. In addition, the data was not equally distributed between the private and public sectors. Given the vast differences in resources between the public and private sectors, the experiences of frontline HCWs may not be directly comparable. Furthermore, the online nature of the interviews was advantageous because it allowed for sampling across the country. However, there is little evidence still available on any difference in conducting online compared to in-person interviews (see Lobe, Morgan & Hoffman 2022).

Conclusions

This research contributes to the body of literature on mental wellbeing and the working climate of frontline health professionals during the COVID-19 pandemic. This study offers rich perspectives into the lived experience of a range of HCWs working on the frontline during the COVID-19 pandemic in South Africa. The findings have significant implications not only in this context but for similar LMICs, to help inform the development of effective social and psychological public health interventions for the current and future pandemics. Importantly, this study demonstrates how qualitative research can offer nuanced insights into individualised versus group experiences.

Acknowledgements

We would like to thank all for the participants in this study not only for their time, but for sharing their stories and deeply personal experiences. We would like to acknowledge the contribution of the participants to this study. We are grateful to the rest of the research team members involved in the broader study: Kate Cockcroft, Shona Fraser, Enid Schutte, Lindsay Cook, Tasneem Hassem, Nabeelah Bemath, Lisa Mills, Tarique Variava and Sumaya Laher. SB is a CIFAR Azrieli Global Scholar in the Brain, Mind and Consciousness Program.

Author contributions

AK contributed to conceptualisation and design of the work, data collection, data analysis and interpretation, drafting the article, critical revision of the article. JW and SB conceptualised and supervised the study and oversaw writing and revision of the article. All authors contributed to the final version of the manuscript.

Conflict of interests

The authors report no conflicts of interest.

References

1. Ali, S., Maguire, S., Marks, E., Doyle, M. & Sheehy, C., 2020, 'Psychological impact of the COVID-19 pandemic on healthcare workers at acute hospital settings in the South-East of Ireland: An observational cohort multicentre study', *BMJ Open* 10, 42930.
2. Atwoli, L., Stein, D., Williams, D., McLaughlin, K., Petukhova, M., Kessler, R. & Koenen, K., 2013, 'Trauma and posttraumatic stress disorder in South Africa: analysis from the South African Stress and Health Study', *BMC Psychiatry* 13(1), 1-12.
3. Braun, V., Clarke, V., Hayfield, N. & Terry, G., 2019, 'Thematic Analysis', in P. Liamputtong (ed.), *Handbook of research methods in health and social sciences*, pp. 843-860, Springer, London.
4. Cabarkapa, S., Nadjidai, S., Murgier, J. & Ng, C., 2020, 'The psychological impact of COVID-19 and other viral epidemics on frontline healthcare workers and ways to address it: A rapid systematic review', *Brain, Behavior, and Immunity - Health* 8, 100144.
5. Chersich, M., Gray, G., Fairlie, L., Eichbaum, Q., Mayhew, S., Allwood, B. et al., 2020, 'COVID-19 in Africa: care and protection for frontline healthcare workers', *Globalization and Health* 16(1), 1-6.
6. Creswell, J., Hanson, W., Clark Plano, V. & Morales, A., 2007, 'Qualitative research designs', *The Counseling Psychologist* 35(2), 236-264.
7. Curran, R., Bachmann, M., Van Rensburg, A.J., Murdoch, J., Awotiwon, A., Ras, C.J., et al., 2021, 'Personal and occupational experiences of COVID-19 and their effects on South African health workers' wellbeing'. *South African Medical Journal* 111(7): 607-608.
8. Dawood, B., Tomita, A. & Ramlall, S., 2022, '“Unheard,” ‘uncared for’ and ‘unsupported’: The mental health impact of Covid-19 on healthcare workers in KwaZulu-Natal Province, South Africa', *Plos One* 17(5), e0266008.
9. De Koning, R., Egiz, A., Kotecha, J., Ciuculete, A.C., Ooi, S.Z.Y., Bankole, N.D.A., et al., 2021, 'Survey fatigue during the COVID-19 pandemic: an analysis of neurosurgery survey response rates', *Frontiers in Surgery* 8, 690680

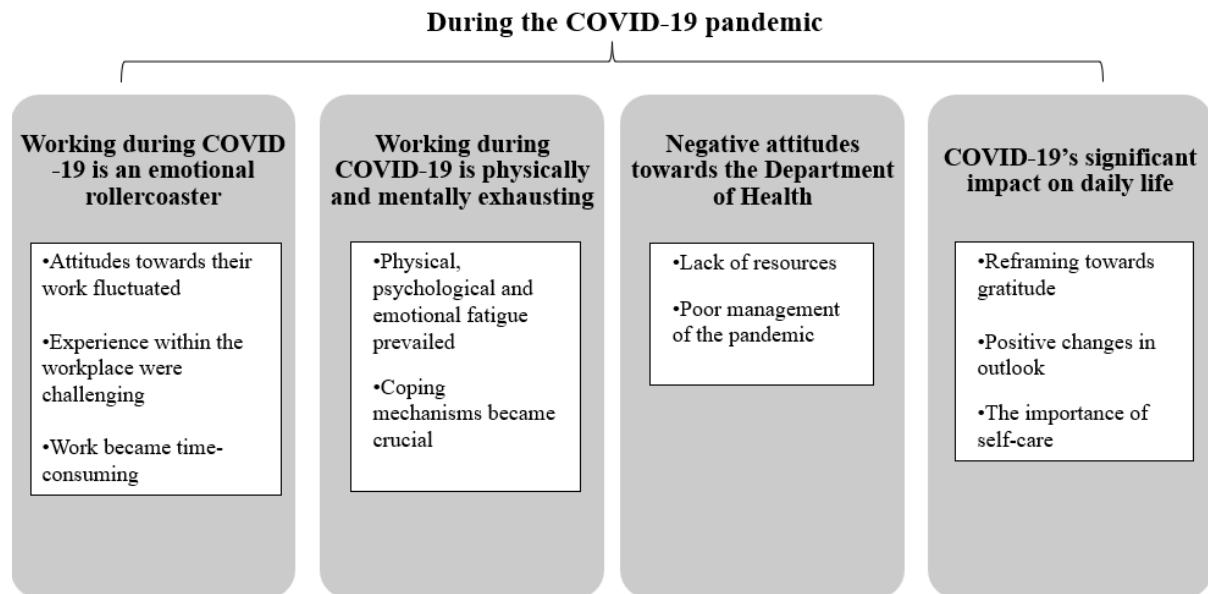
10. Fauzi, M. F. M., Yusoff, H. M., Robat, R. M., Saruan, N. A. M., Ismail, K. I. & Haris, A. F. M., 2020, 'Doctors' mental health in the midst of COVID-19 pandemic: The roles of work demands and recovery experiences', *International Journal of Environmental Research and Public Health* 17(19), 7340.
11. Forero, R., Nahidi, S., De Costa, J., Mohsin, M., Fitzgerald, G., Gibson, N., et al., 2018, 'Application of four-dimension criteria to assess rigour of qualitative research in emergency medicine', *BMC Health Services Research* 18(1), 1-11.
12. Fournier, A., Laurent, A., Lheureux, F., Ribeiro-Marthoud, M.A., Ecartot, F., Binquet, C. et al., 2022, 'Impact of the COVID-19 Pandemic on the Mental Health of Professionals in 77 Hospitals in France', *PLOS One* 17, e0263666.
13. Giusti, E. M., Pedroli, E., D'Aniello, G. E., Badiale, C. S., Pietrabissa, G., Manna, C. et al., 2020, 'The psychological impact of the COVID-19 outbreaks on health professionals: a cross-sectional study', *Frontiers in Psychology* 11, 1684.
14. Griffin, L. & Riley, R., 2022, 'Exploring the psychological impact of working during COVID-19 on medical and nursing students: a qualitative study', *BMJ Open* 12(6), e055804.
15. Htay, M. N. N., Marzo, R. R., Bahari, R., AlRifai, A., Kamberi, F., El-Abasiri, R. A. et al., 2021, 'How healthcare workers are coping with mental health challenges during COVID-19 pandemic?-A cross-sectional multi-countries study', *Clinical Epidemiology and Global Health* 11, 100759.
16. Huang, C., Wang, Y., Li, X., Ren, L., Zhao, J., Hu, Y. et al., 2020, 'Clinical features of patients infected with 2019 Novel Coronavirus in Wuhan, China', *The Lancet* 395, 497-506.
17. Lobe, B., Morgan, D. L. & Hoffman, K., 2022, 'A Systematic Comparison of In-Person and Video-Based Online Interviewing', *International Journal of Qualitative Methods* 21, 16094069221127068.
18. McCormack, L. & Bamforth, S., 2019, 'Finding authenticity in an altruistic identity: The "lived" experience of health care humanitarians deployed to the 2014 Ebola crisis', *Traumatology* 25(4), 289-296.
19. Miller, B., 2020, 'Mental illness is an epidemic within the coronavirus pandemic', *USAtoday.com*. Retrieved 14 April 2021, from <https://www.usatoday.com/story/opinion/2020/04/08/mental-health-our-epidemic-within-coronavirus-pandemic-column/2939511001/>

20. Mudenda, S., Chabalenge, B., Matafwali, S., Daka, V., Chileshe, M., Mufwambi, W. et al., 2022, 'Psychological impact of COVID-19 on healthcare workers in Africa, associated factors and coping mechanisms: A systematic review', *Advances in Infectious Diseases* 12(03), 518-532.
21. Muzyamba, C., Makova, O. & Mushibi, G. S., 2021, 'Exploring health workers' experiences of mental health challenges during care of patients with COVID-19 in Uganda: a qualitative study', *BMC Research Notes* 14(1), 1-5.
22. Naidoo, I., Mabaso, M., Moshabela, M., Sewpaul, R. & Reddy, S.P., 2020, 'South African health professionals' state of wellbeing during the emergence of COVID-19', *South African Medical Journal* 110(10), 956.
23. Newman, K. L., Jeve, Y. & Majumder, P., 2022, 'Experiences and emotional strain of NHS frontline workers during the peak of the COVID-19 pandemic', *International Journal of Social Psychiatry* 68(4), 783-790.
24. Nguyen, L. H., Drew, D. A., Graham, M. S., Joshi, A. D., Guo, C. G., Ma, W. et al., 2020, 'Risk of COVID-19 among front-line health-care workers and the general community: a prospective cohort study', *The Lancet Public Health* 5(9), e475-e483.
25. Rees, K., Dunlop, J., Patel-Abrahams, S., Struthers, H. & McIntyre, J., 2021, 'Primary healthcare workers at risk during COVID-19: An analysis of infections in HIV service providers in five districts of South Africa', *South African Medical Journal* 111(4), 309.
26. Rubin, G. J., Harper, S., Williams, P. D., Öström, S., Bredbere, S., Amlôt, R. & Greenberg, N., 2016, 'How to support staff deploying overseas humanitarian work: a qualitative analysis of responder views about the 2014/15 West African Ebola outbreak', *European Journal of Psychotraumatology* 7(1), 30933.
27. Semo, B.W. & Frissa, S.M., 2020, 'The mental health impact of the COVID-19 pandemic: implications for sub-Saharan Africa', *Psychology Research and Behavior Management* 2020, 713-720.
28. Sultan, S., Bashar, A., Nomani, I., Tabassum, A., Iqbal, M.S., Fallata, E.O. et al., 2022, 'Impact of COVID-19 Pandemic on psychological health of a sample of the health care workers in the western region of Kingdom of Saudi Arabia', *Middle East Current Psychiatry* 29, 5.
29. Watermeyer, J., Madonsela, S Beukes, J., (under review, 'The lived experiences of South African healthcare workers during the COVID-19 pandemic', *Health SA Gesondheid*.

Table 1: Participant demographics

Code	Age	Gender	Occupation	Years of work experience	Type of sector
P1	49	Male	Psychiatrist	20	Private
P2	40	Female	Speech Therapist	8	Private
P3	54	Male	Psychiatrist	25	Private and Public
P4	28	Female	Community service Medical Doctor	3	Public
P5	51	Female	Occupational Therapist	28	Private
P6	49	Female	Physiotherapist	25	Private
P7	32	Female	Dentist	7	Private
P8	26	Female	Medical Doctor	2	Public
P9	41	Female	Physiotherapist	19	Private
P10	31	Female	Audiologist	5	Private
P11	27	Female	Midwife	2	Public

Figure 1. Summary of the identified major themes



Supplementary Materials:

Interview schedule

1. Could you talk about your experience of working during the COVID pandemic in South Africa?
2. Could you talk about your experience of caring for COVID patients?
3. Was there anything in your work experience that prepared you for working during the COVID outbreak?
4. Could you talk about how you have made sense of your experience of working as a healthcare worker during the COVID pandemic - both positive and negative?
5. Could you reflect on the psychological impact of witnessing patients with COVID?
6. Have you noticed that your health has been affected at all?
7. What were some of the challenges you experienced while working during this pandemic?
8. In terms of the resources or planning or infrastructure that you had available, do you think there was anything that made life especially difficult or easier for you?
9. What coping mechanisms and support systems did you find helpful?
10. What was not helpful?
11. Did you feel that your co-workers were looking out for you/checking how you were coping? Did you do similarly for them?
12. Having reached the end of this pandemic, if you could tell the Minister of Health one thing, what would it be?
13. Could you talk about whether you feel this experience has changed you as a person?
14. What kind of long-term impact has your COVID experience had on your work and personal life?
15. How do you feel now about your work after the COVID pandemic? Rewarding? Unrewarding? Upsetting? Rewarding?
16. Is there anything else you would like to share—positive or negative?