

An exploration of the experiences of South African healthcare workers practicing in the COVID-19 context

Rayne Redinger

217062308

Supervisors:

Dr Shanya Reuben

Dr Kerry Frizelle

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Declaration

I, Rayne Redinger (217062308), hereby declare that the dissertation for the Master of Social Science (Clinical Psychology) degree at the University of KwaZulu Natal is my own work and that it has not previously been submitted for assessment or completion of any postgraduate qualification to another university or for another qualification. All referenced materials contained herein have been duly acknowledged.

Signature: 

Date:

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Abstract

The coronavirus disease rapidly spread worldwide placing enormous pressure on healthcare systems and healthcare workers. As the COVID-19 pandemic has progressed, research concerning the impact of the COVID-19 pandemic on healthcare workers has rapidly expanded. However, the majority of these studies have been quantitative. Moreover, few studies that have been conducted within the South African context. The current study sought to address these gaps in the literature by qualitatively exploring the experiences of South African frontline healthcare workers during the COVID-19 pandemic. This study focused on the various intrapersonal and contextual factors that have contributed to the unique experiences and well-being of healthcare workers within the South African context. Semi-structured email facilitated qualitative interviews (EFQI) were used to explore the experiences of one general practitioner, two specialist physicians, and one nurse, who have directly cared for and treated patients with COVID-19, in KwaZulu-Natal, South Africa. Interview transcripts were analysed using theory-driven thematic analysis, with an ecological framework providing a lens through which to view the data. The findings indicate that practising during the COVID-19 pandemic impacted on the well-being of healthcare workers. Although healthcare workers experienced significant distress, they appear to have utilised various coping strategies to manage these negative emotions. Healthcare workers also report positive experiences during the COVID-19 pandemic, such as receiving social support and a strengthening in their relationships. Furthermore, the results of the study show that the experiences of participants were mediated by multiple factors at the various ecological levels. This study provides an in-depth understanding of the experiences of South African healthcare workers practicing during the COVID-19 pandemic. These findings contribute to the limited literature on this topic available in South Africa, and may be used to assist in the development of future crisis intervention and public policy in South Africa to protect the mental health of healthcare workers.

Keywords: healthcare workers, COVID-19, mental health, ecological framework

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Chapter 1: Introduction

1.1 Background of the study

The coronavirus disease (COVID-19) rapidly spread worldwide and has had a drastic impact on all of our lives. In December 2019, the first cases of a novel coronavirus outbreak of pneumonia were reported in Wuhan, China (Wang et al., 2020a). Since these first reported cases in China, 223 countries have confirmed cases and the global number of cases is reported to be 349 641 119, as of 25th January 2022 (WHO, 2022). As the number of COVID-19 cases has continued to escalate, healthcare systems worldwide have become extremely overwhelmed, which has led to enormous psychological pressure on healthcare workers caring for infected patients (Shen et al., 2020).

Previous studies have shown that during biological disasters healthcare workers are at risk of developing various mental health problems (Bai et al., 2004; Maunder, 2004). During the SARS epidemic, healthcare workers reported experiencing stress, anxiety, and depression symptoms (Bai et al., 2004; Maunder, 2004; Chung et al., 2005). In the midst of the current COVID-19 pandemic, there are concerns that healthcare workers may experience similar challenges and psychological reactions which may impact on their mental health and overall well-being.

Owing to the preexisting challenges within the South African healthcare system, South African healthcare workers represent a vulnerable population (Naidoo et al., 2020). The South African healthcare system is characterised by an unequal distribution of resources, inadequate human resources, shortages of resources in medicine and equipment, poor leadership and management, and an increased disease burden (Maphumulo & Bhengu, 2019; Naidoo et al., 2020). Furthermore, pre-pandemic, burnout, anxiety, and depressive symptoms were shown to be

highly prevalent in South African healthcare workers (Naidoo et al., 2020). Thus, the COVID-19 outbreak is expected to place a considerable additional burden on an already strained healthcare system and health force.

1.2 Significance of the study

Initially, much of the literature concerning the mental health of healthcare workers had taken the form of informal commentary or observatory reports (for example: Xiang et al., 2020; Kang et al., 2020; Shigemura et al., 2020). Furthermore, the formally published studies have largely focused on quantitatively analysing the mental health impact of COVID-19 on healthcare workers, with fewer qualitative studies existing. This indicates a need for more in-depth studies that actively engage with healthcare workers and their particular experiences. Moreover, there are limited studies that have been conducted within the South African context. In order to address these gaps in the literature, the current study aims to qualitatively explore the experiences of frontline healthcare workers caring for patients with COVID-19 within the South African context. The research findings are anticipated to provide an in-depth understanding of the experiences and overall well-being of healthcare workers. This insight may be used to inform future crisis interventions and public policy in South Africa to ensure that healthcare workers are adequately prepared, and their mental health protected.

1.3 Research aim

The aim of this research is to explore the experiences of healthcare workers caring for patients with COVID-19 by simultaneously exploring intrapersonal and contextual factors, and the dynamic interplay between these factors, that may contribute to the unique experiences and well-being of healthcare workers within the South African context.

1.4 Research questions

The study sought to engage with and provide answers to the following questions:

1. How have South African healthcare workers experienced practising in the context of COVID-19?
2. What are the range of factors that have influenced the experiences of healthcare workers caring for COVID-19 patients within the South African context?
    2.1. What are the range of factors at the individual level that have influenced the experiences of healthcare workers?
    2.2. What are the range of factors at the interpersonal level that have influenced the experiences of healthcare workers?
    2.3. What factors at the organisational level have influenced the experiences of healthcare workers?
    2.4. What factors at the societal level have influenced the experiences of healthcare workers?

1.5 Conclusion

This chapter described the background and significance of the study. The chapter also outlined the research aim, research objectives and research questions. The next chapter presents a review of the literature relevant to the research topic.

Chapter 2: Literature Review

2.1 Introduction

This chapter examines the relevant literature on the impact of the COVID-19 pandemic on healthcare workers. The first section reviews the initial informal commentaries and observations that were made. Secondly, a review of the formally published studies examining the mental health status of healthcare workers, the risk factors associated with mental health outcomes, and the subjective experiences of healthcare workers. The last section entails a discussion on the theoretical framework that underpins the study, namely the ecological model.

2.2 Informal observations, commentaries and editorials

Initially, the only literature available on the mental health impacts of COVID-19 on healthcare workers was based on informal observations and commentaries.

It was evident that the outbreak of COVID-19 was placing enormous pressure on healthcare workers (Kang et al., 2020; Chen et al., 2020; Chirico et al., 2020; Rana et al., 2020; Wu et al., 2020; Shen et al., 2020; Sim, 2020). Reports explained that healthcare workers were facing a high risk of infection, overwork, exhaustion, isolation (Kang et al., 2020; Wu et al., 2020; Xiang et al., 2020; Shen et al., 2020; Rana et al., 2020; Chirico et al., 2020; Ingravallo, 2020). Concerns regarding inadequate protection, a lack of training, a lack of proven therapies or vaccine, and potential resource shortages were further amplifying the fear and stress experienced by healthcare workers during the early stages of the COVID-19 outbreak (Kang et al., 2020; Rana et al., 2020; Wu et al., 2020a; Chirico et al., 2020).

Greenberg et al. (2020) and Chirico et al. (2020) also expressed concern that healthcare workers treating patients with COVID-19 may experience moral injury. Moral injury can be defined as the psychological distress that is caused from the actions, or lack thereof, which violate an individual's moral values (Litz et al., 2009). Moral injury may elicit feelings of shame, guilt or disgust which may contribute towards the development of mental health problems such as depression, posttraumatic stress disorder and even suicidal ideation (Williamson et al., 2018; Chirico et al., 2020). Healthcare workers were facing extremely difficult decisions, such as how to allocate limited resources to all patients and how to balance their own physical and mental health needs with those of the patients, making them vulnerable to experiencing moral injury (Chirico et al., 2020; Greenberg et al., 2020).

The severe conditions and enormous pressure faced by healthcare workers places them at high risk of developing various mental health problems (Kang et al., 2020; Wu et al., 2020a; Xiang et al., 2020; Cullen et al., 2020; Sim, 2020; Chirico et al., 2020; Rana et al., 2020). Reports repeatedly stressed the need to protect the mental health of healthcare workers and implement the necessary interventions to ensure that medical workers are performing at their best and that they do not sustain long lasting negative effects on their overall well-being (Kang et al., 2020; Wu et al., 2020a; Shigemura et al., 2020; Xiang et al., 2020; Chirico et al., 2020; Greenberg et al., 2020).

As the COVID-19 outbreak progressed, more formal research concerned with the mental health of healthcare workers was conducted.

2.3 The mental health status of healthcare workers

2.3.1 Comparative studies: general population and healthcare workers

Studies conducted in China (Zhang et al., 2020a; Zhou et al., 2020a; Wang et al., 2021; Yi et al., 2021), Japan (Kotera et al., 2021; Sasaki et al., 2020; Sasaki et al., 2021), Iran (Zakeri et al., 2021), Poland (Maciaszek et al., 2020), Turkey (Hacimusalar et al., 2020), Spain (Rodriguez-Rey et al., 2020), Italy (Rossi et al., 2020), and the United States of America (Pearman et al., 2020) have reported a higher prevalence of symptoms of anxiety, depression, somatisation, posttraumatic stress, and insomnia in medical professionals compared to nonmedical professionals and the general population. Healthcare workers may be experiencing poorer mental health as a result of their working conditions and the many challenges they face on a daily basis (Hacimusalar et al., 2020; Zhou et al., 2020a; Zhang et al., 2020a; Maciaszek et al., 2020; Sakib et al., 2021; Yi et al., 2021). These challenges include: initially insufficient understanding of COVID-19, the lack of prevention and control procedures, long working hours, a heavy workload, physical and mental exhaustion, witnessing a high number of deaths among patients and colleagues, high risk of infection, and protective equipment shortages (Pearman et al., 2020; Rossi et al., 2020; Zhang et al., 2020a; Zhou et al., 2020a; Zakeri et al., 2021).

Contrary to the above findings, Rossi et al. (2020), Wang et al. (2020a), Sakib et al. (2021) report no significant difference in the prevalence of depression and anxiety symptoms between medical professionals and the general populations in Italy, China, and Bangladesh, respectively. Wang et al. (2020a) state that this could be attributed to the policies that have been implemented to address mental health problems in healthcare workers in Wuhan, such as psychological intervention, assistance from other provinces, additional salaries, and a shift system that allows staff adequate time to rest. Sakib et al. (2021) explain that the lack of social interaction and feelings of isolation during quarantine and lockdown experienced by the general public in Bangladesh may result in a high level of depressive symptoms, matching that of healthcare workers.

Skoda et al. (2020) and Hummel et al. (2021), surprisingly found that nonmedical professionals had significantly higher scores for depression and anxiety than medical professionals. Skoda et al. (2020) further found that high levels of subjective levels of information regarding COVID-19 correlated negatively with high levels of anxiety symptoms. Medical professionals had significantly higher levels of subjective levels of information regarding COVID-19 than nonmedical professionals, which may explain the higher anxiety scores found in nonmedical professionals (Skoda et al., 2020). Similarly, Hummel et al. (2021) provide the explanation that the medical background of medical professionals could possibly help them better understand and process COVID-19 related information, resulting in less stress and anxiety compared to nonmedical professionals.

2.3.2 Prevalence of mental health problems among healthcare workers

Healthcare workers are experiencing poor mental health and an increased prevalence of psychopathological symptoms (Alnazly et al., 2021; Asnakew et al., 2021; Ayalew et al., 2021; Chatzittofis et al., 2021; Dagne et al., 2021; Dong et al., 2021; Erquicia et al., 2020; Feingold et al., 2021; Feng et al., 2021; Fu et al., 2021a; Gilleen et al., 2021; Greenberg et al., 2021; Huang et al., 2020; Huo et al., 2021; Jemal et al., 2021; Karasu et al., 2021; Khajuria et al., 2021; Lamb et al., 2021; Lasalvia et al., 2021; Li et al., 2021; Naldi et al., 2021; Pappa et al., 2021; Peng et al., 2021; Perera et al., 2021; Repon et al., 2021; Sakib et al., 2021; Sasaki et al., 2021; Shah et al., 2021; Smallwood et al., 2021; Tiete et al., 2021; Wanigasooriya et al., 2021; Wang et al., 2020c; Wu et al., 2020b; Xiao et al., 2020a; Yao et al., 2020; Yitayih et al., 2021; Zhou et al., 2020; Zhu et al., 2020b). Studies have reported the prevalence of anxiety symptoms to range from 7.9% to 78%, the prevalence of depression to range from 5.3% to 81%, the prevalence of insomnia from 9.92% to 73.7%, distress between 3.8% and 76.4%, and

posttraumatic stress symptoms between 14.6% and 53.8%. The variation in the reported prevalence rates may be related to the impact of the pandemic in each country or region, the stage of the pandemic when the study was conducted, contextual factors, different assessment tools, as well as the study sample (Ayalew et al., 2021; Braquehais et al., 2020; Dong et al., 2021; Feng et al., 2021; Fu et al., 2021b; Liu et al., 2020; Mehra et al., 2020; Perera et al., 2021; Sahin et al., 2020; Song et al., 2020; Zhou et al., 2020; Li et al., 2021; Yue et al., 2021).

Despite the many challenges and difficulties, healthcare workers have also shown strength and resilience, and found meaning in their experiences (Liu et al., 2020b; McGlinchey et al., 2021; Sun et al., 2020). Sun et al. (2020) and Ardebili et al. (2021) found that healthcare workers described growth and development over time. Liu et al. (2020b) found that their participants expressed feelings of pride in their work and their ability to overcome difficulties. Furthermore, healthcare workers expressed a newfound appreciation for their health and families (Liu et al., 2020b; Sun et al., 2020). Sun et al. (2020) state that psychological growth played an important role in maintaining the mental health of healthcare workers.

2.3.3 Frontline healthcare workers

The COVID-19 pandemic appears to be placing particular pressure on healthcare workers serving on the frontlines. Studies have shown that frontline healthcare workers are experiencing poorer mental health outcomes when compared to those who have not directly treated and cared for patients with COVID-19 (Alnazly et al., 2021; Alsairafi et al., 2021; Antonijevic et al., 2020; Asnakew et al., 2021; Di Mattei et al., 2021; Di Tella et al. 2020; Dong et al., 2021; Elbay et al., 2020; Erquicia et al., 2020; Gilleen et al., 2021; Grover et al., 2021; Guo et al. 2021; Lai et al., 2020; Lasalvia et al., 2021; Liu et al., 2020a; Lu et al., 2020; Nguyen et al., 2021; Park et al., 2020; Rossi et al., 2020; Sahin & Kulakac, 2022; Shah et al., 2021; Sharma

et al., 2020; Smallwood et al., 2021; Trumello et al., 2020; Wu & Wei, 2020; Xiao et al., 2020a; Xie et al., 2021; Yi et al., 2021). Many of these studies argue that the poor mental health status of frontline healthcare workers is a result of their direct and more frequent contact with patients diagnosed with COVID-19, increasing their risk of infection (Antonijevic et al., 2020; Gilleen et al., 2021; Lai et al., 2020; Liu et al., 2020a; Lu et al., 2020; Sahin & Kulakac, 2022; Sharma et al., 2020; Wu & Wei, 2020). Further studies have confirmed that the higher the probability, frequency and intensity of exposure to patients with COVID-19, the greater the risk that healthcare workers will suffer psychopathological symptoms (Alonso et al., 2021; Firew et al., 2020; Wang et al., 2020c; Wang et al., 2022; Zhang et al., 2020a; Yi et al., 2021). Inadequate protective materials, personal protective equipment shortages, ineffective treatments, fear of the unknown, quarantine, staff shortages and increased workload may further contribute to their psychological burden (Antonijevic et al., 2020; Liu et al., 2020b; Lu et al., 2020; Sun et al., 2020; Wu & Wei, 2020; Grailey et al., 2021; Ness et al., 2021).

2.4 Factors associated with the mental health of healthcare workers

2.4.1 Individual level factors

2.4.1.1 Gender

The gender of healthcare workers appears to be a significant factor for poor psychological health during the COVID-19 pandemic. Studies have revealed that women tend to experience more severe psychopathological symptoms and are at a higher risk of developing anxiety, distress, depression, insomnia and posttraumatic stress symptoms when compared to men (Alonso et al., 2021; Alsairafi et al., 2021; Arafa et al., 2021; Ayalew et al., 2021; Chatzittofis et al., 2021; Conti et al., 2020; Dagne et al., 2021; Fang et al., 2021; Feng et al., 2021; Gilleen et al., 2021; Gong et al., 2021; Grover et al., 2021; Jemal et al., 2021; Karasu et al., 2021;

Khajuria et al., 2021; Lamb et al., 2021; Lasalvia et al., 2021; Matsumoto et al., 2021; Mattila et al., 2021; Naldi et al., 2021; Peng et al., 2021; Perera et al., 2021; Repon et al., 2021; Sakib et al., 2021; Shah et al., 2021; Smallwood et al., 2021; Tasnim et al., 2021; Wanigasooriya et al., 2021; Xie et al., 2021). Huang et al. (2020) and Conti et al. (2020) argue that women experience higher levels of anxiety as they pay greater attention to their inner experiences and feelings than men. Furthermore, the socially constructed multiple duties of women in the home, childcare and employment may place particularly pressure on female healthcare workers (Ayalew et al., 2021; Conti et al., 2020; Dagne et al., 2021). Women are more likely than men to experience conflict and tension between their career and family demands, which may negatively impact on their well-being (Sakib et al., 2021).

Inconsistent with the above findings, some studies have reported a higher prevalence of psychopathological symptoms among male healthcare workers compared to female healthcare workers (Alnazly et al., 2021; Alqutub et al., 2021; Sahin & Kulakac, 2022; Song et al., 2020). A possible explanation may be that women pay more attention to their experiences and are more willingly express their emotions (Song et al., 2020). Neitzke (2006, citied in Song et al., 2020) explains that this behaviour is conducive to the self-regulation of emotions. Alqutub et al. (2021) attribute these gender differences to the higher representation of male healthcare workers in their sample as well as the male role of primary provider for the family within Middle Eastern society.

2.4.1.2 Age

Studies have reported mixed results with regards to the impact of age on the well-being of healthcare workers during the COVID-19 pandemic. The majority of studies have found that younger healthcare workers appear to be experiencing poorer mental health when compared to their older counterparts (Alsairafi et al., 2021; Arafa et al., 2021; Chatzittofis et al., 2021; Conti

et al., 2020; Fu et al., 2021a; Grover et al., 2021; Guo et al., 2021; Lamb et al., 2021; Maciaszek et al., 2020; Mattila et al., 2021; Rossi et al., 2021; Shah et al., 2021; Smallwood et al., 2021; Tiete et al., 2021; Wang et al., 2020c; Wang et al., 2021; Wanigasooriya et al., 2021; Yitayih et al., 2021; Zhou et al., 2020). Older healthcare workers tend to have more work experience leading to greater knowledge, better coping skills and more confidence in their ability to manage challenging clinical situations (Alsairafi et al., 2021; Conti et al., 2020; Mattila et al., 2021).

Song et al. (2020) reported that the middle-aged medical staff in their study were more likely to have depressive symptoms and posttraumatic stress disorder. They argue that middle-aged staff typically have a higher family burden and may be more concerned about their families, which may affect their mental health (Song et al., 2020).

On the other hand, studies have also found that older age is related to higher levels of psychological distress (Alqutub et al., 2021), posttraumatic stress symptoms (Di Tella et al., 2020), anxiety (Alnazly et al., 2021; Ayalew et al., 2021; Karasu et al., 2021; Matsumoto et al., 2021; Sahin & Kulakac, 2022), depression (Alnazly et al., 2021; Matsumoto et al., 2021), and insomnia (Santamaria et al., 2021) among healthcare workers. These findings are thought to be related to the fact that older age poses a greater risk for more severe COVID-19-related symptoms and an increased mortality rate (Alnazly et al., 2021; Ayalew et al., 2021; Karasu et al., 2021; Sahin & Kulakac, 2022).

2.4.1.3 Years of experience

Healthcare workers with fewer years of work experience have been shown to be at higher risk of developing symptoms of anxiety, depression, posttraumatic stress, insomnia and suicide (Elbay et al., 2020; Chatzittofis et al., 2021; Jemal et al., 2021; Perera et al., 2021; Song et al., 2020; Wang et al., 2020c; Yao et al., 2020; Zhou et al., 2020). Healthcare workers with a longer

working period have generally had more clinical experience and are better equipped to cope with emergencies and complex situations, thus explaining their lower levels of psychological distress and greater resilience (Song et al., 2020; Yao et al., 2020).

Inconsistent with the above findings, Alnazly et al. (2021), Peng et al. (2021), and Wang et al. (2021) found that healthcare workers who had more work experience showed greater psychological distress, anxiety, and depression. Wang et al. (2021) explain that those with more work experience are often required to make more decisions regarding diagnosis and treatment, resulting in them taking on more responsibility and pressure. Peng et al. (2021) attribute their findings to the high prevalence of burnout among healthcare workers who have worked for many years in their current occupation.

2.4.1.4 Professional discipline

The COVID-19 outbreak appears to be placing greater psychological strain on nurses. Nurses are more likely to report poor mental health and more severe symptoms of depression, anxiety and distress (Alenazi et al., 2020; Ayalew et al., 2021; Chatzittofis et al., 2021; Di Mattei et al., 2021; Fu et al., 2021a; Gilleen et al., 2021; Greenberg et al., 2021; Guo et al., 2021; Hennein et al., 2021; Khajuria et al., 2021; Lamb et al., 2021; Lasalvia et al., 2021; Mattila et al., 2021; Naldi et al., 2021; Sahin & Kulakac, 2022; Smallwood et al., 2021) than doctors. Nurses have also been found to be at greater risk of posttraumatic stress symptoms (Chatzittofis et al., 2021; Gilleen et al., 2021; Lamb et al., 2021; Lasalvia et al., 2021; Smallwood et al., 2021; Song et al., 2020) and insomnia (Tiete et al., 2021; Wasim et al., 2020). These higher levels of psychopathological symptoms experienced by nurses may be attributed to their heightened risk of COVID-19 infection from their more frequent and closer contact with patients (Alenazi et al., 2020; Ayalew et al., 2021; Chatzittofis et al., 2021; Fu et al., 2021a; Lasalvia et al., 2021; Naldi et al., 2021; Smallwood et al., 2021; Song et al., 2020; Wasim et al., 2020). Di Mattei et

al. (2021) further add that the increased contact with patients means that nurses are more frequently exposed to death and suffering, which may negatively impact their emotional and psychological wellbeing.

Contrary to the above findings, some studies have found that being a doctor was associated with symptoms of distress (Kafle et al., 2021), anxiety (Shah et al., 2021) and depression (Shah et al., 2021; Wang et al., 2022). Unfortunately, these studies do not provide probable explanations for their findings.

2.4.1.5 Marital status

Studies have reported opposing findings with regards to the impact of marital status on the well-being of healthcare workers. The majority of studies have found that unmarried medical workers are experiencing a poorer mental health status and a higher prevalence of psychopathological symptoms than those who are married (Alenazi et al., 2020; Elbay et al., 2020; Feingold et al., 2021; Hong et al., 2021; Nayak et al., 2021; Repon et al., 2021; Sakib et al., 2021; Song et al., 2020; Wang et al., 2021). These findings possibly highlight the protective role of social support, as married healthcare workers tend to receive more support from their partners and families which may help alleviate psychological distress (Feingold et al., 2021; Hong et al., 2021; Nayak et al., 2021; Song et al., 2020).

On the other hand, studies have also reported marriage to be a risk factor for the psychological status of healthcare workers (Alnazly et al., 2021; Ayalew et al., 2021; Hacimusalar et al., 2020; Jemal et al., 2021; Karasu et al., 2021; Yao et al., 2020). These studies argue that married healthcare workers may be experiencing a higher prevalence of psychopathological symptoms because of their increased concern and worry about exposing their loved ones to the virus (Ayalew et al., 2021; Jemal et al., 2021; Karasu et al., 2021). Qualitative studies found that the highly infectious nature of COVID-19 left healthcare workers in constant fear of becoming

infected and potentially infecting their families (Ardebili et al., 2021; Bennett et al., 2020; Brophy et al., 2021; Karakose & Malkoc, 2021; Kea et al., 2021; Liu et al., 2020b; McGlinchey et al., 2021; Sun et al., 2020; Grailey et al., 2021; Ness et al., 2021).

2.4.1.6 Parental status

Healthcare workers with children have reported higher levels of distress, anxiety and depression compared than those without children (Erquicia et al., 2020; Karasu et al., 2021; Li et al., 2020). These results may be explained by the fear of transmitting COVID-19 to their families (Karasu et al., 2021), as well as facing the dilemma of caring for their families while also trying to avoid contact with them (Li et al., 2020).

Maciaszek et al. (2020) found that although healthcare workers expressed intense fear regarding the infection of family members, having children was a protective factor against the development of depressive symptoms. Similarly, Babore et al. (2020) found that healthcare workers with children reported lower levels of distress than those without children. They argue that children may provide a respite from the exhausting working conditions facing healthcare workers (Babore et al., 2020).

2.4.1.7 Coping style

Qualitative studies have revealed the various coping strategies used by healthcare workers to alleviate stress and maintain a positive mindset (Sun et al., 2020; Liu et al., 2020b; Grailey et al., 2021; McGlinchey et al., 2021). Grailey et al. (2021) reported that coping strategies included: a focus on the fact that the pandemic would come to an end at some point, acknowledging the limitations to what is possible in such a situation, and trying to improve the atmosphere and mood of those around them. Sun et al. (2020) and Liu et al. (2020b) found that healthcare workers dealt with stress using various techniques such as diary and letter writing,

breathing exercises, meditation, mindfulness, emotional venting, watching a file, and reading. Healthcare workers also adjusted their sleep, diet, and exercise routines to maintain both their physical and mental health (Sun et al., 2020; Liu et al., 2020b). Studies have shown that positive coping strategies, such as those mentioned above, were associated with fewer symptoms of distress (Franck et al., 2021; Babore et al., 2020; Laurent et al., 2021; Kua et al., 2022; Li et al., 2020; Tasnim et al., 2021).

2.4.1.8 Moral injury

Grailey et al. (2021) report evidence of healthcare workers experiencing moral injury. This was mainly related to being unable to adequately complete tasks and concerns about the quality of care being provided (Grailey et al., 2021). Liu et al. (2020b) report that healthcare workers felt depressed and a deep sense of powerlessness when despite their best efforts, patients showed no improvement or deteriorated. Healthcare workers also reported experiencing emotional distress and grief when patients died (Ardebili et al., 2021; Brophy et al., 2021; Liu et al., 2020b; Okediran et al., 2020). These emotions were enhanced when healthcare workers had to prioritise patients' care needs, as they often felt that they had failed their patients (Liu et al., 2020b). Gilleen et al. (2021) found that healthcare workers who were in a position to make decisions about patients receiving treatment and had to deny some patients treatment experienced greater anxiety than those who had not denied treatment. Furthermore, those healthcare workers who had received support from an ethics panel with regards to decision-making reported lower stress and better psychological well-being (Gilleen et al., 2021). Studies indicate that healthcare workers with high exposure to moral injury were at increased risk of developing symptoms of anxiety, depression and posttraumatic stress disorder (Lamb et al., 2021; Wanigasooriya et al., 2021).

2.4.1.9 COVID-19 infection status

Healthcare workers who had tested positive or were suspected of being infected with COVID-19 were at significantly higher risk of suffering serious mental illness (Wu et al., 2020b) and reported higher levels of anxiety than negative or non-suspect cases (Alzaid et al., 2020; Firew et al., 2020; Karasu et al., 2021; Liu et al., 2020a; Sahin et al., 2020). Liu et al. (2020a) explain that suspect cases were required to isolate for two weeks, and during this time they may have struggled with the fear around being or becoming infected, as well as not being able to fulfil their professional duties and responsibilities. This may intensify anxiety in healthcare workers (Liu et al., 2020a). Moreover, healthcare workers may also be concerned about transmitting the infection to their families, further adding to their psychological burden (Liu et al., 2020a; Wu et al., 2020b).

2.4.2 Interpersonal level factors

2.4.2.1 Social support

Healthcare workers identified multiple sources of social support that helped them cope with stress (Liu et al., 2020b; McGlinchey et al., 2021; Okediran et al., 2020). These support systems included their hospitals, colleagues, families, friends and society. Studies found that healthcare workers who reported higher levels of social support were less likely to develop psychopathological symptoms such as distress, anxiety, depression, and posttraumatic stress (Arafa et al., 2021; Asnakew et al., 2021; Elbay et al., 2020; Fang et al., 2021; Hennein et al., 2021; Hong et al., 2021; Li et al., 2021; Nie et al., 2020; Oriz-Galuo et al., 2022; Pappa et al., 2021; Smallwood et al., 2021; Song et al., 2020; Tiete et al., 2021). Healthcare workers reported that their support systems provided them with a sense of safety and knowing they were not alone (Liu et al., 2020b; McGlinchey et al., 2021). However, studies have also found that

healthcare workers are having to isolate themselves in an attempt to lower the risk of infecting their loved one, which may be resulting in reduced levels of social support (Fang et al., 2021; Nie et al., 2020; Okediran et al., 2020; Surrati et al., 2020; Ardebili et al., 2021).

Interestingly, Babore et al. (2020) found that higher levels of social support predicted higher levels of distress. They argue that seeking social support during the pandemic may be extremely stressful and frustrating for healthcare workers as they are dealing with isolation and concerns about infecting their families, thus resulting in higher levels of psychological distress (Babore et al., 2020).

2.4.2.2 Living situation

Studies have found the prevalence of psychopathological symptoms to be closely related to whether healthcare workers are living with other family members or living alone. The prevalence of symptoms of anxiety, depression, and posttraumatic stress was higher in those who were living alone (Ayalew et al., 2021; Firew et al., 2020; Hu et al., 2020; Lasalvia et al., 2021; Liu et al., 2020a; Zhu et al., 2020a). However, Wasim et al. (2020) reported that healthcare workers who were living with their families were more prone to insomnia than those living alone. Wasim et al. (2020) argue that the fear of transmitting the disease to their families has led to sleep disturbances.

2.4.3 Organisational level factors

2.4.3.1 Institutional response

Marinaci et al. (2020) found that the distress of healthcare workers in Italy was significantly related to a perceived lack of institutional response. Bennett et al. (2020) and De Leo et al. (2021) found that healthcare workers experienced a sense of abandonment by management.

There was a widely reported lack of leadership and support from hospital management, which resulted in staff feeling hopeless and disillusioned about their profession and organisation (Bennett et al., 2020; De Leo et al., 2021). A common theme within qualitative studies was healthcare worker frustration regarding the constant and rapid changes in policy and healthcare practice (Ardebili et al., 2021; Bennett et al., 2020; Brophy et al., 2021; Grailey et al., 2021; McGlinchey et al., 2021; Ness et al., 2021; Pilbeam et al., 2022; Vindrola-Padros et al., 2020). Healthcare workers expressed difficulties in managing the overwhelming volume of information and staying current with the constant changes (Ness et al., 2021; Pilbeam et al., 2022). Studies have reported that institutional factors such as inadequate training and guidelines, poor support from hospital management, lack of quality up-to-date COVID-19 information, and feeling undervalued were associated with a poorer mental health status in healthcare workers (Alenazi et al., 2020; Feingold et al., 2021; Gilleen et al., 2021; Hong et al., 2021; Jemal et al., 2021; Khajuria et al., 2021; Marinaci et al., 2020; Mekonen et al., 2020; Salman et al., 2020; Surrati et al., 2020; Yitayih et al., 2021).

Fu et al. (2021b) report that healthcare workers in the Xiaotangshan Hospital in Beijing experienced a more positive state of mind, with only 16.7% of their sample reporting emotional distress. They argue that this may be associated with the advanced strategies and response towards COVID-19 in Beijing (Fu et al., 2021b). The hospital provided sufficient medical equipment and supplies, professional training, counselling, and peer support programs in an attempt to ease the physical and psychological burden on their healthcare workers (Fu et al., 2021b).

2.4.3.2 Protective measures

The findings from a study conducted in Italy show that more than half of the frontline healthcare workers felt poorly or not at all protected by the national government and their local

health agency (Marinaci et al., 2020). Almost half of the sample perceived the emotional support that they had received as inadequate, and almost 30% judged the safety and hygiene measures as insufficient (Marinaci et al., 2020). Healthcare workers who perceived hygiene and safety measures as inadequate were more likely to experience psychosomatic symptoms and a perceived worsening of their physical and psychological health (Marinaci et al., 2020).

Maciaszek et al. (2020) found that the most important institutional factor that affected the mental health of medical professionals in their study was a sense of security in the workplace. They explain that medical professionals face a higher risk of exposure to COVID-19 compared to other professionals, which results in an increased concern for their own safety and that of their loved ones (Maciaszek et al., 2020). The majority of the medical professionals in this study felt that the institutions activities in providing security were insufficient, and over 60% experienced psychopathological symptoms (Maciaszek et al., 2020).

2.4.3.3 Personal protective equipment (PPE)

The sudden occurrence and rapid spread of COVID-19 has led to protective equipment shortages worldwide. Many healthcare workers have reported inadequate PPE (Ardebili et al., 2021; Brophy et al., 2021; Dagne et al., 2021; Felice et al., 2020; Grailey et al., 2021; Grover et al., 2021; Iqbal & Chaudhuri, 2020; Jemal et al., 2021; Martin-Delgado et al., 2020; McGlinchey et al., 2021; Mekonen et al., 2020; Okediran et al., 2020; Rodriguez-Rey et al., 2020; Shah et al., 2021; Surrati et al., 2020; Wanigasooriya et al., 2021).). In an attempt to conserve protective clothing, many healthcare works had to wear PPE for up to eight hours without drinking, eating or using the restroom (Liu et al., 2020b; McGlinchey et al., 2021; Pilbeam et al., 2022; Sun et al., 2020). Some healthcare workers had to reuse disposable PPE items, such as masks and gowns, in response to limited PPE availability (Brophy et al., 2021; Kea et al., 2021; Ness et al., 2021; Okediran et al., 2020; Martin-Delgado et al., 2020; Xiao et

al., 2020a). Studies have shown that healthcare workers who report inadequate personal protective equipment and safety measures are at higher risk of poor mental health outcomes (Dagne et al., 2021; Dong et al., 2021; Erquicia et al., 2020; Feingold et al., 2021; Feng et al., 2021; Fu et al., 2021a; Gilleen et al., 2021; Jemal et al., 2021; Karasu et al., 2021; Khajuria et al., 2021; Mattila et al., 2021; Nguyen et al., 2021; Nie et al., 2020; Pappa et al., 2021; Rodriguez-Rey et al., 2020; Sakib et al., 2021; Wanigasooriya et al., 2021; Xiao et al., 2020a; Zhang et al., 2020c).

Furthermore, studies found that PPE discomfort was a major stressor for healthcare workers during the pandemic (Ardebili et al., 2021; Kuo et al., 2020; Liu et al., 2020b; Sun et al., 2020; Grailey et al., 2021; McGlinchey et al., 2021; Ness et al., 2021; Okediran et al., 2020; Pilbeam et al., 2022). Healthcare workers have reported a high prevalence of heat stress (Davey et al., 2021), headaches (Ong et al., 2020), skin damage (burns et al., 2021; Lan et al., 2020). Healthcare workers also felt that the PPE weighs them down, making their movements clumsy, and their protective goggles often became blurred (Liu et al., 2020b). These studies highlight the physical impact and discomfort caused by PPE, which further adds to the many challenges healthcare workers have had to face during the COVID-19 pandemic.

2.4.3.4 Workload

A high work burden appears to be a risk factor for poor psychological well-being among healthcare workers during the COVID-19 outbreak (Elbay et al., 2020; Gilleen et al., 2021; Naldi et al., 2021; Peng et al., 2021; Perera et al., 2021; Xie et al., 2021; Ardebili et al., 2021; Brophy et al., 2021; Grailey et al., 2021; Ness et al., 2021). Xie et al. (2021) explain that the rapid spread of the virus led to shortages in medical staff, thus many healthcare workers were having to work long hours with a significantly increased workload. Studies also found that the increased workload is related to healthcare workers having to meet the emotional needs of

patients diagnosed with COVID-19 (Liu et al., 2020b; Ness et al., 2021). Family members were not permitted to visit their loved ones in hospital and thus could not provide sufficient emotional support (Ness et al., 2021). Healthcare workers recognised the high levels of fear and anxiety their patients were experiencing, and made efforts to comfort and relieve their emotional burden (Liu et al., 2020b; Ness et al., 2021; Okediran et al., 2020).

2.4.4 Societal level factors

2.4.4.1 Media

Healthcare workers who spent more time daily watching pandemic-related media coverage were more likely to experience poorer mental health outcomes (Arafa et al., 2021; Hennein et al., 2021; Li et al., 2021; Maciaszek et al., 2020; Wu et al., 2020b). During the early stages of the COVID-19 outbreak, the media may have caused panic as it highlighted the increases in the number of suspected infections and the lack of effective treatments (Li et al., 2021). In a study conducted by Wu et al. (2020b), healthcare workers reported that although they spent many hours watching media coverage, they were not receiving adequate information about infection prevention and control. This left them feeling extremely concerned about the pandemic and may explain why more time spent watching media coverage was associated with a higher risk of serious mental illness (Wu at al., 2020b).

Secosan et al. (2020) argue that as false COVID-19-related news spreads around the world, healthcare workers are having to face a second pandemic, an infodemic. Secosan et al. (2020) found that almost half of the healthcare workers in their study reported being affected by false news. Healthcare workers expressed that misinformation affects them emotionally, creates confusion, consumes their time and energy as they battle the misinformation, affects the doctor-patient relationship, and leads to mistrust of the healthcare system (Secosan et al., 2020). Those

who stated they were affected by false news were more likely to report higher levels of stress, anxiety, and insomnia (Secosan et al., 2020). Fu et al. (2021a) also found a significant correlation between the levels of depression and anxiety and the authenticity of media coverage. Healthcare workers who reported repeated exposure to negative and false information experienced a worsening of their mental health (Fu et al., 2021a).

2.4.4.2 Stigma

Further intensifying the already stressful experience of working during the pandemic is the stigma that has developed around healthcare workers (Brophy et al., 2021; McGlinchey et al., 2021). Dye et al. (2020) conducted an international study and found that healthcare workers were significantly more likely to experience COVID-19-related harassment and bullying compared to the general population. Studies have reported that between 25% and 64% of healthcare workers have experienced stigma during the COVID-19 pandemic (Mostafa et al., 2020; Nie et al., 2020; Park et al., 2020; Perera et al., 2021; Surrati et al., 2020). Throughout the pandemic, healthcare workers have been labelled as carriers of COVID-19, which has resulted in a high prevalence of stigma directed towards healthcare workers (Dye et al., 2020; Hong et al., 2021; Perera et al., 2021). McGlinchey et al. (2021) report that healthcare workers expressed feeling upset and undervalued when they noticed that the public were afraid of them or verbally abusive towards them (McGlinchey et al., 2021). Studies indicate that healthcare workers who have reported experiencing stigmatization were at increased risk of adverse mental health outcomes (Hennein et al., 2021; Hong et al., 2021; Nie et al., 2020; Park et al., 2020; Perera et al., 2021; Ramaci et al., 2020; Teksin et al., 2020; Yitayih et al., 2021

Taylor et al. (2020) explored the prevalence of COVID-19-related stigma of healthcare workers among the general public of Canada. They found that a quarter of their participants believed that healthcare workers should have restrictions on their freedoms, such as not being allowed

to go out in public and being separated from their families, and over a third reported that they avoided healthcare workers for fear of contracting COVID-19 (Taylor et al., 2020). Interestingly, participation in altruistic support of healthcare workers was unrelated to stigmatizing attitudes and behaviours (Taylor et al., 2020). Taylor et al. (2020) argue that behind the front of altruistic applauding and cheering for healthcare workers, there are widespread, under-recognised, and harmful stigmatizing attitudes.

2.5 Theoretical framework

Critical health psychology has been used as a framework through which to understand mental health and illness. Critical health psychology challenges the assumptions of mainstream health psychology which focuses on individual responsibility for health and health improvement (Murray, 2015). Critical health psychology challenges the victim-blaming ideology of mainstream health psychology, which limits the understanding and explanation of physical and mental health to the level of the individual, and emphasises the broader social, cultural and political determinants of health and illness (Murray, 2015). Through the lens of critical health psychology, the mental health and well-being of healthcare workers is viewed not just as an outcome of individual resources, attitudes and behaviours, but also as an outcome of the wider environment and context in which they are embedded. Consistent with critical health psychology, this study will adopt an ecological model believed to provide a comprehensive framework for understanding the multiple and interacting environmental determinants of mental health (Eriksson et al., 2018).

Urie Bronfenbrenner is viewed as one of the most influential contributors to ecological thinking in health research (Eriksson et al., 2018). Bronfenbrenner (1977) developed his ecological model as a theoretical framework for understanding human development. He theorised that

human development is a product of the evolving interaction between a developing person and their ecological environment (Bronfenbrenner, 1979).

Bronfenbrenner (1979) describes the ecological environment as composed of multiple systems, namely: the microsystem, mesosystem, exosystem, macrosystem, and chronosystem. The microsystem comprises the face-to-face interpersonal interactions in the developing person's immediate environment. The mesosystem is a system of microsystems comprising the interrelations among the various settings in which the developing person actively participates. The exosystem refers to the social settings or structures that do not directly involve the developing person but nevertheless affects the immediate settings in which the person is found. The macrosystem refers to the overarching institutional patterns of a culture or subculture, such as the economic, social, educational, legal, or political systems, of which the micro-, meso-, and exosystems are concrete manifestations. The macrosystem contains the laws, regulations, customs, values, and norms of a particular society. Finally, the chronosystem refers to the changes over time within the developing person as well as in the environments in which the person is found. Bronfenbrenner (1979) states that to understand and explain a developmental outcome one should analyse the composition of these ecological systems as well as the interactions between and within these systems. Bronfenbrenner's ecological model directs attention to both intrapersonal and environmental factors that determine developmental outcomes.

For the purposes of my research, I have used an adaptation of Bronfenbrenner's ecological model that has frequently been used in health research (McLeroy et al., 1988; Sallis et al., 2008; CDCP, 2020; Hennein et al., 2021). This model focuses on four levels of influence, namely; the individual level, interpersonal level, organisational level, societal level, and the chronosystem level. Adopting an ecological model provides a framework which allows for the holistic understanding of the experiences of healthcare workers, by simultaneously

emphasising intrapersonal and contextual factors and the dynamic interplay between these factors that contribute to the unique experiences of healthcare workers during the COVID-19 pandemic.

The individual level refers to intrapersonal characteristics such as knowledge, attitudes, beliefs, skills and behaviour that may influence healthcare workers' mental health and well-being. The literature indicates that factors such as: resilience, coping strategies, knowledge and beliefs regarding COVID-19, levels of experience, professional discipline (nurse or doctor) and sleep, diet and exercise routines, may all impact on the well-being of healthcare workers at the individual level.

The interpersonal level consists of informal and formal social networks and social support systems. Factors at this level that may influence the well-being and mental health of healthcare workers include: social support from friends, family and colleagues, showing support to colleagues, team cohesion, team dynamics, and losing physical connection with friends and family (isolation).

The organisational level refers to organisational structures, processes and regulations that have impacted on the experiences and well-being of healthcare workers. Important factors to consider at this level include: access to resources such as personal protective equipment, counselling and training, hospital systems, policies and procedures, management style, work shifts and working hours, workload, and access to relevant up-to-date information and guidelines regarding COVID-19.

At the societal level, attention is drawn to the laws, regulations, policies, values and norms of a particular society. At this level, factors such as: the effects of media portrayal of healthcare workers, news coverage, potential stigma directed at healthcare workers based on beliefs that healthcare workers are spreading COVID-19 from hospitals to communities, government

response and policies regarding COVID-19, societal compliance to government policies, rules and regulations, may all impact on the experiences and well-being of healthcare workers.

The chronosystem refers to the changes over time within healthcare workers as well as in the environments in which healthcare workers are found. At this level, the progression of the pandemic as well as how healthcare workers perceptions may change over time are important factors to consider.

2.6 Conclusion

This chapter reviewed the relevant literature regarding the impact of the COVID-19 pandemic on healthcare workers. The literature above found that frontline healthcare workers are facing enormous physical and psychological pressure which has placed them at high risk of developing mental health problems and impacting on their overall well-being. Majority of the formally published studies have focused on quantitatively analysing the mental health impact of COVID-19 on healthcare workers. This indicates a need for more in-depth studies that actively engage with healthcare workers and their particular experiences. Furthermore, their appears to be limited research conducted with the South African context.

Chapter 3: Methodology

3.1 Introduction

In this chapter, the methodology used in the study is explained. The first section discusses the interpretivist paradigm and qualitative research design. Followed by the study setting, study population, sampling methods used, sample description, participant recruitment, data collection method and data analysis. Lastly, the ethical guidelines that were followed and trustworthiness of the study are discussed.

3.2 Research paradigm and design

The interpretivist paradigm is the most appropriate for this study. Interpretive research strives to understand the lived experiences of people within a particular context (Neuman, 2014). The goal of interpretive research is to learn how people subjectively experience a situation or phenomenon and what it means in their everyday lives (Neuman, 2014). The aim of this study fits well within the interpretivist paradigm as it seeks to explore the lived experiences of healthcare workers and provide readers with an in-depth understanding of the challenges and experiences faced by healthcare workers working within the context of COVID-19. The interpretivist paradigm aligns, not only with the research aim, but also with the theoretical framework of this study. The ecological model emphasises the importance of analysing contextual factors that may mediate mental health and well-being, it is thus important to use an approach, such as the interpretivist paradigm, that is sensitive to context.

Consistent with the interpretive perspective, this study adopted a qualitative research design. Fossey et al. (2002) defines qualitative research as a broad term for research that seeks to

describe and explain individuals' experiences, behaviours, interactions and social contexts without the use of quantification or statistical procedures. Qualitative research works towards capturing individuals' subjective sense of reality and emphasises participants' frames of reference and how they see things as insiders (Nieuwenhuis, 2016; Popay et al., 1998). Thus, using a qualitative research design allowed us to explore and appreciate the various experiences of healthcare workers by giving privilege to their perspective and interpretations. Furthermore, context is an important aspect in qualitative research as researchers are interested in the experiences and interpretations of individuals at a particular point in time and in a particular setting (Merriam, 2002). By placing an emphasis on context, we are able to better understand the lived experiences of healthcare workers as we focus on what it means to care for patients with COVID-19 within the South African context. We are able gain insight into the unique challenges and experiences that this context presents, allowing this research to then be used to inform future crisis interventions and public policy in South Africa to better support our healthcare workers.

3.3 Study Setting

This study was conducted through cyberspace. Communication between myself and the participants took place via email. The study focused on the geographic location of KwaZulu Natal, South Africa. Participants were healthcare workers from various public and private hospitals within urban KwaZulu Natal. One of the challenges of the South African healthcare system is the disparity between the public and private sectors (Department of Health, 2015). The minority of South Africans (16%) with the financial means to afford private healthcare are responsible for over 50% of the total healthcare expenditure, while the remaining 84% of the population depend on the under-resourced public sector (Department of Health, 2014). Thus,

the public sector faces the burden of providing healthcare services to the majority of South Africans with limited and constrained resources. These pre-pandemic conditions have impacted the physical and mental health of healthcare workers (Naidoo et al., 2020). The COVID-19 pandemic is expected to place a considerable additional burden on healthcare workers, particularly those in the public sector.

3.4 Study population

The population of the present study consists of healthcare workers within urban KwaZulu-Natal, South Africa, who have directly treated or cared for patients diagnosed with COVID-19.

3.5 Overview of participants

Table 1

Demographics of the four participants

Name	Gender	Age	Race	Profession	Marital status	No. of Children	Years of experience
P1	Female	42	White	Specialist Physician	Married	2	29
P2	Female	34	White	Nurse	Married	2	10
P3	Female	48	White	General Practitioner	Married	3	21
P4	Male	44	White	Specialist Physician	Married	2	19

3.6 Sampling and sample size

The sampling method used in this study was purposive sampling. According to Neuman (2014), purposive sampling is appropriate when a study requires a specific population group that have been through a particular experience. Healthcare workers were selected as participants for this study, as I intended to specifically explore the experiences of South African healthcare workers. The inclusion criteria for this study included being either a nurse or a doctor who had directly cared for and treated patients diagnosed with COVID-19, as well as having access to a computer, internet connectivity and email. This was necessary as data were collected via email facilitated qualitative interviews (EFQI).

Initially, I also intended to use snowball sampling as a means through which to gain access to participants. Snowball sampling involves the use of current research participants in recruiting further participants for the study (Neuman, 2014). However, this proved difficult. I have accounted for these sampling challenges in the findings section.

Thus, the size of the sample was determined by both theoretical reasoning and practical limitations. I intended to select a relatively small sample, as Robinson (2014) argues that this allows the researcher to give each participant a voice within the study and conduct an in-depth analysis of each interview. However, I was also faced with practical difficulties when recruiting, which limited the number of participants in the sample. Seven healthcare workers had initially indicated an interest in participating in the study, however three of these potential participants did not complete the interview process. Hence, the sample consisted of four healthcare workers.

I intended to take demographic factors into consideration when selecting participants. Demographic factors are important to consider within an ecological framework, as they may impact on the experiences of healthcare workers. Thus, I sought to select a diverse group of

participants that vary across factors such race, age, gender, socioeconomic status, years of experience, professional discipline, etcetera. However, the difficulties faced during recruitment limited the selection of a diverse sample.

3.7 The missing participant

This section offers a reflection on the difficulties experienced during participant recruitment and participants' failure to complete the interview process. Their lack of a response is, in and of itself, a legitimate response and can provide further insight into the experiences of healthcare workers as well as the potential bias within qualitative data collection.

Dillman (2007, cited in Miller & Lambert, 2014) states that open-ended questions place a heavy burden on participants as it requires more time and mental energy than closed-ended questions. The qualitative nature of this study required participants to respond to various open-ended questions regarding their experiences as healthcare workers. The review of the literature indicates that healthcare workers have experienced physical and psychological strain during the COVID-19 pandemic. Thus, the difficulties experienced during participant recruitment may be attributed to healthcare workers feeling unable to exert the necessary time and energy required in answering open-ended questions, as they are still physically, emotionally and psychologically recovering from the pressure they have been under during the pandemic. One participant initially indicated an interest in participating, but later stated that, *"things have been a bit hectic my side"*, and that she feels she cannot commit to the research process as she does not have the time to respond to interview questions in a thorough and meaningful way. This demonstrates the burden that qualitative research places on participants, as well as alludes to the fatigue and strain that healthcare workers have experienced, and are still experiencing, as a result of the COVID-19 pandemic.

Furthermore, Miller and Lambert (2014) explored the potential bias in qualitative research resulting from individuals with certain demographic and personal characteristics being more or less likely to respond to open-ended questions. They found that married individuals and those individuals who identified as female were more likely to complete open-ended questions. In the current study, three out of the four participants were female and all of the participants stated that they were married. The likelihood of individuals with certain demographic characteristics responding to open-ended questions may explain the demographics of the current sample and the difficulties I experienced in recruiting a demographically diverse sample.

3.8 Participant recruitment

Once permission was granted from the Human and Social Sciences Ethics Committee of the University of KwaZulu-Natal, participant recruitment could begin. My supervisor has been working with doctors and nurses from various hospitals, and thus had access to the relevant population group. She approached some of these individuals, informed them of the proposed study and enquired into their willingness to participate. With their consent, my supervisor forwarded the contact details of those individuals interested in participating onto me.

Participants were also recruited through personal contacts who met the inclusion criteria and indicated an interest in participating in the study.

3.9 Data collection method

Email facilitated qualitative interviews (EFQI) were used to collect data. James and Busher (2006) state that email interviewing has provided the opportunity to create a space in which

participants are able to tell and retell their stories and represent themselves to others, when it is not possible to conduct face-to-face interviews. In light of the COVID-19 pandemic and regulations, conducting face-to-face interviews was impractical and unlikely. Thus, email interviewing was a more appropriate and effective means of data collection for this study.

Email interviewing has a number of advantageous features when compared to other means of data collection. One of these features is the ability to conduct asynchronous interviews (Hawkins, 2018). Meho (2006) states that the asynchronous nature of email interviewing allows both the researcher and participants time to carefully consider their responses. This time allows participants to reflect deeply on their experiences and elaborate on their own thinking, which contributes to rich and detailed accounts of their lived experiences (Gibson, 2010; James & Busher, 2006). I was also able to take advantage of the asynchronous nature of email interviewing by taking my time to carefully formulate follow-up questions that provided clarity and depth to the interview.

Furthermore, email interviewing is not limited to the time constraints of a scheduled face-to-face interviews, and thus, it allows for prolonged engagement (Hawkins, 2018). Prolonged engagement with participants helps establish a stronger relationship between participants and the researcher, which in turn facilitates greater participant disclosure (Knox & Burkard, 2009). Furthermore, the back-and-forth communication allowed me to clarify data, probe, and ensure accuracy in describing the experiences of healthcare workers from their perspective (Hawkins, 2018). The prolonged engagement in the study enhanced research findings and the credibility of the data as I was better able to capture the realities of healthcare workers and accurately describe and interpret findings.

Email interviewing also eliminates the need to agree on a mutually convenient time for the researcher and participants to meet, which may be difficult when both parties have busy

schedules (Bampton & Cowton, 2002). Healthcare workers have been under tremendous stress and work long shifts and often work odd hours (night shift), thus the scheduling advantages and convenience of email interviewing for healthcare workers played a major role in the decision to collect data through EFQI.

In order to effectively use EFQI as a means of collecting data, it is important to acknowledge its limitations. Hawkins (2018) states that scholars have argued that in email interviews researchers are unable to observe and interpret various visual cues that contribute to a full understanding of participants' experiences. However, it has also been pointed out that participants are able to employ other written cues, such as bold print, punctuation, symbols, capitalisation, emoticons, and abbreviations to communicate tone, mood, inflection, etcetera (Gibson, 2010). The participants in this study used these various written cues in their emails, which enhanced my understanding of their experiences.

The inability of researchers to directly observe and pick up on visual cues of distress is a potential ethical issue (McCoyd & Kerson, 2006). This may impact on the researcher's ability is refer participants for counselling if deemed appropriate and ensure that secondary psychological harm is prevented (McCoyd & Kerson, 2006). As recommended by McCoyd and Kerson (2006), I attended to any written cues that participants was experiencing emotional distress and also ensured that I informed participants of the available mental health services.

Email interviewing may also face technical challenges such as computer mishaps, disappearance of text, difficulty accessing email addresses, and changes of email addresses (Meho, 2006; McCoyd & Kerson, 2006). I used reminders to ensure that all participants had received previously sent emails and requested participants' telephone numbers to ensure that they could be contacted in the event of email address changes. One of the participants experienced a technical challenge in which their email did not send. After not hearing back

from them within a week, I sent a friendly reminder. The participant was then aware that her email had not been delivered and was able to resend the response.

The EFQI followed a semi-structured format. This allowed participants to freely express themselves and elaborate on information that was important to them, while also ensuring that relevant data were collected (Gill et al., 2008). The interview schedule (*see Appendix C*) was developed based on the research questions and theoretical framework of the study.

3.10 Data collection procedure

Once healthcare workers had indicated that they were interested in participating, I contacted them either via "Whatsapp" or email and provided a description of the research, its objectives and significance, as well as clarified what would be expected from them. Terre Blanche et al. (2006) states that when dealing with a sensitive topic it is best to prepare participants beforehand for the types of questions you may ask and what the research entails. Healthcare workers were informed that the research requires them to share their experiences and discuss topics that may be sensitive or distressing.

I then emailed a document (*see Appendix B)* outlining the research purpose, requirements of participation and an informed consent slip to those who had agreed to participate. The informed consent form outlined the purpose of the research, the risk and benefits of participation, confidentiality and anonymity, as well as highlighting the voluntary nature of the research and that their consent may be withdrawn at any time. Participants were asked to sign the consent form and email it back to me.

Upon receiving the signed consent forms, I began the email facilitated qualitative interviews. The interview schedule was broken down and sent over a number of emails, as this made the process more interactive and the appearance of the entire interview schedule in one email may

have overwhelmed participants (Bampton & Cowton, 2002). To begin the interview, I emailed a list of demographic questions and the broad opening question. Once participants had responded, I replied with follow-up and probing questions based on their responses to the initial question. No more than two follow-up emails were sent to a participant. Friendly reminders were sent to participants after a week if I had not heard back from them.

3.11 Data analysis method

The interview data was analysed and interpreted using thematic analysis. Thematic analysis is a qualitative method used for identifying, analysing and reporting patterns within data (Braun & Clarke, 2006). The purpose of thematic analysis is to organise, describe and interpret data in rich detail (Braun & Clarke, 2006). The following thematic analysis steps, outlined by Braun & Clarke (2006), were followed:

1. Phase 1 involves familiarising oneself with the data. Braun and Clarke (2006) state that the researcher should immerse themselves in their data so that they are familiar with the depth and breadth of the content. I repeatedly read through the transcripts to gain a sense of the whole content. During this phase, as recommended by Braun and Clarke (2006), I also started taking notes and marking ideas for later coding.

2. Phase 2 involves generating initial codes. During this phase, I systematically worked through the data and identified interesting features that may form the basis of subsequent themes. Coding was theory-driven. Braun and Clarke (2006) describe this as approaching your data with specific questions in mind that you intend to code around. I specifically coded for factors that influenced healthcare workers' experiences at the

various ecological levels. Thus, the ecological framework provided a lens through which to view the data.

3. Once all the data had been initially coded and collated, phase 3 could begin: searching for themes. Braun & Clarke (2006) state that during this phase, one begins to analyse the codes and think about how the different codes may combine to form an overarching theme. Themes were selected from the initial codes and all the relevant coded data extracts were organised into the identified themes.

4. Phase 4 involves reviewing and refining the themes identified in phase 3. Braun and Clarke (2006) state that Patton's (1990) dual criteria, internal homogeneity and external heterogeneity, is useful for judging and refining themes. Data within themes should be consistent and fit together meaningfully, while themes should be clearly distinct from one another (Braun & Clarke, 2006). Braun and Clarke (2006) state that themes should be reviewed and refined at two levels. The first level involves reviewing themes at the level of coded data extracts; all the code extracts for each theme should form a coherent pattern. Level two involves reviewing themes in relation to the entire data set. During this phase, I considered how the themes fit together and if they meaningfully represent the data set as a whole, as well as ensuring that the coded data under each theme formed a coherent pattern.

5. Phase 5 involves defining and naming themes. Each individual theme needs to be analysed in order to identify the essence of each theme and how it fits into the overall 'story' that is being told about the data as a whole (Braun & Clarke, 2006). In this phase,

I refined and defined the themes, and began to consider the names that will be given to each theme in the final analysis.

6. Phase 6 provides the final opportunity for analysis and involves producing the report. The purpose of the final report is to tell the story of your data and convince the reader of the validity of your analysis (Braun & Clarke, 2006). During this phase, I wrote up the final report, which involved setting out the themes, describing the data and addressing the research questions and literature in relation to the research findings.

3.12 Reflexivity

Reflexivity is a process that qualitative researchers are encouraged to engage in order to create an awareness about how one's subjectivity and context influence the research process (Olmos-Vega et al., 2023). Through reflexivity I have been able to reflect on how my various decisions, assumptions, experiences, and the context in which this study was conduct have shaped the research process.

I believe my decision to recruit participants in their own personal capacity, as opposed to approaching organisations and recruiting through their staffing networks, had a significant impact on the findings of this study. Approaching participants in their personal capacity and reassuring them that their identity will remain anonymous reduced the likelihood that their responses would be constrained by organisational influences. I believe that this encouraged greater disclosure as participants felt that they could speak freely and honestly, knowing that I was an independent researcher and that their participation would not result in any negative repercussions.

It is also interesting to reflect on how the use of email interviewing may have impacted on the research process and findings. Email interviewing is also considered a less obtrusive means of data collection as there is a lack of direct contact between participants and the researcher, thus permitting a greater degree of anonymity (Bampton & Cowton, 2002). This greater degree of anonymity is an important factor in increasing self-disclosure, and enabling open, freer discussions of sensitive topics (McCoyd & Kerson, 2006; Meho, 2006). Furthermore, the lack of direct contact between myself and the participants also meant that my own identity remained largely anonymous with regards to my gender, age, race, and physical appearance. These demographics factors contribute to the interpersonal dynamics between participants and a researcher, subsequently impacting the information elicited from participants (Olmos-Vega et al., 2023). I believe email interviewing may have neutralised such impacts.

In exploring the experiences of healthcare workers practicing during the COVID-19 pandemic, I could not ignore the fact that my own assumptions and experiences of the pandemic provided a lens through which I viewed and made sense of participants' responses. Reflexivity allowed me to recognise that as a researcher, I am part of the social world that I seek to study (Ackerly & True, 2010). When engaging with the responses of participants, I felt my own anxieties, fears, and heartache surrounding the pandemic being triggered. I held the assumption that nothing positive could possibly come from this truly terrible experience. Through reflexive collaborating with my supervisor, I came to realise how I had neglected the positive aspects and emotions that were intertwined with participants' stories distress. The process of reflexivity provided the opportunity to gain an awareness of how my own experiences, thoughts, and emotions were influencing my interpretation of the data. Through this, I was able to reevaluate my data analysis process and work towards more accurately reflecting the experiences of participants.

3.13 Trustworthiness

Due to the qualitative nature of this research, the traditional quality criteria of reliability and validity used in quantitative research may be inappropriate (Pitney, 2004). However, it is still important to assess and ensure quality and rigour in qualitative studies. This was realised by addressing the concept of trustworthiness. To develop and evaluate trustworthiness in qualitative research, Lincoln and Guba (1985) proposed four criteria: credibility, transferability, dependability and confirmability.

Credibility

Credibility refers to the truth of the data. It is related to the extent to which research findings accurately represent participants' realities and capture what is really going on in a particular context (Lincoln & Guba, 1985; Polit & Beck, 2012). Various strategies were used to establish and enhance credibility.

An important strategy to establish credibility is prolonged engagement, which requires spending an extended period of time with participants (Lincoln & Guba, 1985). This allows the researcher to build rapport with the participants and enables the researcher to gain a deeper understanding of the individuals and the context of the research (Cope, 2014). Krefting (1991) argues that as participants become comfortable and rapport develops, they may volunteer more sensitive information than they would at the beginning of a research study. Once participants had indicated they were interested in participating, I contacted them either via email or "WhatsApp" to introduce myself and provide a brief description of the research. This allowed myself and the participants to gain familiarity with one another and begin developing rapport before data collection commenced. Furthermore, the back-and-forth communication of email interviewing allowed for prolonged engagement between myself and the participants (Hawkins, 2018). This prolonged engagement enhanced research findings through intimate

familiarity and enabled me to identify and verify recurrent patterns and themes (Kielhofner, 1982; Krefting, 1991). This allowed me to truly capture the realities of healthcare workers working within the COVID-19 context, and accurately describe and interpret findings, thus enhancing credibility.

Another strategy to enhance credibility involves member checks (Lincoln & Guba, 1985). Member checks involve providing participants with the data or interpretations of the results, so that they can verify their accuracy and fill in any possible gaps (Pitney, 2004). I used this strategy of member checking to decrease the chances of misrepresentation and ensure that my research findings accurately reflected the experiences of the participants.

Transferability

Transferability refers to the degree to which research findings can be applied or transferred to other settings or groups (Polit & Beck 2012; Shenton, 2004). Cope (2014) argues that a qualitative study has met this criterion if the findings have meaning to individuals not involved in the study. As recommended by Lincoln and Guba (1985), this study attempts to provide a description of the research context and the participants, to allow judgements to be made as to whether these findings can be transferred to other hospital settings or are applicable to healthcare workers in a similar situation. However, in order to protect the anonymity of participants and the hospitals, limited information was gathered about the specific hospitals in which participants were employed. Thus, the description of the research context is generalised to the South African healthcare system as a whole, which may limit the transferability of the research findings.

Dependability

Guba (1981) proposed that in qualitative research, the dependability criterion is related to the consistency of research findings. It refers to the extent to which the same research findings can

be produced if the study were to be replicated with similar participants in a similar context using similar research methods (Lincoln & Guba, 1985; Shenton, 2004). To achieve dependability, the processes within the current study, such as the exact methods of data collection, analysis and interpretation, are thoroughly described, thus enabling a future researcher to repeat the work as well as allowing readers to assess the extent to which appropriate research practices have been followed (Krefting, 1991; Shenton, 2004).

Confirmability

Confirmability refers to the degree to which the data represents the participants' responses and experiences, and not the researcher's biases or viewpoint (Polit & Beck, 2012). Qualitative research is subject to researcher bias as the researcher is considered the instrument (Cope, 2014). To establish confirmability, researchers need to ensure that they address any preconceived ideas, assumptions, and biases in the study (Cope, 2014).

In order to address this criterion, I engaged in the process of reflexivity through the use of a reflexive journal (Polit & Beck, 2012; Krefting, 1991). A reflexive journal provided me with the means through which to describe and interpret my behaviour, experiences, thoughts, and feelings within the research context (Krefting, 1991). In doing so, I created awareness of any biases and preconceived assumptions that I held. I was then able to make changes to the way in which I collected data and approached data analysis, enhancing the credibility and confirmability of the research (Krefting, 1991). Furthermore, confirmability was enhanced by clearly demonstrating participants' experiences through the provision of data extracts, showing that I have not fabricated the research findings.

3.14 Ethical considerations

Ethical approval for the study was obtained from the Human and Social Sciences Ethics Committee of the University of KwaZulu-Natal (HSSREC/00003264/2021) *(see Appendix A)*. Moreover, the following ethical principles were used to inform the study and ensure that ethical research practice was upheld and the welfare of participants prioritised:

Autonomy and respect for persons

Autonomy refers to a participant's right to self-determination, individual choice, and free-will (Beauchamp & Childress, 2001). This principle finds expression in the process of informed consent, as it respects an individual's right to freely decide whether to participant in a study (Beauchamp & Childress, 2001; Wassenaar, 2006). A clear description and explanation of the research, including its objectives, significance, potential risks and benefits, and what is expected of participants, was provided to participants when they were initially contacted and emailed to them before the interviews commenced. Participants were asked to sign a consent form as proof of their voluntary participation. Participants were also informed that they are free to withdraw their consent at any point in the study without incurring any negative consequences.

It is also ethically important that participants are treated with ongoing respect (Wassenaar, 2006). This involves respecting participants' privacy and ensuring confidentiality (Wassenaar, 2006). Email interviewing is vulnerable to cyber security breaches, which may result in a loss of confidentiality (Fritz & Vandermause, 2018). As recommended by Gibson (2010), I used a separate, password protected email account with a strong password to maintain confidentiality and privacy. Furthermore, participants' responses were copied into folder on an external hard drive that was password protected, and the original emails were deleted as soon as a response

had been sent. All data will be destroyed after five years. Confidentiality was also maintained through the use of pseudonyms in the final research report.

Moreover, the process of member checking proved to be a valuable strategy for ensuring that the anonymity of participants was protected. The process of member checking allowed participants the opportunity to identify information that they felt may expose them. I was then able to make the necessary changes when reporting the study's findings to ensure that the information discussed could not be used to identify the participants or their employers.

Nonmaleficence

Nonmaleficence refers to a researcher's ethical obligation to minimise risks and ensure that participants are in no way harmed during the research process (Wassenaar, 2006; Pietilä et al., 2019). Qualitative research methods do not physically harm participants, however there is a possibility of psychological and emotional harm (Pietilä et al., 2019). If participants experienced emotional distress during the interviews, adequate psychological intervention was recommended to prevent secondary psychological harm (Wassenaar, 2006). It was important to attend to any written cues that a participant was experiencing emotional distress and explore the level of distress in order to make the appropriate referral (McCoyd & Kerson, 2006). Furthermore, if participants felt uncomfortable or distressed at any point, they were free to exercise their right to withdraw from the study.

Beneficence

The principle of beneficence refers to the researcher's ethical obligation to prioritise participants' well-being and maximise the benefits for research participants and society (Wassenaar, 2006). It has been noted that participants in qualitative research may feel a sense of empowerment and being valued, from having their stories listened to and heard (Peters et al., 2008; East et al., 2010). Participants may also find telling their stories to be cathartic (East

et al., 2010). In this study, the interviewing process provided healthcare workers with a space to reflect and find meaning in their experiences, as well as allow their stories to be heard and validated. This was confirmed by one of the participants who stated:

"Being involved in this research has really given me the platform to finally express all my feelings, thoughts and emotions that I never really had the time or opportunity to do while in the thick of the pandemic. So, it has been quite cathartic and even therapeutic to finally put pen to paper about my COVID experience."

The social value of the research, ideally, will be that the research findings may be used to inform future crisis interventions and public policy in South Africa, to ensure that healthcare workers are adequately prepared, and their overall well-being protected.

Taken together with the above principle (nonmaleficence), these principles refer to a researcher's responsibility to maximise potential benefits while minimising potential risks (Beauchamp & Childress, 2001). The potential benefit of knowledge achieved from this research, can be said to be greater than the potential risk to participants.

Justice

Justice requires that researchers treat participants with fairness and equity (Beauchamp & Childress, 2001). Justice can be realised through the fair selection of participants, by selecting a study population for which the research question applies and ensuring that all members of the relevant population have an equal opportunity to participate in the research (Beauchamp & Childress, 2001). As previously mentioned, healthcare workers were used as the study's sample, as the research aimed to specifically explore the experiences of South African healthcare workers.

3.15 Conclusion

This chapter outlined and described the research methodology used in conducting the study. The qualitative nature of the study, the study population, location, sampling, procedure, and methods of collecting and analysing data were discussed. Lastly, the ethical guidelines and trustworthiness of the study were outlined.

Chapter 4: Findings and Discussion

4.1 Introduction

The aim of this study was to explore the experiences of healthcare workers caring for patients with COVID-19 by simultaneously exploring intrapersonal and contextual factors, and the dynamic interplay between these factors that may contribute to the unique experiences and well-being of healthcare workers within the South African context. In this chapter, the research findings will be presented and discussed. The research findings are divided into themes in accordance with the study's objectives and the ecological model.

The first section is dedicated to the participants' description of their experiences and the impact of the pandemic on participants. This section provides evidence for the presence of psychological distress as well as participants' ability to manage the negative impact of the pandemic. It discusses the range of negative emotions experienced by participants that appear to have occurred simultaneously and progressively with positive emotions and outcomes. The following sections are dedicated to the various factors that have influenced the experiences of participants practising as healthcare workers during the COVID-19 pandemic. Section 2 outlines how the unpredictable nature of COVID-19 itself and the magnitude of the pandemic has impacted on participants' experiences and contributed to their anxiety, uncertainty and fear. Sections 3 through 7 focus on the factors at the different levels of the ecological model that have contributed to the unique experiences of healthcare workers within the South African context, namely the individual level, interpersonal level, organisational level, societal level, and the chronosystem.

Figure 1

Factors impacting the experiences of healthcare workers

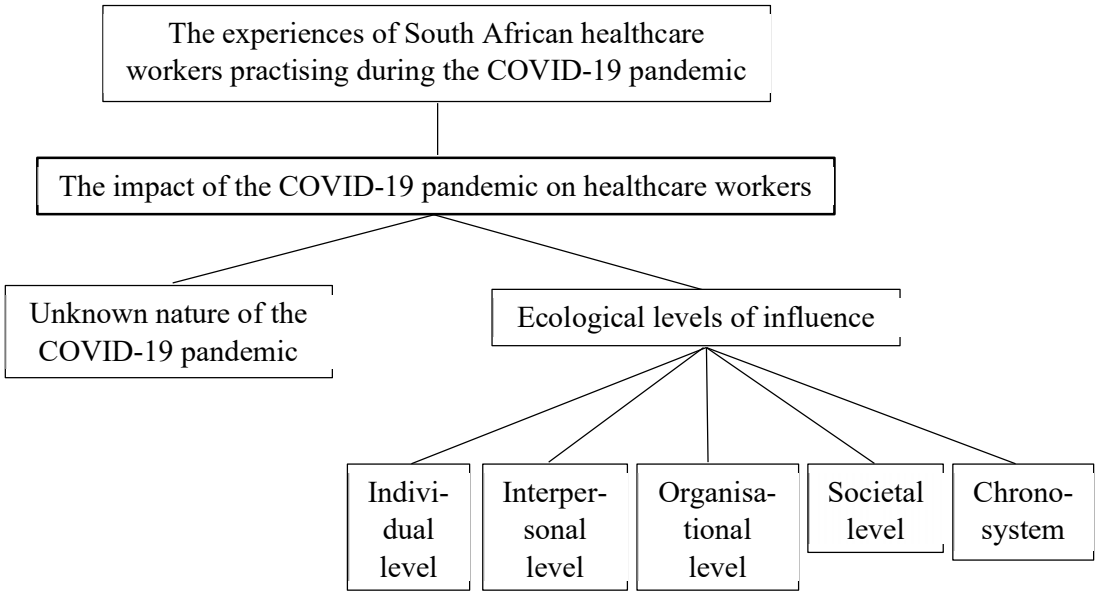


Table 2

Themes

Theme:	**Subtheme:**	**Sub-subthemes:**
The impact of the COVID-19 pandemic on healthcare workers		
Unknown nature of the COVID-19 pandemic		
Individual level factors mediating healthcare workers' experiences	Marital and parental status COVID-19 infection status and speciality risk Managing uncertainty, anxiety, and fears	

Interpersonal level factors mediating healthcare workers' experiences	Social support	
	Impact on relationships	Negative impact
		Positive impact
	Treating and caring for patients	Interactions with patients
		Interactions with patients' families
	Colleagues	Teamwork
		Communication and information sharing among healthcare workers
Organisational level factors mediating healthcare workers' experiences	Hospital management	Hospital policy
		Poor leadership and lack of support
	Personal protective equipment	
	Futility of treatment and rapid deterioration of patients	
Societal level factors mediating healthcare workers' experiences	Government's response	Government failings
		Positive aspects
	Social media	Positives of social media
		Negatives of social media

	Conspiracy theories and false information Public perception	
Chronosystem level factors mediating healthcare workers' experiences	Adaptation, normalisation, and improvement in the pandemic situation	

4.2 Findings

4.2.1 The impact of the COVID-19 pandemic on healthcare workers

The literature indicates a paradox in the experiences of frontline healthcare workers during the COVID-19 pandemic (Bennett et al., 2020; Liu et al., 2020b; Sun et al., 2020; Grailey et al., 2021; Karakose & Malkoc, 2021; McGlinchey et al., 2021). These studies found that healthcare workers were experiencing psychological distress and reported a negative impact on their overall well-being as a consequence of the pandemic, while also demonstrating resilience and the ability to utilise various coping strategies to manage the negative impact of the pandemic. A similar finding was observed in the present study. Participants report experiencing a range of negative emotions throughout the pandemic, such as anger, anxiety, panic, stress, nervousness, fear, distress, and dejection. However, the findings also suggest that participants utilised various coping strategies and report positive experiences, such as receiving support from friends, family, colleagues, and the community and a strengthening in their interpersonal relationships. Thus, positive emotions and outcomes appear to have occurred simultaneously and progressively with a range of negative emotions and outcomes.

Practicing as a healthcare worker during the COVID-19 pandemic is described by Participant 4 as being "*incredibly stressful and unpleasant"*. He states that the other epidemics he has

experienced do not compare to the COVID-19 pandemic as this was "*a truly terrible experience*". The extent of psychological distress experienced by Participant 4 is apparent when he states, "*I developed PTSD symptoms after the 2nd wave*".

Participant 4: *"Practising as a HCW during the pandemic has been incredibly stressful and unpleasant"*

Participant 4: *"I have seen the other epidemics of H1N1 and Influenza A but this has been a truly terrible experience"*

Participant 4: *"I developed PTSD symptoms after the 2nd wave and required the assistance of a psychologist to continue with work"*

Furthermore, Participant 4 reports experiencing a range of negative emotions such as distress, anger, and feeling disheartened.

Participant 2 re-joined the healthcare system as a nurse during the delta wave of the COVID-19 pandemic. She describes how she "*started to panic*" when she first entered the COVID-19 Intensive Care Unit (ICU). Although her shifts became more manageable as she felt "*more mentally prepared*", she still describes her time in the ICU as "*challenging and emotionally draining*".

Participant 2: *"When it was my turn during the delta wave, I entered the covid ICU and started to panic … The next shift I felt more mentally prepared and managed my shift …"*

Participant 2: *"So needless to say shifts were challenging and emotionally draining"*

Participant 3 cites the negative emotions she experienced during the early stages of the pandemic:

Participant 3: *"I was quite nervous as this was a novel virus with many deaths being reported and I was still learning about the signs and symptoms of COVID and what to look out for, how*

to test for it and of course, how to manage it. It was quite nerve-wracking knowing that we were on the verge of a pandemic, the first I had ever experienced in my medical career"

Furthermore, Participant 3 indicates that the pandemic has impacted on her overall well-being when she states:

Participant 3: *"it definitely took quite a toll on me both physically and mentally, especially"*

Under these circumstances, she shares how difficult it was becoming to envision the pandemic coming to an end and her life returning to normal, which was "*disheartening and demotivating*".

Participant 3: *"It was becoming hard to imagine life without COVID which was disheartening and demotivating"*

Similarly to Participant 3, Participant 1 references the start of the pandemic being particularly stressful.

Participant 1: *"The beginning of the pandemic was, frankly, terrifying."*

Participant 1 reports experiencing a range of negative emotions during this time, such as anxiety, fear, and anger.

Participant 1: *"My overwhelming emotion was anxiety and fear, but there was a healthy dose of anger too"*

Although participants report experiencing a range of negative emotions, there is also evidence of positive emotions and outcomes of the COVID-19 pandemic. Participants report utilising various coping strategies to help manage the negative impact of the pandemic. These coping strategies include cleaning procedures and obtaining the vaccine to prevent transmitting the virus to their loved ones, empowering themselves through information gathering, engaging in

self-care, establishing healthy boundaries in relationships, and receiving psychological assistance.

Participant 2: "*I had spoken to some friends of mine and a doctor that works here and they were all the same procedure at home just to make sure that they didn't take COVID home from the hospital. And it worked because we didn't get it, so I was happy to do the procedure and the rigmarole if it meant that I kept my family safe*"

Participant 1: "*I was very keen to obtain the vaccine and received it as soon as it was available to me. This made a significant difference in my anxiety*"

Participant 1: "*My boundaries have got way better and self-care is even more important*"

Participant 4: "*I developed PTSD symptoms after the 2nd wave and required the assistance of a psychologist to continue with work*"

Furthermore, participants describe positive experiences such as receiving support from family, friends, and colleagues and a strengthening in their interpersonal relationships.

Participant 3: "*Thankfully, I had a good support system in place, both in my work-place and personally, at home*"

Participant 3: "*It strengthened my connection with family, friends and the community, as people were very fearful and unsure and so felt a sense of security in knowing that their doctor-wife, mom, sister, daughter, friend and GP was there to answer questions and had their health at heart*"

Participant 1: "*I feel we* [husband and I] *are stronger now than we were before*"

The above findings indicate that the pandemic has had a significant impact on participants. Interestingly, positive emotions and outcomes appear to have occurred simultaneously and progressively with a range of negative emotions and outcomes. The specific experiences that

may have contributed to these emotions and outcomes will be explored in the subsequent themes. The purpose of this theme was merely to demonstrate how the COVID-19 pandemic has impacted on healthcare workers by highlighting participants' explicit descriptions of their pandemic experiences as well as the range of emotions that they experienced during this time.

4.2.2 Unknown nature of the COVID-19 pandemic

The unknown nature of the COVID-19 pandemic contributed to the anxiety and fear experienced by participants. Two participants mention experiencing previous epidemics, such as H1N1, Influenza A, HIV/AIDS and a Cholera outbreak. However, despite these previous experiences, they were unprepared for a pandemic of "*this significance and proportion*", as indicated by Participant 3. Participants report that the unpredictable nature of the virus, the unknown duration of COVID-19 waves, and a lack of clinical knowledge of COVID-19 resulted in fear and feelings of nervousness during the early stages of the pandemic.

Participant 1: *"The beginning of the pandemic was, frankly, terrifying … The fear of the unknown was the predominant concern"*

Participant 3: *"It was quite nerve-wracking knowing that we were on the verge of a pandemic, the first I had ever experienced in my medical career. I had lived through HIV/AIDS and an epidemic of Cholera in the year 2000 … but nothing of this significance and proportion and with such alarmingly high mortality rates … I was quite nervous as this was a novel virus with many deaths being reported and I was still learning about the signs and symptoms of COVID and what to look out for, how to test for it and of course, how to manage it"*

In the above extracts, Participants 1 and 3 both indicate that it was the start of the pandemic that was particularly stressful for them. Participant 1 specifically refers to the "*beginning of the pandemic*", while Participant 3 makes reference to being "*on the verge of a pandemic*". For

both participants the beginning of the pandemic was particularly stressful because it was accompanied by the "*fear of the unknown*", so clearly articulated by Participant 1. Participant 3 shares that this was the first pandemic she had lived through and that it was the "*novel*" nature of the virus that was particularly frightening at the start of the COVID-19 outbreak. While Participant 4 does not identify the start of the pandemic specifically, he does allude to it in the following quote when he references feelings associated with the "*unpredictable nature of the virus*".

Participant 4: *"We worked very long hours and the feeling of the unpredictable nature of the virus in disease process and the futility of placing people onto advanced life support was there"*

It would seem that the unfamiliarity of the pandemic situation and the fear of the unknown during the onset of the COVID-19 pandemic contributed to the stress and anxiety reported by participants. This was a similar finding in the studies conducted by Liu et al. (2020b), Sun et al. (2020), Grailey et al. (2021), and Ness et al. (2021). These studies found that the beginning of the pandemic as being particularly stressful for healthcare workers who reported experiencing a significant amount of negative emotion such as anxiety, fear, and nervousness during these early stages. They found that the greatest concern among healthcare workers during this time was the fear of the unknown and the novel nature of the virus, which is consistent with the current study's findings (Liu et al., 2020b; Sun et al., 2020; Ness et al., 2021). Grailey et al. (2021), Liu et al. (2020b), and Sun et al. (2020) explain that the unknown nature of the pandemic was distressing for healthcare workers as they feared being unable to adequately treat patients due to their lack of knowledge and prior experience. This is reflected in the current study when Participant 3 reports feeling nervous as this was the first pandemic she had experienced and she lacked clinical knowledge regarding COVID-19.

4.2.3 Individual level factors mediating healthcare workers' experiences

At the individual level, it was identified that the experiences of participants were influenced by three factors; namely, marital and parental status, COVID-19 infection status and speciality risk, and how participants managed the uncertainty, anxiety, and fear.

4.2.3.1 Marital and parental status

All of the participants are married and have children (either biological or stepchildren). Half of the participants expressed concern regarding the health and safety of their families during the pandemic. These participants feared that they may carry the virus home from the hospital on their clothing, body, or hair, and thus potentially infect their families.

Participant 1: *"I was afraid of dying or of losing my husband to the virus. I was afraid of bringing it home to my family on my clothes …"*

Participant 2: *"I had spoken to some friends of mine and a doctor that works here and they were all doing the same procedures at home just to make sure that they didn't take COVID home from the hospital … so I was happy to do the procedure and the rigmarole if it meant that I kept my family safe"*

The above extracts indicate that the thought of potentially transmitting the virus to their families was a concern for Participant 1 and Participant 2. Participant 1 states how "*afraid*" she was of "*bringing it home*" and potentially compromising the health of her family. She cites the fear she experienced at the possibility of losing her husband to the virus, which may have been amplified by the thought that she was placing him at an increased risk of infection. Participant 2 alludes to the worry she experienced for her family's safety when she describes the procedure she engaged in to ensure "*that I kept my family safe*".

Interestingly, having a partner and children at home also played an important role in the provision of emotional and instrumental support to participants. Participant 1 and Participant 4 both state that their partners were very supportive during this difficult time. In addition to the support from his wife, Participant 4 also shares how the joy of seeing his two sons every day after work made it possible to get through the stress of the pandemic. He references the support from his wife and children as being the "*main reasons*" for getting through this difficult time.

Participant 1: *"He* (husband) *was very supportive and managed my anxiety as best he could. He cooked more than he usually does and made sure the foods were immune boosting. He also created a home gym to attempt to keep me fit"*

Participant 4: *"The main reasons for getting through this were the support provided by my wife (a* [healthcare worker] *so she had a lot of insight into what I was experiencing) and my two young sons who I looked forward to seeing every day"*

The above findings suggest that participants' marital and parental status had both a positive and negative impact on their well-being and the psychological distress that they experienced during the pandemic. On one hand, living with a partner and children contributed to their psychological burden as they were afraid of transmitting the virus to their families. On the other hand, their families were a significant source of social support. A review of the literature indicates similar contradictory findings with regards to the impact of marital and parental status on the well-being of healthcare workers.

Some studies report marriage to be a risk factor for the psychological status of healthcare workers (Alnazly et al., 2021; Ayalew et al., 2021; Hacimusalar et al., 2020; Jemal et al., 2021; Karasu et al., 2021; Yao et al., 2020). Studies also found that healthcare workers with children reported higher levels of distress, anxiety and depression compared to those without children (Erquicia et al., 2020; Karasu et al., 2021; Li et al., 2020). These studies argue that married

healthcare workers and those with children may be experiencing a higher prevalence of psychopathological symptoms because of their increased concern and worry about exposing their loved ones to the virus (Ayalew et al., 2021; Jemal et al., 2021; Karasu et al., 2021). Furthermore, qualitative studies revealed similar findings to the current study stating that healthcare workers who lived with their families reported experiencing constant fear of transmitting the virus to their family members (Ardebili et al., 2021; Bennett et al., 2020; Brophy et al., 2021; Karakose & Malkoc, 2021; Kea et al., 2021; Liu et al., 2020b; McGlinchey et al., 2021; Sun et al., 2020; Grailey et al., 2021; Ness et al., 2021).

On the contrary, a number of studies found that unmarried healthcare workers were experiencing a poorer mental health status and a higher prevalence of psychopathological symptoms than those who are married (Alenazi et al., 2020; Elbay et al., 2020; Feingold et al., 2021; Hong et al., 2021; Nayak et al., 2021; Repon et al., 2021; Sakib et al., 2021; Song et al., 2020; Wang et al., 2021). Feingold et al. (2021), Hong et al. (2021), Nayak et al. (2021), and Song et al. (2020) argue that married healthcare workers may be receiving more support from their partners and families, thus alleviating their psychological distress. Moreover, studies reported that having children was a protective factor against the development of depressive symptoms (Maciaszek et al., 2020) and that healthcare workers with children reported lower levels of distress than those without children (Babore et al., 2020). Babore et al. (2020) argue that children may provide a respite from the exhausting working conditions facing healthcare workers. This is demonstrated when Participant 4 shares how the joy of seeing his two sons every day after work made it possible to get through the stress of the pandemic. Concurring with the findings of the current study, a qualitative study conducted by De Leo et al. (2021) found that family was a fundamental source of support for healthcare workers during the pandemic.

4.2.3.2 COVID-19 infection status and speciality risk

In the following extract, Participant 4 states that he contracted COVID-19 during the early stages of the pandemic and expresses feeling immense anger during this time, particularly towards the government, as their failure to obtain vaccines for South African healthcare workers left him "*feeling very vulnerable*".

Participant 4: *"I contracted the virus during the first wave but luckily was mildly ill, I was very angry during that time as little to no effort was made by the government to obtain vaccines for HCWs … The lack of a vaccine left a lot of us feeling very vulnerable"*

Although none of the other participants state having contracted COVID-19 whilst practising as healthcare workers during the pandemic, they did express concerns for their safety and describe the fear they experienced when coming into contact with patients diagnosed with COVID-19. Participant 2 describes her fear as follows:

Participant 2: *"I entered the COVID ICU and started to panic … you pray no patient coughs on you"*

Participants also feared becoming infected and potentially losing their lives or transmitting the virus to their families. This fear is expressed by Participant 1 in the following extract:

Participant 1: *"I was afraid of dying or of losing my husband to the virus. I was afraid of bringing it home to my family…"*

Being at increased risk of mortality if contracting COVID-19, due to underlying health conditions, also appears to have had a significant impact on the fear and anxiety experienced by one of the participants. This is evident when Participant 1 states that one of her fears during the early stages of the pandemic was losing her life to the virus. Later in the interview she states that she believed, "*I would die if I got COVID because I am asthmatic"*.

The literature indicates that healthcare workers who had tested positive or were suspected of being infected with COVID-19 were at significantly higher risk of suffering serious mental illness (Wu et al., 2020b) and reported higher levels of anxiety (Alzaid et al., 2020; Firew et al., 2020; Karasu et al., 2021; Liu et al., 2020a; Sahin et al., 2020) than negative or non-suspect cases. The findings from these studies suggest that Participant 4 contracting COVID-19 whilst practising as a healthcare worker may have been a contributing factor to the symptoms of posttraumatic stress disorder that he experienced during this time.

The findings of the current study indicate that participants feared contracting the virus and were concerned for their own as well as their families' health and safety, which is consistent with the studies conducted by Ardebili et al. (2021), Bennett et al. (2020), Brophy et al. (2021), Karakose and Malkoc (2021), Kea et al. (2021), Liu et al. (2020b), McGlinchey et al. (2021), Grailey et al. (2021), and Ness et al. (2021). Furthermore, Participant 1's heightened sense of fear and anxiety regarding infection due to her underlying health condition is supported by Ness et al. (2021) who found that healthcare workers who suffered from an underlying health condition were particularly concerned for their safety during the pandemic.

4.2.3.3 Managing uncertainty, anxiety, and fears

Participants used various coping strategies to help manage their anxiety, fear, and concerns during the COVID-19 pandemic.

To manage the concerns for their safety and the fear of transmitting COVID-19 to their families, participants developed cleaning procedures that they would engage in when coming off of their shifts. These participants would avoid any contact with their family members until they had completed this procedure.

Participant 1: *"I was afraid of bringing it home to my family on my clothes so I developed a ritual which I now see as excessive but which made me feel safer and which mimicked my colleagues' actions. I stopped wearing any jewellery (including wedding ring) as the virus had long staying power on metal. My phone was placed in a plastic bag and sanitised all day. I would strip off my clothing in the garage when I got home and place it in a bucket of bleach and run to the shower to wash before greeting my family"*

Participant 2: *"I would come home and my kids were often on their way to school already so they would be in the car ready to go and I would just wave at them and say goodbye, no kissing and hugging. They knew that they weren't allowed to touch me until I had a shower. On the days that they were at home and I was coming home … they had to stand far away from me and I would get undressed at the door and then take all my clothes and shoes to the washing machine and wash that and then I would shower and spray my phone, pens and name tag down with disinfectant. And they knew they couldn't touch anything. Only after that would we be able to say hi and give hugs … I was happy to do the procedure and the rigmarole if it meant that I kept my family safe"*

The cleaning procedures described above afforded participants some peace of mind knowing that they were doing all they could to keep themselves and their families protected against infection. This is evident when Participant 2 states that she would gladly engage in this procedure "*if it meant that I kept my family safe*" and Participant 1 describes how it "*made me feel safer*". However, Participant 1 also describes the procedure as "*excessive*", while Participant 2 refers to it as "*the rigmarole*", indicating that this procedure was tiresome for participants.

Brophy et al. (2021), McGlinchey et al. (2021), and Maben et al. (2022) report similar findings to the above regarding the development of cleaning procedures. Brophy et al. (2021) describes

how healthcare workers would undress in their garages and immediately shower when coming home from their shifts, while McGlinchey et al. (2021) and Maben et al. (2022) found that healthcare workers were exhausted by the intensive cleaning procedures that they engaged in to prevent transmitting the virus to their family members.

Engaging in these cleaning procedures also meant that participants could not express physical affection in ways that they were accustomed to. Participant 2 shares how she would wave goodbye to her children as they were leaving for school, "*no kissing and hugging*". The lack of physical affection is further demonstrated when Participant 2 states, "*they weren't allowed to touch me*" and "*they had to stand far away from me*", until after she completed her procedure. This disruption to how participants and their families expressed physical affection may have been a source of stress and anxiety for both participants and their children. Ardebili et al. (2021) found that during the COVID-19 pandemic healthcare workers experienced sensory deprivation as a result of restricting physical affection with their families, out of fear of potentially transmitting the virus to them. The healthcare workers in this particular study reported that this had a significant impact on their relationships (Ardebili et al., 2021).

Another strategy to reduce participants' fear of infection and concern for their physical health was receiving the vaccine. All of the participants indicated that once the vaccine was available, they had received it. One participant said the following:

Participant 1: *"I was very keen to obtain the vaccine and received it as soon as it was available to me. This made a significant difference in my anxiety"*

As previously discussed, the unknown nature of the COVID-19 pandemic contributed to the anxiety and fear experienced by participants. Participants managed this uncertainty and lack of knowledge by gathering information from colleagues on social media, relying on specialists for information, and asking senior colleagues questions when on shift.

Participant 1: *"I am on social media with colleagues across the globe (Facebook, WhatsApp groups) and this was incredibly informative … I was educated by my colleagues' experiences"*

Participant 3: *"Everything was new to us as doctors too. We had to rely on specialists for answers too"*

Participant 2: *"I had received no training. I was just asking a lot of questions day to day. On each shift there is a shift leader. If I came across an issue or needed help, I would ask them what to do or their opinion"*

Participants used various strategies to help manage the uncertainty of the pandemic and lack of knowledge, which is consistent with the study conducted by Liu et al. (2020b). In their study they found that healthcare workers managed the unknown nature of the COVID-19 pandemic by trying to gain a deep understanding of the diagnosis and treatment guidelines released by the National Health Commission of China, discussing their experiences with other healthcare workers, and learning through exploration (Liu et al., 2020b).

Participant 4 states that one of the ways he managed the uncertainty and anxiety was through, *"the realisation that this pandemic will evolve and become less scary as more information about the virus is obtained"*. Similarly, Grailey et al. (2021) found that healthcare workers maintained a positive mindset by focusing on the fact that the pandemic would come to an end at some point.

Participants further managed the emotional and physical exhaustion of practising as healthcare workers during the pandemic through strategies such as self-care, receiving professional psychological assistance, utilising their support systems, and "*clocking out*" from work and relaxing. Described below is the technique of "*clocking out*" that Participant 2 reports learning during her training as a nurse and utilised during this difficult time:

Participant 2: *"In terms of how to deal with this. So basically, in my training one of my teachers said to us once that … at all the hospitals you have clock in machines, so you put your hand on there and it clocks you out or clocks you in. And she just said when you clock out on your way home, you just leave work at work, you leave everything behind and don't take it home with you. Clocking out became a mental trigger for me that my shift is done, I've done everything I could have done today, go home and just relax"*

The physical act of having to clock-in and clock-out of her shifts at the hospital was referred to by Participant 2 as a "*mental trigger*". Thus, the physical act of clocking-out at the end of her shift became a conscious reminder to "*leave work at work*". By doing so, she was able to relieve herself of the physical and emotional challenges of the day and completely relax when at home, reassuring herself that "*I've done everything I could have done today*". Interestingly, the nurses in Regenold and Vindrola-Padros's (2021) study expressed that they were not able to switch off from work when they were at home, feeling anxious about their next shift and often waking up at night thinking about work. Thus, they were not able to relax when off shift and felt that working during the COVID-19 pandemic had taken an emotional toll on them (Regenold & Vindrola-Padros, 2021).

4.2.4 Interpersonal level factors mediating healthcare workers' experiences

The interpersonal level consists of social networks and social support systems. Participants cite the important role that their social support systems played in getting them through the COVID-19 pandemic. The COVID-19 pandemic was also identified as impacting on the personal relationships of participants. Furthermore, interactions with patients, patients' families, and colleagues were important factors at the interpersonal level. The subthemes 'Social support',

'Impact on relationships', 'Treating and caring for patients', and 'Colleagues' are discussed below.

4.2.4.1 Social support

Most participants identified their family and/or friends as important sources of social support. Participant 4 states that the support and understanding from his wife and the respite his children provided made it possible to get through what he describes as "*a truly terrible experience*". In the following quote he describes the significance of their support as "*the main reason for getting through this*":

Participant 4: *"The main reasons for getting through this were the support provided by my wife (a* [healthcare worker] *so she had a lot of insight into what I was experiencing) and my two young sons who I looked forward to seeing everyday"*

In the following extract Participant 1 describes how her husband was "*very supportive*" and provided emotional support as well as instrumental support. Her husband showed emotional support through managing her anxiety and instrumental support by cooking her meals and ensuring she was eating healthy foods and staying physically fit.

Participant 1: *"He was very supportive and manged my anxiety as best he could. He cooked more than he usually does and made sure the foods were immune boosting. He also created a home gym to attempt to keep me fit"*

As previously discussed, Participant 2 was able to cope with the physical and emotional exhaustion by mentally "*clocking out*" from work. This involved never going into detail with her husband about the emotional and physical challenges she was facing at work, as described below:

Participant 2: *"I would talk to him about the surface things … but I would never go into details with him at home just because I didn't want to allow my mind to wonder there when I was at home, which was a safe space"*

Although she may have limited her emotional expression to her support system, she still describes home as a "*safe space*", thus illustrating the security, comfort and support she felt when home with her husband and children.

Furthermore, participants were incredibly grateful for the support and encouragement they received from friends, colleagues, and family, and acknowledged their efforts. Participants said the following:

Participant 3: *"Thankfully, I had a good support system in place, both in my work-place and personally, at home …"*

Participant 1: *"My two closest friends were exceptional. They were so supportive and were there for me in many ways. Other close friends also rallied together to try to support me (and each other) as best as they could"*

As seen in the above extracts, friends, colleagues, and family were an important source of social support for participants. These findings suggest that participants utilised their support systems to help manage their anxiety and distress. A review of the literature suggests that social support had a significant impact on the mental health status of healthcare workers during the pandemic. Healthcare workers with higher levels of social support were less likely to develop psychopathological symptoms (Arafa et al., 2021; Asnakew et al., 2021; Elbay et al., 2020; Fang et al., 2021; Hennein et al., 2021; Hong et al., 2021; Li et al., 2021; Nie et al., 2020; Oriz-Galuo et al., 2022; Pappa et al., 2021; Smallwood et al., 2021; Song et al., 2020; Tiete et al., 2021; Zhu et al., 2020a). Consistent with the current study, Liu et al. (2020b), McGlinchey et al. (2021), Okediran et al. (2020), De Leo et al. (2021) and Sun et al. (2020) found that

healthcare workers identified multiple sources of social support that helped them cope with the stress of the pandemic, including their colleagues, families, friends and society. Furthermore, Liu et al. (2020b) and Sun et al. (2020) found that healthcare workers expressed gratitude and appreciation for the social support that they had received during this time, as seen in the current study's findings.

Lewis et al. (2022) found that feeling connected to friends, family, and colleagues was a significant part of managing healthcare workers' mental health and how they cared for themselves. Lewis et al. (2022) argue that their findings suggest that healthcare workers' conceptions of self-care were rooted in a relational framework, where caring for one's overall wellbeing is viewed as being co-constructed through interpersonal relationships. The emphasis that the participants in the current study placed on the importance of social support and their gratitude towards their social support systems may suggest a similar notion to that expressed by Lewis et al. (2022). This finding appears to allude to the concept of collective care. Although participants engaged in various self-care strategies, as previously discussed, the importance of connecting with friends, family, and colleagues emerged as a significant strategy to help manage their distress. This suggests a broadening of the concept of self-care in which the well-being of healthcare workers goes beyond their individual responsibility, being interconnected with, and shaped by, others.

4.2.4.2 Impact on relationships

The COVID-19 pandemic has impacted on the interpersonal relationships of participants in various ways. Participants describe how their relationships with friends and family changed in both positive and negative ways.

4.2.4.2.1 Negative impact on relationships

Two of the participants report experiencing tension in their relationships with their partners, friends, and family, which added to their emotional burden.

Participant 1 describes a particularly interesting dynamic between her and her husband during the early stages of the pandemic. She states that her husband was concerned about her working during the pandemic as it meant putting her health and potentially her life at risk. He was also incredibly supportive during this time. However, she expresses that he experienced "*feelings of jealousy*" at the fact that she could continue working while he was unable to work, as he was not an essential worker. This resulted in her and her husband envying each other's situations:

Participant 1: *"He was not considered an essential service so he was unable to work. This brought out feelings of jealousy in him too, as he had bad cabin fever whereas all I wanted to do was stay at home and feel safe. I wanted to be in his shoes and he wanted to be in mine!"*

Furthermore, Participant 1 expresses that her husband may have felt "*threatened*" by her during this time, as he was unable to operate his business and thus had to financially rely on her. She describes how the early stages of the pandemic were "*incredibly intense*" as her and her husband "*argued more than we ever have before or since during that first lockdown*". Adding to the stress in their relationship was the fact that they also had to delay the treatment of their own medical conditions, owing to the pandemic.

Participant 1: *"We argued more than we ever have before or since during that first lockdown. It was incredibly intense. He has his own business so no work equals no pay. We were grateful for my secure salary, but I also feel it threatened him slightly as he had never had to rely on anyone before … We had to put off treatment of our own medical conditions due to the pandemic which really added to the stress"*

Similarly, De Leo et al. (2021) found that healthcare workers reported increased tension and arguing with their partners. One participant shared that her husband was extremely concerned about her working during the pandemic and tried to convince her to quit her job and stay home, which resulted in frequent arguments (De Leo et al., 2021). However, Participant 1's experience of jealousy and insecurity from her partner are not, to my knowledge, reflected in the existing literature.

Participant 1 and Participant 3 both report experiencing tension in their personal relationships with friends and family who did not adhere to social distancing, who believed in conspiracy theories, and who supported the anti-vaccination movement. Participant 3 felt that those who believed in conspiracy theories developed a "*growing mistrust*" in medical professionals and began to treat her accordingly. She refers to these individuals treating her with "*scepticism and caution*". Participant 1 demonstrates strong disapproval and disagreement with those who supported conspiracy theories and the anti-vaccination movement, referring to them as "*stupid and selfish*". She felt that these individuals had "*no place in my personal life*", which ultimately resulted in her intentionally distancing herself from these individuals.

Participant 3: *"the only people (whether it be family, friends or community) that it's had a possible negative impact on, are those that believe in conspiracy theories and treated me with scepticism and caution. These people developed a growing mistrust in the medical profession which has certainly created tension in my relationships with them"*

Participant 1: *"Lack of adherence to social distancing (early on) and the anti-vaxxer movement created strain with some relationships. I have realised that I view these people as stupid and selfish and they have no place in my personal life … I have distanced myself emotionally from anti-vaxxers and have removed some from my life"*

Similar to Participant 1's perceptions and experiences, Akkus et al. (2022) and Guttormson et al. (2022) found that healthcare workers expressed their frustration towards members of their community who did not adhere to public health guidelines and protective measures. This appeared to impact healthcare workers and their relationship with the community as they felt unsupported and further burdened (Guttormson et al., 2022).

Moreover, Participant 1 describes how she experienced some of her relationships as "*a bit draining*". She felt that some of her friends had unfair expectations of her. She states that they "*expected me to be immediately available*" to answer their continuous questions, however she indicates that she did not have the time as "*I, unlike them, was still working and very busy*". This resulted in a breakdown in these relationships as she decided to socially withdraw herself and invest less time and energy into these friendships. Thus, becoming intentionally "*socially isolated*" from some of her friends can be viewed as a means through which Participant 1 coped with the friendships that were emotionally draining her. This is illustrated in the extract below:

Participant 1: *"I did find some relationships a bit draining. Some friends were very anxious and kept asking me loads of questions; and expected me to be immediately available (but I, unlike them, was still working and very busy). I got quite socially isolated from them (on purpose). Covid taught me to tighten my circle. I spend less time and energy on peripheral people, but I guard those closest fiercely"*

The above findings suggest that the COVID-19 pandemic had a negative impact on some of the participants' interpersonal relationships. These participants reported experiencing tension in their relationships with their partner, family, and friends resulting from jealousy, insecurity, unfair expectations, and conspiracy theories. The experience of tension in the interpersonal relationships of healthcare workers was reported by Ardebili et al. (2021), Bennett et al. (2020), and De Leo et al. (2021). However, this tension was a result of healthcare workers isolating

from their loved ones, which created distance and a reduction in perceived social support (Ardebili et al., 2021; Bennett et al., 2020; De Leo et al., 2021). These studies also found that the negative experiences within healthcare workers' interpersonal relationships contributed to the negative emotions they experienced during the pandemic, which is consistent with the current study's findings.

4.2.4.2.2 Positive impact on relationships

Two participants report a strengthening in their relationships with their partner, friends, and family during the COVID-19 pandemic.

Despite the initial intense arguing between Participant 1 and her husband, she states that their relationship is *"stronger now than before"*. Interestingly, Participant 1 also views the distancing in some of her friendships as a positive outcome of the pandemic. She states that this experience has helped her focus on "*what is truly important*" in life, and as a result she's learnt to establish healthier boundaries and tighten her social circle. She put it this way:

Participant 1: *"COVID taught me to tighten my circle. I spend less time and energy on peripheral people, but I guard those closest fiercely … COVID has helped me to strip my life of all the "nonsense" and focus on what is truly important. My boundaries have got way better"*

Participant 3 states that the COVID-19 pandemic has strengthened her relationships with family and friends as she has acted as a source of security and comfort for them. She describes how people were "*very fearful and unsure*" and that her status as a doctor meant that her friends and family could turn to her for answers during these uncertain times, trusting her opinion as a medical professional.

Participant 3: *"It strengthened my connection with family, friends and the community, as people were very fearful and unsure and so felt a sense of security in knowing that their doctor-wife,*

mom, sister, daughter, friend and GP was there to answer questions and had their health at heart"

Guttormson et al. (2022) found that the healthcare workers in their study reported similar positive outcomes of the COVID-19 pandemic with regard to their interpersonal relationships. The nurses in their study reflected on how they felt supported and appreciated as healthcare worker's during the pandemic (Guttormson et al., 2022).

4.2.4.3 Treating and caring for patients

Treating and caring for patients diagnosed with COVID-19 was both physically and emotionally exhausting for participants. Participants cite challenging interactions with patients and patients' families.

4.2.4.3.1 Interactions with patients

Most of the participants experienced challenging interactions with patients. These participants describe the practical and emotional demands and challenges of treating and caring for patients diagnosed with COVID-19.

Participant 3 cites that the biggest challenge she faced was educating her patients about COVID-19 and attempting to answer their many questions. She specifically refers to how she had to educate her patients about "*what was fact and what was fiction*". This also alludes to the presence of false information regarding COVID-19 which appears to have complicated her interactions with patients. Participant 3 also shares how she was faced with a "*myriad*" of questions from her patients regarding COVID-19 and how she often "*didn't even feel confident to give answers*". Her lack of confidence appears to stem from the unknown nature of COVID-19 and her inexperience with a pandemic of this magnitude as she states, "*everything was new*

to us as doctors too". Educating patients, battling misinformation, and facing an overwhelming number of questions from patients appears to have contributed to the burden on Participant 3. This appears to be compounded by feelings of uncertainty and inexperience.

Participant 3: *"Trying to educate patients about what was fact and what was fiction with regards to COVID was by far, the biggest challenge … trying my best to answer the myriad of questions that my patients had about the origin of COVID, amongst others. Often, I didn't even feel confident to give answers as everything was new to us as doctors too"*

Ness et al. (2021) reports a similar finding with regards to the influence of false or unverified information on the interactions between healthcare workers and their patients. They found that healthcare workers reported feeling frustrated as their patients were hugely influenced by and valued the information that they received from media coverage rather than the information provided by healthcare workers (Ness et al., 2021).

The impact of false information on the interactions between Participant 3 and her patients demonstrates how a narrative at the societal level mediates interpersonal dynamics. Adopting an ecological model highlights the importance of considering, not only, the ecological environment in which healthcare workers are situated, but the interactions between the different levels of the ecological environment and how these interactions may impact on the experiences of healthcare workers (Bronfenbrenner, 1979).

Participant 2 emphasises the challenges of meeting the emotional needs of patients when she describes trying to keep her patients calm while preparing them for the "*inevitable*", which may have been emotionally draining for her. She makes reference to "*the emotional side of it*" when she describes having to inform patients that their health had deteriorated and that they need to be placed on a ventilator. She explains how in these situations she could see the panic and fear

in her patients' eyes. Patients were aware, from observing those being treated around them, that the likelihood of surviving once being placed on a ventilator was extremely small.

Participant 2: *"and trying to keep your patients calm and prepared for the inevitable … I think the emotional side of it, you have to say to them 'look, sorry the time has come, we need to help you breathe now cause you not coping on your own'. And along with not being able to breathe properly there's a lot of panic in their eyes and there's fear because they have seen from all the other patients around them that the people that go onto a ventilator are the ones that don't come off a ventilator and land up dying"*

Participant 2's experiences with patients mirror the findings of Liu et al. (2020b), Ness et al. (2021), Okediran et al. (2020), Guttormson et al., 2022, and Maben et al. (2022). These studies found that healthcare workers were aware of the fear and anxiety that their patients were experiencing and emphasised how they had to provide comfort and support to relieve their patients' emotional burden. Ness et al. (2021) and Maben et al. (2022) found that the added responsibility of having to meet the emotional needs of patients resulted in increased distress for healthcare workers. Furthermore, Guttormson et al. (2022) found that witnessing the suffering of patients had a significant emotional impact and contributed to the stress of the nurses in their study.

Participant 4 describes how interactions with patients were both frustrating and heart-breaking. He states that he encountered patients who would not accept their COVID-19 diagnosis and that some patients even refused treatment, adding that "*this was not an uncommon occurrence*". In the following extract he gives an emotionally vivid account of the moment a patient in denial realises he is in need of the ventilation he had previously denied.

Participant 4: *"A number of patients were in denial about their diagnosis also. I witnessed one patient refuse any therapy until he eventually was so hypoxic he begged to be placed onto a ventilator and died a day later. This was not an uncommon occurrence"*

He also states that it was upsetting when a patient would be admitted into hospital for treatment and realise that they should have done more to protect themselves against infection. Participant 4 explains that this tended to manifest in "*a lot of anger*", which patients and their families often directed towards healthcare workers.

Participant 4: *"... it is always heart-breaking when a very sick person comes in to the ICU and realises they should have done more to protect themselves. It generates a lot of anger from the patient and their relatives which is often directed towards us!"*

4.2.4.3.2 Interactions with patients' families

Two of the participants describe difficult interactions with patients' families. Participant 4 refers to his experiences with patients' families as "*distressing and stigmatising*" as well as "*challenging*". He states that as a healthcare worker he had to deal with the misplaced anger of families being denied visitation, "*which was a hospital decision*", as well as being blamed for a number of deaths by patients' families.

Participant 4: *"... the other issues we had to deal with were the patients' families that were denied access to their dying loved ones (which was a hospital decision). We faced the brunt of their anger and were blamed for a number of the deaths of those patients ... I think the interactions with the families have been challenging, to say the least"*

Later in the interview he emotively recounts this particular experience:

Participant 4: *"We even had one relative phone us to say she will never forgive us for not letting her be with her husband when he died – even though it wasn't our rule – it was the hospital's decision! So certainly stigmatising and distressing to us"*

Although Ness et al. (2021) reported that healthcare workers felt that the restrictions on visitation were anxiety provoking for patients' families, they did not report healthcare workers being blamed by the families for these restrictions or being blamed for patients' deaths, as Participant 4 describes.

Participant 4 further describes how he was confronted, daily, by desperate and angry family members who would question him about unproven therapies. He was also confronted with false accusations, such as "*benefitting financially from the pandemic as WHO* (World Health Organisation) *pays doctors to make a diagnosis of COVID-19*", by families who were in denial or angry about their loved ones' diagnosis.

Participant 4: *"We were constantly questioned about unproven therapies such as ivermectin, hydroxychloroquine and azithromycin daily by angry family members … I have even been accused of benefitting financially from the pandemic as the WHO pays doctors to make a diagnosis of COVID-19!"*

The interactions with patients' families described by Participant 4 are not mirrored in the literature concerning the experiences of healthcare workers during the COVID-19 pandemic.

The above finding demonstrates the dynamic interplay between different ecological levels of the environment and how this may impact an individual's experience (Bronfenbrenner, 1979). The above finding shows how factors within the societal level mediate interpersonal level dynamics, which ultimately impact on the emotional experiences at an individual level. Conspiracy theories and false information constitute factors at a societal level which have created tension between healthcare workers and patients' families. These challenging

interactions between healthcare workers and patients' families have then impacted on the emotional well-being of healthcare workers, as indicated by Participant 4's description of these experiences as "*distressing and stigmatising*".

On the other hand, Participant 4 states that healthcare workers have also been shown kindness and appreciation by both patients and their families. However, the negative experiences seem to have overshadowed the positive ones, as Participant 4 indicates in the following extract:

Participant 4: *"… This hasn't always been the case as we have had some extremely appreciative families and patients. Unfortunately, one always remembers the bad encounters more than the positive ones"*

Participant 2's challenging interactions with patients' families centred around the difficulty of having to tell them that she did not know what the state of their loved ones' health would be from day to day, as "*patients deteriorated so fast*". She describes how the families of patients would respond with comments such as, "*he was ok yesterday when I spoke to him*" and "*I'm getting on a plane tomorrow morning to come say goodbye*", while she knew that tomorrow would be too late. It appears she experienced feelings of guilt or regret when she states, "*I felt as nurses, maybe we didn't do our best in preparing families for what was coming*". These experiences with patients' families were described as "*challenging and emotionally draining*".

Participant 2: *"I found it challenging when family members ask about their loved ones and the only honest answer was, "I don't know how they will be tomorrow." I felt we, as nurses, maybe didn't do our best in preparing family for what was coming. Because these patients deteriorated so fast, they were ok 1 min, ventilated the next and dead a day later. The families would respond with comments like, 'he was okay yesterday when I spoke to him' or 'I'm getting on a plane tomorrow morning to come say goodbye', but tomorrow was too late. So needless to say shifts were challenging and emotionally draining"*

4.2.4.4 Colleagues

4.2.4.4.1 Teamwork

Teamwork appeared to be an important factor in enabling participants to practice effectively as healthcare workers during the COVID-19 pandemic. Most participants either explicitly state or allude to the increased cooperation and cohesion experienced among colleagues.

Participant 1 describes how the majority of the staff in her department accepted their role in the pandemic, "*pulled together*" and "*worked like a team*". Through working as a team, they were able to overcome the many challenges they faced and effectively prepare for the pandemic. This is demonstrated when Participant 1 states that, "*by the time our first COVID-19 patient arrived, we were physically ready for the task*".

Participant 1: *"In general, our department worked like a team, and everyone pulled together. A few people panicked and resigned, but the majority accepted it … We managed the uncertainty by being proactive. We created a task team; we developed protocols and we read everything we could fine. By the time our first Covid patient arrived, we were physically ready for the task"*

This finding is consistent with the existing literature. Studies conducted during the COVID-19 pandemic have found that healthcare workers experienced improved teamwork, cohesion and camaraderie among colleagues (Sun et al., 2020; Grailey et al., 2021; Vindrola-Padros et al., 2020; De Leo et al., 2021; Maben et al., 2022). In line with Participant 1's experiences, Grailey et al. (2021) and De Leo et al. (2021) found that healthcare workers came together and worked effectively in teams in order to deal with the challenges posed by the pandemic and effectively treat patients with COVID-19.

As previously discussed, Participant 1 felt that management had been "*absent*", particularly "*at the beginning of the pandemic*". Thus, it would seem that the lack of guidance and support from hospital management encouraged this increased camaraderie and cooperation among colleagues, as they had to rely on one another to ensure they were "*ready for the task*". Participant 1 makes reference to how "*everyone pulled together*" within her department and she refers to "*we*" when describing their proactive approach to managing the uncertainty of the pandemic.

Similarly, Participant 2 describes how the lack of training, specific to managing patients with COVID-19, meant that she had to rely on her shift leader and other colleagues for assistance and information. This is clear in the following extract:

Participant 2: *"I had received no training. I was just asking a lot of questions day to day. On each shift there is a shift leader. If I came across an issue or I needed help, I would ask them what to do or their opinion"*

Furthermore, Participant 2 reports that during most shifts, "*you helped the other staff around you*" if their patients were rapidly deteriorating or suddenly needed to be ventilated. She also describes how the nurses on night shift would work together with the doctors, stating that there was "*constant communication*" over 'Whatsapp' and phone calls.

Participant 2: *"Most nights you helped the other staff around you, as their patients were crashing or needing to be ventilated suddenly. It was constant communication with doctors over WhatsApp and phone calls, checking and rechecking blood results"*

Similarly, Liu et al. (2020b) and Grailey et al. (2021) found that healthcare workers reported increased collaboration between physicians and nurses during the pandemic. They collaborated and assisted one another to ensure patients received the care they needed (Liu et al., 2020b; Grailey et al., 2021).

Moreover, a sense of 'togetherness' is reflected in Participant 4's repeated use of the word "*we*" and "*us*" when recounting his experiences. It appears as though the COVID-19 pandemic has been a shared experience among healthcare workers and this commonality may have contributed to a sense of cohesion among colleagues (McGlinchey et al., 2021; Grailey et al., 2021).

4.2.4.4.2 Communication and information sharing among healthcare workers

Participants report communicating with their colleagues and other healthcare workers, locally and internationally, sharing COVID-19-related information and gaining insight into their experiences.

Participant 1 describes the use of social media, such as Facebook and WhatsApp groups, as a means of communication with other healthcare workers. She states that communicating with healthcare workers across the globe was "*incredibly informative*", as well as "*anxiety provoking*". She was educated by other healthcare workers' experiences, but also felt overwhelmed at learning how overworked and exhausted they were.

Participant 1: *"I am on social medica with colleagues across the globe (Facebook, WhatsApp groups) and this was incredibly informative as well as very anxiety provoking. My Italian colleagues were working flat out until they could no longer go on (days at a time). American colleagues were ventilating patients in the operating rooms"*

In line with the above, Vindrola-Padros et al. (2020) and Akkus et al. (2022) found that healthcare workers communicated over social media during the COVID-19 pandemic. Vindrola-Padros et al. (2020) report that healthcare workers engaged in weekly chats over Twitter where they discussed COVID-19 procedures, treatment, and guidelines, while Akkus et al. (2022) report that nurses would share and follow other's posts in social media groups that they had established. Thus, highlighting how the communication between healthcare workers

ensured that they kept each other informed as well as compensated for the lack of effective training, advice and information from hospital management and the government. Interestingly, these studies do not mention the potential drawbacks of communicating with other healthcare workers as described by Participant 1, such as increased anxiety levels.

In addition to the insight gained from other healthcare workers' experiences, participants were also able to gain important COVID-19-related information through communicating with other healthcare workers. This information sharing enabled the development of protocols, informed COVID-19 preparations, and reinforced the cleaning procedure that some participants engaged in when coming off shift. Participant 1 states that they developed protocols using information they had obtained from "*information sharing with other doctors*". Both Participant 1 and 2 appear to have communicated with other healthcare workers about the cleaning procedures they were doing at home. Participant 2 explicitly states that she "*had spoken to some friends and a doctor*" and they were all doing the same procedure, while Participant 1 alludes to this communication when she describes her cleaning procedure and states that it "*mimicked my colleagues' actions*".

Participant 1: *"Our department initiated the Covid theatre protocols. We got this information via information sharing with other doctors"*

Participant 1: *"I was afraid of bringing it home to my family on my clothes so I developed a ritual which I now see as excessive but which made me feel safer and which mimicked my colleagues' actions"*

Participant 2: *"I had spoken to some friends of mine and a doctor that works here and they were all doing the same procedures at home just to make sure that they didn't take COVID home from the hospital"*

Consistent with the above finding, Brophy et al. (2021), Vindrola-Padros et al. (2020) and Akkus et al. (2022) found that the participants in their study made an effort to connect with other healthcare workers during the pandemic to source accurate information and develop appropriate COVID-19 guidelines.

4.2.5 Organisational level factors mediating healthcare workers' experiences

At the organisational level, the following factors were identified as impacting on the experiences of participants during the COVID-19 pandemic: hospital management, personal protective equipment, and the futility of treatment. These subthemes are discussed below.

4.2.5.1 Hospital management

Hospital management's decisions and policies, their poor leadership, and their inability to provide healthcare workers with the necessary resources has had a significant impact on the psychological distress experienced by some participants.

4.2.5.1.1 Hospital policy

Two of the participants mentioned hospital policy regarding visitation during the COVID-19 pandemic and how this impacted on their experiences as healthcare workers during this time. In the case of Participant 2 the hospital allowed family visitation, whereas the hospital in which Participant 4 practised restricted visitation.

Participant 4 states that the restrictions on visitation resulted in *"distressing and stigmatising"* interactions and experiences for healthcare workers. He describes the sadness he felt for the families that could not be with their loved ones when they passed away:

Participant 4: *"I have often felt terrible for the families as they were often not present when their relatives passed away, due to the restrictions in visitation"*

Similar findings were reported McGlinchey et al. (2021), Guttormson et al. (2022), and Berkhout et al. (2022). In the study conducted by McGlinchey et al. (2021), healthcare workers described how upsetting it was watching families say goodbye while their loved one was still alive as they knew that they were unable to be there at the time of death. Consistent with the current study, Guttormson et al. (2022) and Berkhout et al. (2022) found that healthcare workers expressed empathy for patients' families and were deeply emotionally impacted by the grief that families, who were separated from their loved ones, experienced.

Furthermore, Participant 4 shares how his colleagues and himself were blamed by angry family members of patients for denying them access to their loved ones, although the restriction on visitation was a hospital decision. Participant 4 emotively recounts this particular experience:

Participant 4: *"We even had one relative phone us to say she will never forgive us for not letting her be with her husband when he died - even though it wasn't our rule - it was the hospital's decision! So certainly stigmatising and distressing to us"*

Owing to the difference in hospital policy, Participant 2 did not report these same experiences. However, allowing family visitation appeared to present its own set of challenges for healthcare workers. Participant 2 describes the distressing phone calls she experienced with patients' families, informing them of the state of their loved ones and that it was time for them to come to the hospital and say goodbye, as well as knowing, in some cases, that the family would not make it in time.

Participant 2: *"I can remember a lot of times thinking to myself "just get this guy through the shift". And hopefully the family would be here in the morning to see them. But sometimes you*

had to phone family at 3 o'clock in the morning and say "I'm sorry, but they probably not going to make it to the morning, you need to come now if you want to say goodbye""

The above extracts suggest that the differences in hospital policy regarding visitation during the COVID-19 pandemic has impacted on how participants have experienced practising as healthcare workers during this time. Although participants reported differing experiences, both accounts appear to be characterised by distressing or difficult interactions with patients' families.

4.2.5.1.2 Poor leadership and lack of support

Hospital management appears to a large extent to have failed healthcare workers. Participants experienced feeling a lack of support and an absence of management during the early stages of the COVID-19 pandemic. Participant 1 specifically refers to "*the beginning of the pandemic*" and how during this time management was "*absent*" and "*failed to lead us*", while Participant 4 indicates a lack of support when he refers to the support that was "*needed*" during this time. Hospital management's absence was felt by participants in their delayed response to the pandemic, their inability to address the safety concerns of healthcare workers and provide adequate PPE, and the lack of COVID-19 related information, protocols, training, and counselling. This is illustrated in the following extracts:

Participant 1: *"Hospital managed failed us to a large degree. They were physically absent at the beginning of the pandemic. We were all incredibly anxious and all we wanted to know was: Do we have enough PPE? And, if we don't, will we be expected to just "make a plan" and manage these patients anyway. They did not answer either of these questions. They essentially hung us out to dry. We were expected to use dust masks instead of N95s when stock was an issue and this made me incredibly angry. I wanted THEM to come and work in the COVID ICU without adequate protection. They failed to lead us from the front and their absence was very*

noticeable. A bit later on in the pandemic, they started emailing us with stats (numbers of newly infected staff and patients) but they did not do this from the beginning. We found out about our first COVID admission via the grapevine. They would send motivating emails reminding us that we were not alone. That used to really anger me as they did not truly know what we were going through. My department initiated the COVID theatre protocols. We got this information via information sharing with other doctors. None of it came from the hospital. They did create a JOC group, but only included one doctor on the committee and not one pulmonologist or intensivist. No counselling was provided. We were expected to just carry on. We created a risk stratifier for our department to try to reduce exposure to the most vulnerable. management did the same, but about 4 months into the pandemic"

Participant 4: *"The support needed from the government and hospitals were a rapid acquisition and distribution of the vaccine and adequate PPE provision. Even in private, PPE was very difficult to come by"*

Participant 2: *"But for me personally, in my experience - no, I had received no training"*

Both Participant 1 and Participant 4 describe management's poor provision of adequate PPE. Participant 1 emotively expresses how management had expected healthcare workers to use dust masks, instead of the appropriate N95 masks, when there were PPE shortages. She also explains that during the initial COVID-19 outbreak, healthcare workers were very anxious and "*all we wanted to know*" from management was whether they had obtained sufficient PPE and, if not, what healthcare workers were expected to do. However, management failed to address these their concerns as "*they did not answer either of these questions*". Participant 4 states that PPE was "*very difficult to come by*" and felt that it was the duty of the hospital to ensure adequate PPE provision. Brophy et al. (2021) conducted a study which explored the experiences of Canadian healthcare workers during the COVID-19 pandemic. The researchers

found that healthcare workers felt the protection they were being provided was inadequate and this resulted in anger, frustration, and fear (Brophy et al., 2021). However, the majority of healthcare workers in their study held the government accountable for the lack of adequate protection, which contradicts the current study's findings.

Hospital management's failure to provide healthcare workers with up-to-date COVID-19 information is clearly indicated when Participant 1 describes finding out about the hospital's first COVID-19 patient "*via the grapevine*". She states that it was only later into the pandemic that management started to email staff the COVID-19 statistics, "*they did not do this from the beginning*". Furthermore, Participant 1 shares how her department initiated the COVID-19 theatre protocols. They obtained this information from independent sources as "*none of it came from the hospital*". This finding contradicts the existing literature that indicates that healthcare workers were burdened with a high volume of COVID-19 related information (Ness et al., 2021) and struggled to keep up to date with the rapidly changing procedures, policy and guidelines (Ardebili et al., 2021; Bennett et al., 2020; Brophy et al., 2021; Grailey et al., 2021; McGlinchey et al., 2021; Ness et al., 2021; Pilbeam et al., 2022; Vindrola-Padros et al., 2020).

Participants also indicated that hospital management did not provide any counselling or training. Participant 2 states that when she re-entered the healthcare system during the delta wave she received "*no training*" specific to managing patients with COVID-19, while Participant 1 shares that no counselling services were provide for healthcare workers, "*we were expected to just carry on*". Similarly to Participant 2's experience, Ness et al. (2021) found that healthcare workers reported receiving little to no training on how to care for patients diagnosed with COVID-19 and described it as a "learn as you go experience". The researchers found that this led to increased stress among healthcare workers (Ness et al., 2021). With regards to hospitals providing psychological services, Liu et al. (2020), Vindrola-Padros et al. (2020), Regenold and Vindrola-Padros (2021), and Maben et al. (2022) report contrary findings to the

current study. These studies found that healthcare workers reported greater attention to mental health and the availability of mental health support during the COVID-19 pandemic. However, some healthcare workers expressed that the support programmes did not align with their work shifts and thus they could not access these services (Vindrola-Padros et al., 2020; Regenold & Vindrola-Padros, 2021; Maben et al., 2022). Ness et al. (2021) explains that hospitals directed healthcare workers to existing employee assistant programs for support but healthcare workers felt that they needed bespoke mental health support specific to managing fear and anxiety related to COVID-19. In contrast to the current study's findings, a study conducted within KwaZulu Natal found that the majority of the healthcare workers in the study sample reported having access to psychosocial support at their workplace (Dawood et al., 2022). However, 74% of participants reported that they did not feel psychologically supported (Dawood et al., 2022).

Interestingly, it appears as though the absence of hospital management during the early stages of the pandemic resulted in healthcare workers taking the initiative to make the necessary preparations, develop protocols and educate themselves on how to manage COVID-19 patients. Participant 1 states that her department took a "*proactive*" approach which involved creating a task team who developed protocols and read extensively about COVID-19. Later in the interview she once again indicates that her department "*initiated*" the COVID-19 theatre protocols. They obtained this information through "*information sharing*" with other doctors as the hospital failed to provide her department with the necessary information. Furthermore, Participant 1's department took the initiative to create a "*risk stratifier*" in an attempt to reduce exposure of those most vulnerable to infection. The absence of hospital management specifically during the beginning of the pandemic is alluded to when she states that management also created a risk stratifier, "*but months later*". The initiative taken by Participant 1 and her department is clear in the following extract:

Participant 1: *"We managed the uncertainty by being proactive. We created a task team, developed protocols and read everything we could find … Our department initiated the Covid theatre protocols. We got this information via information sharing with other doctors. None of it came from the hospital … We created a risk stratifier for our department to try to reduce exposure to the most vulnerable. Management did the same, but months later"*

Participant 2 adjusted to the lack training by taking the initiate to educate herself on how to manage patients diagnosed with COVID-19. She achieved this through "*asking a lot of questions*" daily as well as being able to recognise when she "*came across an issue or needed help*" and would rely on her shift leader for assistance.

Participant 2: *"…I had received no training. I was just asking a lot of questions day to day. On each shift there is a shift leader. If I came across an issue or I needed help, I would ask them what to do or their opinion"*

The above findings suggest that management's delayed response and inability to provide healthcare workers with the necessary training and information resulted in a misplaced sense of responsibility falling onto healthcare workers. This may have further added to the physical and psychological burden on participants. A review of the literature indicates a similar notion, where healthcare workers describe situations in which they took initiative to equip and educate themselves in the absence of management providing the necessary resources, information and training. Jeleff et al. (2022) found that the lack of guidance from management while facing many uncertainties meant that healthcare workers were increasingly having to make autonomous decisions. Brophy et al. (2021), Hoernke et al. (2021), and Okediran et al. (2020) found that some healthcare workers took the initiative of protecting themselves by providing their own PPE, while Vindrola-Padros et al. (2020) and Hoernke et al. (2021) found that PPE training was initiated through engagement and information sharing with other healthcare

workers in response to the lack of PPE training and guidance from hospital management. Furthermore, Vindrola-Padros et al. (2020) found that healthcare workers combatted the lack of information and inadequate training by setting up weekly chats on social media where they discussed COVID-19 procedures and treatment.

Consistent with the current study's finding, Bennett et al. (2020), De Leo et al. (2021), and Cerit and Uzun (2022) found that healthcare workers experienced a sense of abandonment by hospital management as they felt there was a lack of leadership and support at the start of the pandemic. Furthermore, Dawood et al.'s (2022) study of healthcare workers within KwaZulu Natal found that participants perceived low levels of employer support, which aligns with the experiences of participants in the current study. The literature indicates that institutional factors such as inadequate training and guidelines, poor support from hospital management, lack of quality up-to-date COVID-19 information, and feeling undervalued are associated with a poorer mental health status in healthcare workers during the COVID-19 pandemic (Alenazi et al., 2020; Feingold et al., 2021; Gilleen et al., 2021; Hong et al., 2021; Jemal et al., 2021; Khajuria et al., 2021; Marinaci et al., 2020; Mekonen et al., 2020; Salman et al., 2020; Surrati et al., 2020; Yitayih et al., 2021). Thus, it is evident that factors at the institutional level, such the lack of support and inadequate provision of resources reported by participants, directly impacted on the experiences of healthcare workers during the COVID-19 pandemic and their overall well-being.

4.2.5.2 Personal protective equipment

Two of the participants expressed concerns over personal protective equipment shortages during the pandemic. Participant 4 states that "*PPE was very difficult to come by*", while Participant 1 shares how "*incredibly anxious*" her colleagues and herself were at not knowing

whether they would have "*enough PPE*". The infectious nature of the pandemic meant that participants were fearful of being exposed to the virus and were anxious about putting their health, and potentially their lives, at risk. The PPE shortages appear to have further intensified these feelings of vulnerability.

Participant 1: *"We were all incredibly anxious and all we wanted to know was: Do we have enough PPE? And, if we don't, will we be expected to just "make a plan" and manage these patients anyway"*

Participant 4: *"The support needed from the government and hospitals were a rapid acquisition and distribution of the vaccine and adequate PPE provision. Even in private practice, PPE was very difficult to come by"*

Participant 1 states that hospital management had expected healthcare workers to use other, less effective equipment such as dust masks, when adequate PPE was not available. She expresses how "*incredibly angry*" she felt at management for not providing adequate protection for her and her colleagues.

Participant 1: *"We were expected to use dust masks instead of N95s when stock was an issue and this made me incredibly angry. I wanted THEM to come and work in the Covid ICU without adequate protection"*

The above finding concurs with the literature. Healthcare workers around the world have reported PPE shortages (Ardebili et al., 2021; Brophy et al., 2021; Dagne et al., 2021; Felice et al., 2020; Grailey et al., 2021; Grover et al., 2021; Iqbal & Chaudhuri, 2020; Jemal et al., 2021; Martin-Delgado et al., 2020; McGlinchey et al., 2021; Mekonen et al., 2020; Okediran et al., 2020; Rodriguez-Rey et al., 2020; Shah et al., 2021; Surrati et al., 2020; Wanigasooriya et al., 2021). Quantitative studies have shown that healthcare workers who report inadequate personal protective equipment are at higher risk of poor mental health outcomes (Dagne et al., 2021;

Dong et al., 2021; Erquicia et al., 2020; Feingold et al., 2021; Feng et al., 2021; Fu et al., 2021a; Gilleen et al., 2021; Jemal et al., 2021; Karasu et al., 2021; Khajuria et al., 2021; Mattila et al., 2021; Nguyen et al., 2021; Nie et al., 2020; Pappa et al., 2021; Rodriguez-Rey et al., 2020; Sakib et al., 2021; Wanigasooriya et al., 2021; Xiao et al., 2020a; Zhang et al., 2020c). While qualitative studies found that PPE shortages left healthcare workers feeling concerned for their safety and further contributed to their experience of psychological distress (Brophy et al., 2021; Grailey et al., 2021; McGlinchey et al., 2021; Okediran et al., 2020), which is consistent with the current study's findings.

Contrary to the above, Participant 2 reports having adequate PPE:

Participant 2: *"We had more than enough PPE … we were given three N95 masks for one shift"*

These contrasting experiences between participants may arise from the different time periods in which participants entered the healthcare system during the pandemic. Participant 2 only began practising as a healthcare worker during the delta wave, whereas Participant 1 and Participant 4 were practising from the outset of the pandemic. As the COVID-19 pandemic progressed, it appears as though hospitals were able to obtain sufficient PPE, and shortages were no longer a concern.

Despite having sufficient PPE and appropriate PPE procedures, Participant 2 describes that she "*started to panic*" when she entered the COVID-19 Intensive Care Unit (ICU) and prayed that no patient would cough on her, potentially infecting her. She shares how she feared that the PPE would not provide adequate protection, worrying that her mask "*may not be 100% sealed*". She also describes how the poor fit and condition of the PPE made it uncomfortable to work with. She further alludes to the discomfort of PPE when she refers to the feeling of being "*in a scuba diving kit*".

Participant 2: *"When it was my turn during the delta wave, I entered the COVID ICU and started to panic. Despite the rigmarole you have to go through before entering the unit … Each time you leave the unit you need to undress. So, you change from uniform into hospital scrubs with a disposable gown over. You stress that your mask may not be 100% sealed and the shield over the mask is horrible, scratched and doesn't fit properly, same for the glasses. You kinda feel like you're in a scuba diving kit and you can hear and feel your every breathe and you pray no patient coughs on you"*

The discomfort of PPE described by Participant 2 mirrors the findings of Ardebili et al. (2021), Hoernke et al. (2021), Okediran et al. (2020), Liu et al. (2020b), and Kuo et al. (2020). These studies found that healthcare workers frequently complained about PPE discomfort and that this was a major stressor for healthcare workers during the pandemic. The main concern raised by Participant 2 was the poor fit of the protective shield and glasses, which resulted in her fearing whether they would provide adequate protection. Participant 2's experience with poorly fitting PPE may be explained by the fact that she is a female. Regenold and Vindrola (2021) explored how gender has impacted on the experiences of healthcare workers. They found that gender bias was evident in PPE as it is shaped for the male body. They argue that this places females at increased risk of COVID-19 exposure and leads to greater PPE discomfort (Regenold & Vindrola, 2021).

4.2.5.3 Futility of treatment and rapid deterioration of patients

The majority of participants experienced a sense of futility in treating patients diagnosed with COVID-19. Participant 4 directly refers to the "*sense of futility*" he experienced when treating patients and how "*disheartening*" this was, indicating the emotional impact it had on him. The sense of futility of treatment is alluded to when Participant 2 states that during the delta wave

it was "*inevitable*" that those patients who were placed on ventilators would not survive. Participant 3 shares how emotionally challenging it was to admit patients with very low oxygen levels to hospital, "*not knowing*" if they would recover. This suggests that Participant 3 also experienced a sense of futility of treatment as she was aware of the poor prognosis of those patients in need of hospitalisation and the lack of an effective treatment. The impact of this is evident when she describes these experiences as "*emotionally taxing to say the least*". The inability to effectively treat patients, despite healthcare workers' best efforts and long hours, appears to have had a significant impact on the psychological distress experienced by these participants. This is illustrated in the following extracts:

Participant 4: *"We worked very long hours and the feeling of the unpredictable nature of the virus in disease process and the futility of placing people onto advanced life support was there … The sense of futility in treating these patients is very disheartening"*

Participant 2: *"the people that go onto a ventilator are the ones that don't come off a ventilator and land up dying. With delta it was inevitable, because nobody really came off a ventilator with the delta variant, it was one of the most deadly I would say … Once they were on a ventilator, they were on the machine for a few days just to give their bodies time to shut down and buy the family some time"*

Participant 3: *"…and then of course, having to admit patients with very low oxygen levels to hospital, not knowing whether they would ever be discharged or not, was emotionally taxing to say the least"*

This finding concurs with the those of Ardebili et al. (2021) and Guttormson et al. (2022), who report that healthcare workers' inability to effectively treat patients led to a sense of providing futile care and feelings of helplessness. These healthcare workers described how patients were dying despite all their care interventions. Ardebili et al. (2021) found that the high mortality

rate and inability to effectively treat patients contributed to healthcare workers' sense of losing control. Similarly, Liu et al. (2020b) found that healthcare workers experienced a sense of powerlessness and felt depressed when despite their best-efforts patients showed no improvement or deteriorated. These studies demonstrate how a sense of engaging in futile care impacts on the emotional and psychological well-being of healthcare workers. This is mirrored in the current study when participants described how "*disheartening*" and "*emotionally taxing*" this experience was.

Furthermore, Participant 2 describes how the futility of treatment meant that healthcare workers were faced with difficult decisions when treating patients. Knowing that those patients who went onto ventilators often did not survive, and then having to decide whether or not to ventilate the patient was described as "*quite something*". She explains how she would question herself as to whether or not they had given the patient enough time or whether they had tried everything they could before placing a patient on advanced life support.

Participant 2: *"I think just having to make the choice of do I ventilate this person or not? Have we given them enough time, have we tried everything possible? It was quite something"*

Participant 2's experience of facing difficult decisions whilst caring for patients with COVID-19 may have placed her at risk of experiencing moral injury (Chirico et al., 2020; Greenberg et al., 2020). Grailey et al. (2021) reported evidence of healthcare workers experiencing moral injury, however this was related to healthcare workers being unable to adequately complete tasks and concerns over the quality of care, rather than being faced with difficult decisions about patients receiving treatment. Participant 2's increased vulnerability to moral injury is a concern as Lamb et al. (2021) and Wanigasooriya et al. (2021) found that healthcare workers with high exposure to moral injury during the pandemic were at increased risk of developing symptoms of anxiety, depression, and posttraumatic stress disorder.

In addition to the futility of treatment, Participant 2 cites the rapid deterioration of patients. This appeared to be a difficult adjustment for her. She states that in a typical ICU setting, patients would be admitted for a couple of days or weeks, whereas during the COVID-19 pandemic, patients were deteriorating rapidly and "*dying every single day or every shift*". In the following extract Participant 2 refers to the stress of the high patient turnover and vividly describes the rapid progression of the disease.

Participant 2: *"On every shift there were new faces. Patients were dying every single day or every shift. Patients who were mobile and talking a few days ago are now ventilated ... these patients deteriorated so fast, they were ok 1 min, ventilated the next and dead a day later"*

This was a similar finding in the studies by Ardebili et al. (2021), Liu et al. (2020b), Akkus et al. (2022), and Maben et al. (2022). These studies cite the rapidly changing condition of patients and high mortality rate that healthcare workers experienced during the pandemic. The researchers found that this resulted in healthcare workers feeling powerless, helpless, and depressed (Ardebili et al., 2021; Liu et al., 2020b).

4.2.6 Societal level factors mediating healthcare workers' experiences

At this level, the government's response, social media, conspiracy theories and false information, and the public's perception of healthcare workers, were identified as factors impacting the experiences of participants. These subthemes are discussed below.

4.2.6.1 Government's response

4.2.6.1.1 Government failings

Two of the participants cite how the government's response to the COVID-19 pandemic have impacted on their experiences as healthcare workers. Participant 4 describes the government's response to the pandemic as "*disordered*" and "*poorly managed*". He felt that the consequence of this was a general distrust in the medical profession, which was ultimately directed toward frontline healthcare workers. He states "*we have had to bear the brunt of that*", demonstrating how the government's response has directly impacted on the attitude of the general public towards healthcare workers.

Participant 4: *"The disordered response by the government and lack of support from them with some truly silly decisions from their side has created a lot of distrust in the medical fraternity and we have had to bear the brunt of that"*

Participant 4 also states that there was a "*lack of support*" from the government. Later in the interview he reiterates this sentiment when he describes "*the support needed from the government*" during the pandemic. According to Participant 4, the lack of support from the government was evident in their inability to provide timely access to the vaccine and adequate PPE for healthcare workers. Participant 4 further describes how, even once the government did acquire vaccines, the rollout of the vaccines was poorly managed, thus making it difficult for healthcare workers to access them.

Participant 4: *"The support needed from the government and hospitals were a rapid acquisition and distribution of the vaccine and adequate PPE provision. Even in private, PPE was very difficult to come by. The lack of a vaccine left a lot of us feeling very vulnerable - considering that other countries (including places like Zimbabwe/Botswana) were well underway with the vaccine rollouts before we got our rollout started. When the vaccines did arrive, the rollout was stilted, and poorly managed with a lack of information on how to obtain one"*

Participant 4: *"I contracted the virus during the first wave but luckily was mildly ill, I was very angry during that time as little to no effort was made by the government to obtain vaccines for HCWs despite the rest of the world's HCWs gaining access to them"*

From the above extracts, it is apparent that the government's failure to provide healthcare workers with timely access to the vaccine left healthcare workers feeling "*very vulnerable*" (a justified reaction since many became infected) and "*very angry*". The inability to access the vaccine further amplified participants' fear and concerns about contracting the virus and becoming seriously ill, as Participant 4 describes how he contracted the virus but "*luckily"* was mildly ill.

Although Participant 3 reflects more positively on the government's policies and response to COVID-19, she also felt that aspects of the government's response were poorly managed. She refers to the implementation of policies being "*a bit slow*" and the "*bad element in power*" that is corrupt and incompetent. She felt that the delays in the implementation of policies and the corruption and incompetence within the government resulted in healthcare workers and patients not always receiving full access to the necessary resources.

Participant 3: *"I did however feel that sometimes they were a bit slow to implement these policies and of course there was always going to be that bad element in power that take advantage of the system for personal monetary gain and so the people and patients on the ground didn't always reap the full benefit of the required facilities, treatment, vaccination roll-outs etc. because of corruption and incompetence"*

The shortcomings of governments during the COVID-19 pandemic have been highlighted by healthcare workers in numerous studies (Bennett et al., 2020; Okediran et al., 2020; Brophy et al., 2021; McGlinchey et al., 2021). Both Participant 3 and 4 describe how aspects of the South African government's response to the COVID-19 pandemic felt poorly managed. Brophy et al.

(2020) found that healthcare workers in Canada reported a similar disordered response and lack of preparedness of the Canadian government. They found that this resulted in healthcare workers feeling frustrated and having little trust in the government's decisions and policies. This appears to mirror Participant 4's experiences as he describes the anger he felt at the government's lack of support and the frustration of having to bear the brunt of the public's distrust in the medical profession as a result of the government's actions. Furthermore, both participants allude to a lack of trust in the South African government's decisions and policies when Participant 4 refers to some of their decisions as "*truly silly*" and Participant 3 refers to the "*corruption and incompetence*" in the government's response.

In the above findings, Participant 4 describes a lack of support from the South African government stemming from their inability to provide healthcare workers with timely access to the vaccine and adequate protective equipment. In Marinaci et al.'s (2020) study on the emotional distress and psychosomatic symptoms of Italian frontline healthcare workers during the peak of the COVID-19 outbreak, they found that healthcare workers who perceived hygiene and safety measures as inadequate were more likely to experience psychosomatic symptoms and a perceived worsening of their physical and psychological health. They explain that these healthcare workers may have experienced a greater fear of being infected, which was a significant source of distress. This echoes Participant 4's experiences as he describes the vulnerability he felt at not having access to the vaccine, which was compounded by inadequate PPE provision. Participant 4 primarily holds the government responsible for the poor provision of these resources, which concurs with the findings of other studies (Brophy et al., 2021; Okediran et al., 2020).

4.2.6.1.2 Positive aspects

Participant 3 commends the government's response to the COVID-19 pandemic, stating that the government handled the pandemic situation "*amazingly well*". She felt that the government's decisions and policies were informed by experts within the medical field, "*virologists, immunologist, epidemiologists, etc*", and that the implementation of these policies and regulations made her feel supported as a healthcare worker. She states how knowing that the government was "*on our side*" played a role in keeping healthcare workers motivated during the pandemic.

Participant 3: *"I personally feel that, on principle, the South African government actually handled the whole pandemic amazingly well. They allowed the medical professionals that were at the cutting edge (Virologists, Immunologists and Epidemiologists etc) to directly influence and direct their policies and decisions. It did help to keep us motivated as Doctors, knowing that the Government were in theory and often practice, on our side and seeing them implementing rules and regulations that helped to make our lives as Doctors easier"*

Sun et al. (2020) found that support from the government was one of the significant sources of support reported by healthcare workers during the COVID-19 pandemic. Their participants expressed a strong sense of confidence in the government's ability to control the outbreak and adequately support healthcare workers, which contributed to their experience of positive emotions during the pandemic (Liu et al., 2020). Although Participant 3 felt that aspects of the South African government's response were poorly managed, she also commended their efforts. The confidence in knowing the government's policies and decisions were influenced by medical experts appears to have contributed to her experience of positive emotions such as feeling motivated and supported during the pandemic.

4.2.6.2 Social media

Most participants mentioned using social media during the COVID-19 pandemic. These participants cite both positive and negative consequences of social media, and how social media impacted on their experiences as healthcare workers.

4.2.6.2.1 Positives of social media

Social media was used as a means to communicate with colleagues and stay informed about the COVID-19 pandemic. Participant 1 states that she was aware of the COVID-19 outbreak in other parts of the world through Facebook and professional WhatsApp groups. She describes social media as "*incredibly informative*" and "*helpful*" during the early stages of the pandemic, as she was "*educated*" by her colleagues. This indicates that social media enabled her to gain insight into other healthcare workers' experiences.

Participant 1: *"The virus had not reached SA yet, but I was well aware of the chaos unfolding in the rest of the world. I am on social media with colleagues across the globe (Facebook, WhatsApp groups) and this was incredibly informative …"*

Participant 1: *"Initially, I found social media helpful as I was educated by my colleagues' experiences"*

The awareness of the COVID-19 outbreak in other parts of the world and the insight into the experiences of other healthcare workers, allowed Participant 1 and her department to begin making preparations for the pandemic. She states that they "*managed the uncertainty by being proactive*" which ensured that by the time their first COVID-19 patient arrived they were *"physically ready for the task"*.

Participant 1: *"We managed the uncertainty by being proactive. We created a task team, developed protocols and read everything we could find. By the time our first COVID patient arrived, we were physically ready for the task."*

The use of social media as a means of communication between healthcare workers which enabled them to educate one another on COVID-19 related information and procedures is consistent with the studies conducted by Vindrola-Padros et al. (2020) and Akkus et al. (2022). Vindrola-Padros et al. (2020) conducted a social media analysis and found that healthcare workers were creating specific hashtags on social media where they discussed COVID-19 procedures and treatments in an effort to support each other and compensate for the lack of adequate training, information and unknown nature of the virus. Akkus et al. (2022) found that nurses established social media groups where they would share COVID-19-related information to compensate for the scarcity of scientific information and to combat disinformation.

WhatsApp was considered an "*essential communication tool*" used between colleagues within the hospital setting. Participant 1 states that her and her colleagues used WhatsApp groups to share COVID-19 related information, keep each other informed and ensure that no one accidently came into contact with COVID-19 patients.

Participant 1: *"WhatsApp was an essential communication tool between me and my colleagues. We created Covid Groups and shared information. When doing Covid cases in theatre, this group was essential to keep everyone informed and protect themselves (and not stumble upon a Covid patient in the corridor being transported)"*

Similarly, Participant 2 describes how she used WhatsApp and phone calls to communicate with the doctors during her night shifts:

Participant 2: *"It was constant communication with doctors over WhatsApp and phone calls, checking and rechecking blood results"*

Social media was also used by Participant 1 to communicate with friends. Social media enabled her friends to continue to provide emotional support despite the social distancing regulations that meant they could not always be physically present.

Participant 1: *"It* (social media) *was also a very valuable way of communicating with my close friends, who were very supportive, even if not present in person"*

A similar finding was reported by Okediran et al. (2020) and Sun et al. (2020). They found that healthcare workers used online means of communication to stay in contact with their friends and family, as many of them decided to isolate from their loved ones during the peak of the pandemic.

4.2.6.2.2 Negatives of social media

Whilst some participants cite the ways in which social media proved useful, it also appears to have had a negative impact on the experiences of participants.

Although Participant 1 felt that social media was "*initially*" very informative and helpful, she also describes how it was "*very anxiety provoking*". Being exposed to the experiences of other healthcare workers, who were working long and strenuous hours, was overwhelming. She states how the WhatsApp group she was on with Italian healthcare workers, "*scared the hell out of me!*". Knowing the world was on the verge of a pandemic and that the "*chaos unfolding in the rest of the world*" was soon to become her reality too, was "*terrifying*" and worrying for Participant 1. She states how although her team and herself were "*physically ready*" for the pandemic before their first COVID-19 patient arrived, "*mentally, I wanted to run a mile!*".

Participant 1: *"The beginning of the pandemic was, frankly, terrifying. The virus had not reached SA yet, but I was well aware of the chaos unfolding in the rest of the world. I am on social media with colleagues across the globe (Facebook, WhatsApp groups) and this was*

incredibly informative as well as very anxiety provoking. My Italian colleagues were working flat out until they could no longer go on (days at a time). American colleagues were ventilating patients in the operating rooms … We managed the uncertainty by being proactive … By the time our first COVID patient arrived, we were physically ready for the task. Mentally, I wanted to run a mile!"

Participant 1: *"Initially, I found social media helpful as I was educated by my colleagues' experiences. I was, however, on a WhatsApp group with Italian healthcare workers and they scared the hell out of me! They were working for days on end without rest, only stopping when they literally could not continue. Their plans to accommodate extra bodies were also incredibly worrying. I think overall these professional WhatsApp groups were helpful, but they fuelled my anxiety…"*

Similarly, Karakose and Malkoc (2021) found that healthcare workers reported that following pandemic-related news on social media and television was a source of anxiety and panic. The researchers found that in an attempt to cope with these negative psychological effects of the pandemic, healthcare workers purposely tried to limit their exposure to media relating to the pandemic. Research has shown that healthcare workers who spend more time daily watching COVID-19 pandemic-related media coverage are more likely to experience poorer mental health outcomes (Arafa et al., 2021; Hennein et al., 2021; Li et al., 2021; Maciaszek et al., 2020; Wu et al., 2020b). Li et al. (2021) explains that the media may have caused panic during the early stages of the pandemic as it highlighted the increase in the number of infections and the lack of an effective treatment, as indicated in Participant 1's narrative. She describes how through social media she was exposed to the terrifying reality of healthcare workers around the world in which hospitals were struggling to accommodate the increasing number of patients and healthcare workers were overwhelmed by the workload. Thus, social media became a significant source of anxiety for Participant 1.

For two of the participants, social media was seen as providing a flatform for false information and conspiracy theories to "*flourish*", as stated by Participant 1. Participant 1 expresses that the sharing of false or unverified information caused "*panic*", while Participant 4 felt that it caused "*a lot of confusion*" among the general public. Participant 4 believes that this confusion has contributed to the public's distrust in the medical profession, which impacted on how the public viewed healthcare workers. Participant 4 states that "*we are seen as the face of the medical system*", thus if the public distrusts the medical system, then healthcare workers "*tend to bear the brunt of that distrust*". Furthermore, Participant 1 describes how the sharing of false news and conspiracy theories on social media was "*very frustrating*" and made her "*angry*", indicating the emotional impact that this had on her.

Participant 4: *"There was a lot of disinformation from social media with many dissenting views which caused a lot of confusion among the general public, and even in the doctor community (especially doctors not involved with critical care). I believe this led to a lot of distrust in the medical system (as it often seemed at war with itself!) So when we are seen as the face of the medical system, we tend to bear the brunt of that distrust"*

Participant 1: *"The downside of social media was the sharing of unverified information, causing panic. I found this mindless sharing without questioning very frustrating and I was known by some work friends as the Covid Police, sniffing out false news very quickly! I also feel that social media has had some very negative effects that have allowed the conspiracy theorists to flourish. Sharing of nonsense such as the role of 5G or that Covid doesn't even exist really made me angry and I made it clear to those who sent it to me that it wasn't appreciated. The antivaxxer movement has been enabled by social media and this is a particular trigger of mine"*

The above findings suggest that social media caused participants to experience a range of negative emotions. The insight into the experiences of other healthcare workers was reported to be "*anxiety provoking*", while the conspiracy theories and false information circulating on social media created "*panic*" and a "*distrust in the medical system*" that healthcare workers had to bear the brunt of. The literature relating to the impact of conspiracy theories and false information on the experiences of healthcare workers will be discussed below.

4.2.6.3 Conspiracy theories and false information

The majority of participants cite the presence of conspiracy theories and/or false information throughout the COVID-19 pandemic when recounting their experiences.

Participants felt that the presence and sharing of false or unverified information and conspiracy theories caused "*panic*", "*a lot of confusion*" and "*a lot of distrust*" among the general public. This is demonstrated by Participant 1, Participant 3 and Participant 4 in the following extracts:

Participant 1: *"The downside of social media was the sharing of unverified information, causing panic"*

Participant 4: *"There was a lot of disinformation from social media with many dissenting views which caused a lot of confusion among the general public, and even in the doctor community (especially doctors not involved with critical care). I believe this led to a lot of distrust in the medical system (as it often seemed at war with itself!) So when we are seen as the face of the medical system, we tend to bear the brunt of that distrust"*

Participant 3: *"... the only people (whether it be family, friends or community) that it's had a possible negative impact on, are those that believe in conspiracy theories and treated me with*

scepticism and caution. These people developed a growing mistrust in the medical profession which has certainly created tension in my relationships with them"

As seen in the above extracts, the presence of false information and conspiracy theories impacted the way in which participants were treated as healthcare workers. Both Participant 3 and Participant 4 indicate that it was the conspiracy theories and false information that resulted in "*a growing distrust in the medical profession*" and "*a lot of distrust in the medical system*", respectively. Participant 4 explains how healthcare workers as the face of the medical profession "*tend to bear the brunt of that distrust*". Participant 3 alludes to this when she shares how she was treated with "*scepticism and caution*" and that the mistrust in the medical profession "*created tension*" in her relationships with her family, friends, and community.

Furthermore, the presence of false information has contributed to the burden on participants. Participant 3 states that the "*biggest challenge*" she faced during the pandemic was having to educate patients on "*what was fact and what was fiction*", alluding to the presence of false information regarding COVID-19. This appears to have complicated her interactions with patients. Participant 4 references being "*constantly questioned*" by angry family members about "*unproven therapies*", which indicates the misinformation that was circling among the general public about unproven treatments of COVID-19.

Participant 3: *"Trying to educate patients about what was fact and what was fiction with regards to COVID was by far, the biggest challenge"*

Participant 4: *"We were constantly questioned about unproven therapies such as ivermectin, hydroxychloroquine and azithromycin daily by angry family members"*

Participant 1 describes conspiracy theories as "*nonsense*" and held a particularly negative perception of those who considered themselves to be "*antivaxxers*". The emotional impact of the presence of these conspiracy theories reported by Participant 1 was anger and frustration

directed towards those who believed and shared these ideas, as she indicates in the following extract:

Participant 1: *"Sharing of nonsense such as the role of 5G or that Covid doesn't even exist really made me angry and I made it clear to those who sent it to me that it wasn't appreciated. The antivaxxer movement has been enabled by social media and this is a particular trigger of mine. I see antivaxxers as stupid, selfish and ill informed, yet very arrogant in their views"*

Participant 1's anger and frustration appear to stem from the fact that the consequences of those denying the reality of the pandemic and refusing to do their part in protecting themselves are being directly felt by those on the frontlines. She refers to these individuals as "*selfish*", as their failure to comply may result in a continued increase in COVID-19 cases, placing healthcare workers and the healthcare system under enormous pressure. Individuals questioning the reality of the COVID-19 pandemic may also be perceived by healthcare workers as disregarding the physical and psychological distress that they have had to endure as a result of the pandemic. Guttormson et al. (2022) found that healthcare workers felt unsupported by members of the public who did not believe information about the COVID-19 pandemic or who did not follow public health guidelines. As alluded to by Participant 1, this lack of support contributed to healthcare workers' stress and physical and emotional burden (Guttormson et al., 2022).

Research has argued that as false COVID-19-related news continues to spread, healthcare workers are having to face a second pandemic, an infodemic (Secosan et al., 2020). Secosan et al. (2020) found that healthcare workers expressed that misinformation affects them emotionally, creates confusion, consumes their time and energy as they battle the misinformation, affects the doctor-patient relationship, and leads to mistrust in the healthcare system, which is consist with the findings in the current study. According to Secosan et al. (2020), healthcare workers who stated that they were affected by false news were more likely

to report higher levels of stress, anxiety and insomnia, while Fu et al. (2021a) found that healthcare workers who reported repeated exposure to negative and false information experienced a worsening of their mental health. Thus, the existing literature, along with current study's findings, indicate that false information and conspiracy theories at the societal level may directly impact on the overall well-being of healthcare workers and negatively impact on their experiences.

4.2.6.4 Public perception

Two of the participants report experiencing a "*growing distrust*" in the medical profession by the public during the pandemic. As previously discussed, these participants felt that this distrust stemmed from the disordered response of the government as well as the spread of false information and conspiracy theories. Participant 4 explains how the distrust in the medical system is ultimately directed towards healthcare workers as "*we are seen as the face of the medical system*". The public perception of the medical profession as untrustworthy has resulted in participants being treated with "*scepticism and caution*", so clearly articulated by Participant 3.

Participant 3: *"… the only people (whether it be family, friends or community) that it's had a possible negative impact on, are those that believe in conspiracy theories and treated me with scepticism and caution. These people developed a growing mistrust in the medical profession which has certainly created tension in my relationships with them"*

Participant 4: *"I think the public perception of doctors has certainly changed during the pandemic. The initial "frontline worker heroes" label changed with the scepticism and general confusion that occurred with the pandemic. There was a lot of disinformation from social media with many dissenting views which caused a lot of confusion among the general public, and*

even in the doctor community (especially doctors not involved with critical care). I believe this led to a lot of distrust in the medical system (as it often seemed at war with itself!) So when we are seen as the face of the medical system, we tend to bear the brunt of that distrust"

In the above extract, Participant 4 also describes how he felt that there was a change in the public perception of healthcare workers. He indicates that healthcare workers were initially labelled as "*frontline worker heroes*" but that this "*changed*" as a result of the confusion, misinformation and scepticism that occurred during the pandemic.

The literature indicates that healthcare workers have been treated with fear and faced verbal abuse by the general public as they have been seen as carriers of COVID-19 (Dye et al., 2020; Hong et al., 2021; Perera et al., 2021; McGlinchey et al., 2021; Brophy et al., 2021). This appears to differ from the findings in the current study. The participants in this study report a negative public perception, however this appears to stem from the perception of healthcare workers as untrustworthy rather than fear of them as carriers of COVID-19.

Although Participant 3 reports experiencing a growing distrust in the medical profession that resulted in her being treated with scepticism by friends, family, and her community, she also felt that, overall, healthcare workers had "*regained a new-found respect*" among the public. She states that she also received sympathy from the community for being on the frontlines and placing her family's and her own health and lives at risk to help others.

Participant 3: *"I definitely felt that as Doctors, we had regained a new-found respect for the medical profession amongst the community. Also, I received a lot of sympathy from people for fighting at the forefront of this pandemic and because we often put ourselves and our immediate family's health and possibly lives at risk"*

Similarly, McGlinchey et al. (2021) and Sun et al. (2020) found that healthcare workers felt supported and appreciated by the public. This contributed to healthcare workers experiencing positive emotions during the COVID-19 pandemic (Sun et al., 2020).

Interestingly, Taylor et al. (2020) found that the Canadian general public simultaneously expressed appreciation and stigmatizing attitudes towards healthcare workers. This may explain Participant 3 experiencing both a mistrust in medical professionals as well as appreciation and respect among the general public. It also provides an alternative perspective on Participant 4's experience of the change in the public perception of healthcare workers. According to Taylor et al.'s (2020) findings, the perception of healthcare workers as frontline heroes may not have changed but rather occurred simultaneously with the distrust and scepticism reported by participants.

4.2.7 Chronosystem level factors mediating healthcare workers' experiences

The chronosystem encompasses the concept of time. Thus, the subtheme under this ecological level refers to the change in participants' well-being and psychological distress over time. Participants indicate that they have adapted to the pandemic and that their situation improved as the pandemic progressed.

4.2.7.1 Adaptation, normalisation, and improvement in the pandemic situation

As previously discussed, the early stages of the pandemic placed enormous physical and psychological strain on participants. Participant 3 describes how under these circumstances it became difficult to envision the pandemic coming to an end and her life returning to normal, which was "*disheartening and demotivating*".

Participant 3: *"It was becoming hard to imagine life without COVID which was disheartening and demotivating"*

However, as the pandemic has progressed and the virus appears to have become less severe, Participant 3 indicates feeling a sense of optimism and hopefulness when she refers to there being "*light at the end of the tunnel*".

Participant 3: *"Thankfully, there now seems to be light at the end of the tunnel as the last 4th and now 5th wave have proven to be very mild and COVID seems to have become like just another cold or flu"*

Participant 1 states that she has "*adjusted*" to the pandemic situation, as her fear has diminished and living and working under these conditions have become the "*new normal*". It is evident that her view of the pandemic has drastically shifted when she refers to the COVID-19 pandemic as "*an inconvenience rather than a terrifying beast*".

Participant 1: *"As time has passed and Covid has become our new normal, I no longer have the fear of Covid patients that I used to. We have adjusted and now view it as an inconvenience rather than a terrifying beast"*

As the pandemic has progressed, participants reported gaining access to adequate support and protective measures, thus improving the pandemic situation for healthcare workers. Participant 4 said the following:

Participant 4: *"I currently feel adequately supported as a HCW - I have access to all the equipment I need, PPE and the vaccines for my staff and myself"*

However, despite reporting feeling "*adequately supported*" as a healthcare and being passionate about being a specialist physician, the COVID-19 pandemic has left Participant 4

feeling disillusioned about his career and the future of clinical medicine. As a result, he is seeking alternative employment.

Participant 4: *"I love the area of medicine I specialise in and have been doing it as a speciality for a number of years. I have seen the other epidemics of H1N1 and Influenza A but this has been a truly terrible experience … I am actively looking at alternative income streams now to try and get out of clinical medicine, as I don't see this situation improving in the near or even long term"*

The above extracts demonstrate that, on a whole, there has been an improvement for healthcare workers in the pandemic situation and the initial fear, anxiety and distress have substantially subsided as the pandemic has progressed. However, this experience has also resulted in lasting consequences for some participants.

The above findings mirror those in the study conducted by Ardebili et al. (2021). They found that healthcare workers described growth and development over time. Healthcare workers felt they had adapted to the COVID-19 pandemic and that it had become "normal life" for them, experiencing significantly less fear (Ardebili et al., 2021). This is reflected in the current study's findings. Interestingly, Ardebili et al. (2021) found that despite this adaptation to the pandemic, healthcare workers had a sense of worry about the future and began experiencing 'pandemic fatigue'. A similar sentiment is reflected in the above findings. Participant 4 describes the improvement in the pandemic situation for healthcare workers but also expresses his concern for the future of clinical medicine.

4.3 Conclusion

The findings indicated that practising as a healthcare worker during the COVID-19 pandemic has had a significant impact on participants. The impact of the COVID-19 pandemic appears

paradoxical as healthcare workers report experiencing a range of negative emotions and outcomes while simultaneously demonstrating their ability to manage the negative impacts of the pandemic and reporting various positive experiences. The findings further showed that various individual, interpersonal, organisational, societal and chronosystem level factors have contributed to the unique experiences and overall well-being of South African healthcare workers.

Chapter 5: Conclusion, Limitations and Recommendations

5.1 Introduction

This chapter will present a conclusion of the study's main findings, discuss the limitations of the study, and outline recommendations for future research and practice.

5.2 Conclusion

This study illustrates the unique experiences of South African healthcare worker practising during the COVID-19 pandemic, and how practising in this context has impacted on their overall well-being. This study found that healthcare workers experienced a range of negative emotions and outcomes, particularly during the initial stages of the pandemic. The unknown nature of the COVID-19 pandemic was shown to be a significant source of distress during this time. This study further revealed that healthcare workers experienced positive emotions and outcomes simultaneously and progressively with the range of negative emotions.

This study demonstrated how the experiences of healthcare workers are mediated by both intrapersonal and contextual factors, and the dynamic interplay between these factors. Various individual-, interpersonal-, organisational-, and societal- level factors were shown to have impacted on the experiences of healthcare workers. Marital and parental status, COVID-19 infection status and speciality risk, and coping strategies are factors at the individual level that emerged in the study's findings. Interpersonal factors that mediated the experiences of healthcare workers included social support and interpersonal relationships. The study revealed that hospital management, personal protective equipment, treating patients, and interactions with colleagues were significant organisational-level factors that impacted how healthcare

workers experienced practising during the COVID-19 pandemic. Lastly, societal level factors included the government's response, social media, conspiracy theories and false information, and the public's perception of healthcare workers.

Furthermore, despite the challenges faced by healthcare workers, they adapted to the pandemic situation. As time passed, the pandemic situation improved and conditions were normalised, resulting in reduced levels of distress for healthcare workers. This finding demonstrates how changes within the chronosystem may further mediate the experiences of healthcare workers.

In conclusion, the COVID-19 pandemic has had a significant impact on South African healthcare workers. Healthcare workers' experiences are mediated by a diverse range of factors, that go beyond individual resources, attitudes, and behaviours. By considering the broader context in which healthcare workers are embedded, this study provides a holistic framework through which to conceptualise the experiences of South African healthcare workers. These insights may be used to inform future crisis interventions and public policy in South Africa to ensure that healthcare workers are protected and their well-being prioritised. Furthermore, this study contributes to the growing body of qualitative literature regarding the experiences of healthcare workers during the COVID-19 pandemic and addresses the gap in the literature concerning the limited studies conducted within the South African context.

5.3 Limitations

The following are limitations identified in this study:

- The small sample size limits the generalizability of the study's findings. The small sample size allowed for an in-depth exploration and analysis of each interview; however, it limits the degree to which the study's findings may be viewed as representation of the whole population of South African healthcare workers.

- The lack of greater diversity within the sample is a further limitation of the study. Diversity across factors such race, age, gender, socioeconomic status, years of experience, and professional discipline are an important consideration within an ecological, as these factors may differentially impact on the experiences of healthcare workers. However, the challenges faced during recruitment limited the selection of a diverse sample.
- Conducting face-to-face interviews during the COVID-19 pandemic was considered impractical and unlikely, thus restricting data collection to electronic platforms. The current study made use of email interviewing. However, this limited involvement in the research study to those healthcare workers who had access to a computer, internet connectivity, and email.

5.4 Recommendations

This study provides insight into the experiences and challenges faced by healthcare workers as they provided care to patients with COVID-19. The findings of this study have implications for supporting healthcare workers in future crisis situations.

These findings highlight the importance of organisational support and leadership. Developing clear protocols and guidelines from the outset, providing adequate protective equipment, sharing relevant and up-to-date information, and availing training and psychosocial services may be ways in which hospitals support and protect the physical and mental health of healthcare workers.

In light of future biological disasters, this study has implications for public policy in South Africa. The findings indicate that a poorly managed response by the government may

contribute to the distress experienced by healthcare workers; while timely, well-informed decisions may act as a form of support and motivation.

Collective care may also be an important concept for healthcare workers to be aware of and educated on, as the social support from friends, family, and colleagues was a significant source of comfort for healthcare workers. In times of distress, healthcare workers could be encouraged to draw on their social support systems, which may be particularly useful and appropriate in South Africa, a society that values collectivism.

Furthermore, the study highlights how conspiracy theories and the spread of false information may add to the burden on healthcare workers. Governments may counteract this by sharing relevant, evidence-based information and discouraging the spread of unverified information. This finding also demonstrates the powerful role of social media and the challenges that we now face in the era of advancing technology and global communication.

The limited availability of local evidence and literature concerning the experiences of healthcare workers, highlights the need for further studies within the South Africa context. Larger sample sizes as well as greater diversity within the sample should be considered. Furthermore, this study focused on healthcare workers within KwaZulu Natal, and thus it may be beneficial to interview healthcare workers from other provinces in South Africa, in order to compare their experiences.

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Appendices

Appendix A: Ethical Approval Letter

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

01 October 2021

Rayne Robyn Redinger (217062308)
School Of Applied Human Sc
Howard College

Dear RR Redinger,

Protocol reference number: HSSREC/00003264/2021
Project title: An exploration of the experiences of South African healthcare workers practicing in the COVID-19 context
Degree: Masters

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 24 August 2021 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

This approval is valid until 01 October 2022.
To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

All research conducted during the COVID-19 period must adhere to the national and UKZN guidelines.

HSSREC is registered with the South African National Research Ethics Council (REC-040414-040).

Yours sincerely,

[redacted]

Professor Dipane Hlalele (Chair)

/dd

Appendix B: Participant Information Letter and Consent Form

Dear Participant

My name is Rayne Redinger. I am a student enrolled in the Master of Social Sciences degree at the University of KwaZulu Natal, Howard College campus.

I am conducting a research study that aims to explore the subjective experiences of South African healthcare workers practicing in the context of COVID-19. This study seeks to gain an in-depth understanding of the individual and contextual factors that may have influenced the experiences of healthcare workers.

Participants will be interviewed via email and will be asked to share their experiences as health professionals practicing during COVID-19. Participants will also be asked to comment on how their experiences have impacted on their overall well-being and discuss some of the challenges that they have faced during this time. The interview will take place over a number of email interactions. In the first email, participants will be asked to provide their demographic information as well as respond to an initial open-ended question. Following this, no more than two follow-up emails will be sent. Participants may respond to interview questions at their convenience, in an environment and at a time most suitable to them. I am aware that healthcare workers have busy schedules and other priorities, however in order to meet my deadline I need to ensure that data collection does not extend longer than planned. Friendly reminders will be sent to participants after a week if I have not received a response.

Once the interviews have been conducted, the data will be analysed and the findings reported in my research report. As a part of a member checking process, the research findings/interpretations will be discussed with the participants and they will be asked to comment and share feedback on whether the interpretations made are an appropriate reflection of their experiences.

The study may involve the following risks and/or discomforts: when healthcare workers are sharing their experiences of practicing during COVID-19, this may bring about various negative emotions and having to relive potentially traumatic experiences. If you experience emotional distress as a result of the interview, appropriate psychological services will be recommended and a referral will be made. The research will provide no direct benefits to the participants; however, your participation is likely to help us gain insight into the lived experiences of healthcare workers and gain a better understanding of the unique challenges

that our South African context presents. These research findings may then be used to inform future crisis interventions and public policy in South Africa, to ensure that our healthcare workers are adequately prepared and their overall well-being and mental health protected.

Your participation in the research process is entirely voluntary. I would really appreciate it if you would share your experiences with me, however the decision to partake in this study is completely up to you. You have the right to refuse to participate. If you choose to participate, you may withdraw from the research process at any stage without incurring any negative consequences. There will be no payment for your participation.

All the information you provide will be kept confidential. No details that may make participants identifiable will be accessible to anyone but myself and my supervisor. In order to protect both the participant and hospitals, the hospital to which you are associated with will remain anonymous. Pseudonyms will be used in the final research report to protect the anonymity of participants. All the raw data will be securely stored and destroyed after five years.

If you have any further questions or concerns, please feel free to contact me at [redacted] or [redacted]

Regards,
Rayne Redinger

<u>Research supervisor:</u>

Kerry Frizelle Email: [redacted]

Phone number: [redacted]

DECLARATION

I, _____ (Full name) have been informed about the study entitled 'An exploration of the experiences of South African healthcare workers practicing in the COVID-19 context' by Rayne Redinger. I have read and understood the foregoing information and have been given the opportunity to ask questions. Any questions I have asked have been answered to my satisfaction. I voluntarily consent to participate in this study.

_____ _____

Signature of participant **Date**

Appendix C: Interview Schedule

Participant demographic information:

- Age:
- Gender:
- Race:
- Marital status:
- Number of children:
- Occupation (nurse or doctor):
- Years of work experience:

Opening question:

Please could you share with me what it has been like to practice as a health professional during COVID-19. Perhaps start from when you first heard about the virus and then describe your journey thus far. There is no right or wrong answer, feel free to share anything that comes to mind about your experience.

Probing and follow-up questions, guided by initial response:

Can you describe a few key incidents that have occurred during this journey and how they have impacted on you?

Would you say that this journey has impacted on your well-being in anyway (socially, physically or psychologically) and if so, in what ways?

Can you identify and describe some of the key challenges you have faced during this time as a healthcare professional?

What do you think has made it possible for you to get through this period?

What are your thoughts and feelings regarding the South African government's response and policies to COVID-19?

Do you believe the Department of Health adequately prepared healthcare workers to deal with the COVID-19 pandemic? How so?

What role have hospitals played with regards to providing you with necessary resources (for example: access to relevant up-to-date COVID-19 information and guidelines, training, counselling, and personal protective equipment)?

Has social media and/or the news impacted on you in any particular way? If so, in what way?

How has working in the context of COVID-19 impacted on your relationships with family, friends, colleagues and the community?

Have you experienced stigma? In what way?

How have your family, friends, colleagues and community provided support?

What support do you feel you still need or needed?

Is there anything else you would like to add regarding your experience of caring for patients with COVID-19?